

Canada's Carbon Capitalism: In the Age of Climate Change

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Abstract:

This historically and critically informed dissertation investigates the question why Canada has become one of the world's leaders in promoting fossil fuels through its unconventional hydrocarbon industry in spite of the science and growing awareness of climate change. Using a critical historical political economy approach that encompasses both ecological or biophysical scientific realities and historical materialism, I examine this contradictory developmental trajectory as embedded in both the historical structures of everyday life and within Canadian and the wider global political economy. This dissertation argues that Canada's current situation should be understood in a broader context as a *morbid symptom* that is embedded within the current global organic and leadership crises, since current leadership appears to support the contradiction of supporting carbon-based globalized social reproduction and preventing climate change. In doing so, this dissertation critiques both fields of international and Canadian political economy for largely sidestepping the importance of energy and energy systems in the production and reproduction of the global political economy. Using the conceptual lenses of *carbon capitalism*, *petro-market civilization*, and *social reproduction*, I demonstrate that energy or energy systems are just as foundational and inseparable from labour, technology, capital and war in the making and remaking of the global political economy. I show how growing energy demand, the peaking of conventional oil, potential energy insecurities, and a debt-based monetary system perpetuates and is dependent on unlimited growth. Moreover, I argue that the Canadian state and economy has become increasingly locked-in by *disciplinary neoliberalism* and the *new constitutionalism* – which are reforms, policies and laws that entrench capitalist social reproduction and make it more difficult to alter capitalist patterns of energy-intensive development. As a result, the current world order and global political economy is organized into a vicious cycle of path dependency whereby production and social reproduction require evermore fossil fuels. This could potentially be the largest paradox in human history as climate science suggests that humanity should be attempting to limit the production and consumption of greenhouse gases. I conclude by attempting to create a new pathways and objectives forward for social forces of resistance in current webs of power to form a *post-modern prince movement* in Canada that would seek to work collectively in rebuilding a new world towards decolonialization, promoting and establishing alternative modes of living and development that will replace the current fossil fuel-based dependency, monetary-debt system, mass consumption, and unlimited growth in Canada.

Dedication:

This dissertation is dedicated to my parents Ron and Lucy Dow, my fiancé Ann Solecki, and our daughter Rosalie. All four of them have my eternal gratitude, respect, and love.

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This dissertation may only have one author but this thesis was not conceived of in isolation nor did it come to completion without the fundamental support and encouragement of so many people.

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List of Abbreviations Used:

BBL	Billion Barrels
BIS	Bank for International Settlements
BP	British Petroleum
BTU	British Thermal Unit
CIDP	Canadian International Development Platform
CO ₂	Carbon Dioxide
CUFTA	Canada-United States Free Trade Agreement
EIA	Energy Information Agency
FAO	Food and Agriculture Organization
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs & Trades
GDP	Gross Domestic Product
Gt	Gigatonnes
GtCO ₂	Gigatonnes of Carbon Dioxide
IEA	International Energy Agency
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
Mt	Metric Ton
Mtoe	Million Tonnes of Oil Equivalent
NAFTA	North America Free Trade Agreement
NATO	North American Treaty Organization
NEB	National Energy Board
NEP	National Energy Program
NEX	Wilderhill New Energy Global Innovation Index
OCED	Organization for Economic Cooperation & Development
OPEC	Organization Of The Petroleum Exporting Countries
SIPRI	Stockholm Institute For Peace & Research
TMX	TMX Group Limited
TPES	Total Primary Energy Supply
TSX	Toronto Stock Exchange
UN	United Nations
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework on Climate Change Conference
UNHPR	United Nations High Commissioner for Refugees
UNISDR	United Nations International Strategy for Disaster Reduction
UNSC	United Nations Security Council
WHO	World Health Organization
WTO	World Trade Organization

Chapter One: Introduction

Canada, the most affluent of countries, operates on a depletion economy which leaves destruction in its wake. Your people are driven by a terrible sense of deficiency. When the last tree is cut, the last fish is caught, and the last river is polluted; when to breathe the air is sickening, you will realize, too late, that wealth is not in bank accounts and that you can't eat money

– Alanis Obomsawin (1972)¹

In 2006, former Prime Minister Stephen Harper stated that the core of his federal government's vision was to transform Canada into an energy superpower: “[w]e are currently the fifth largest energy producer in the world. We rank 3rd and 7th in global gas and oil production respectively. We generate more hydro-electric power than any other country on earth. And we are the world's largest supplier of uranium...” (Harper 2006: n.p.). Prime Minister Harper argue that with Canada's unconventional hydrocarbons² (bitumen and shale gas), Canada is not only “the most attractive combination of circumstances for energy investment of any place in the world” but also that it is the only non-Organization of the Petroleum Exporting Countries (OPEC) “country with growing oil deliverability” (Harper 2006: n.p.). There are important differences between conventional and unconventional hydrocarbons. Unlike conventional hydrocarbons, such as crude oil and natural gas, unconventional hydrocarbons are a variety of liquid and hard sources that include oil sands, extra heavy oil, gas to liquids and other non-traditional liquids. Currently, unconventional hydrocarbons are extracted using modern technological practices that involve high carbon emissions, as well as high energy inputs and resources (sand, chemicals and water) (Bentley 2016; Clarke et. al. 2013; Dyer. et. al. 2008; Moorhouse et. al. 2010; Nikiforuk 2010). For example:

producing one barrel of oil from oil shale uses 2.6 to 4 barrels of water; one barrel of oil from oil sands uses 2.3 to 5.8 barrels of water. In comparison, producing one barrel of crude oil from Saudi Arabia's Ghawar field, the largest conventional oil

¹ As cited from "Conversations with North American Indians" by Ted Poole in *Who is the Chairman of This Meeting?: A Collection of Essays* (1972) edited by Ralph Osborne, p. 43.

² Hydrocarbons are the compounds of hydrogen and carbon which are essential to all forms of oil gas, and I will be using both hydrocarbons and oil interchangeably in this dissertation.

field in the world, requires 1.4 barrels of water. A horizontal gas well can require 2 to 4 million gallons of water to drill and fracture. One study found shale gas production consumes up to four times more water than conventional natural gas (University of Michigan 2014: p. 13 - 14).

This process also returns a smaller amount of energy when compared with producing conventional hydrocarbons. This is scientifically known as energy return on energy investment, which is the ratio of the amount of usable energy returned from extraction and production activities, compared to the amount of energy invested in those energy-gathering processes. Historically, conventional oil fields were able to have an energy return on energy investment of 40:1 or higher in some places. The current global industrial system needs at least a 10:1 ratio. Meanwhile, shale-oil, bitumen, tar sands etc. have ratios from 11:1 to 3:1 depending on the source (Hall and Klitgaard 2012: p. 127; see also: Hall 2011; Hall et. al. 2014). As a result, this means that more fossil fuels will need to be consumed or burned in order to maintain and reproduce the global political economy and sustain everyday life. Meanwhile, there is a growing consensus on the imminent threat of global climate change and the need for the global political economy to transition to low-carbon based energy systems, and this vision of creating Canada into an energy superpower is contradictory and demonstrates short-term thinking and myopic leadership (Copenhagen Accord 2009; IEA 2013; IPCC 2014, 2018; UNFCCC 2015; UNHPR 2007/8). For example, Canada's unconventional hydrocarbon industry will eventually be the leading greenhouse gases emitter in Canada, "currently, around 6.5 per cent of Canada's total greenhouse gas emissions (approximately 690 million tons) come from bitumen production and upgrading operations" (Clarke et. al. 2013: p. 29). This has increased two and a half times from 1990 and is expected to rise to 92 metric tons by 2020.

Global climate change occurs when long-term weather patterns are altered through human or natural biosphere activity and global warming is only one form of climate change (Smil 2013).

In 2010, total emissions from the combustion of fossil fuels and from all biofuels (wood, charcoal, crop residues, ethanol, biodiesel) were about “10.5 gigatonnes carbon (or 38.5 gigatonnes CO₂), roughly 30 percent higher than in 2000 and 4.2 times above the 1950 level)” (Smil 2013: p. 259). The current energy system, being highly dependent on fossil fuels, accounts for 84% of greenhouse gas emission in 2010 (Smil 2013: p. 259). According to both the Intergovernmental Panel on Climate Change (IPCC) (2007) and United Nations Human Development Programme (UNHDP) (2008), the world cannot handle a global temperature rise of 6°C without irreparable or catastrophic damage to the planet and human livelihoods. The International Energy Agency (IEA) Tracking Clean Energy Progress (2013) projects three scenarios, the first being the 6°C Scenario which is based on consistent growth and fossil fuels consumption of the World Energy Outlook Current Policy Scenario (for 2035) (IEA 2013: p. 1-15). This would mean by 2050 energy use almost doubles (compared to 2009), and the average global temperature rise is “projected to be at least 6°C in the long term” (IEA 2013: p. 20). The second is the 4°C Scenario which “takes into account recent pledges made by countries to limit emissions and step up efforts to improve energy efficiency” (IEA 2013: p. 20). But, this scenario is highly ambitious insofar that it “requires significant changes in policy and technologies” (IEA 2013: p. 20). Finally, the 2°C Scenario would happen if greenhouse gas emissions were cut by 80%; this is highly unlikely to happen, due to the ongoing dependency on fossil fuels as the dominant energy source and increasing energy demands (IEA 2013: p. 20). Renewable energy and nuclear power “are the world’s fastest-growing energy sources, each increasing by 2.5 percent per year. However, fossil fuels will continue to supply almost 80 percent of world energy use through 2040” (IEA 2012: p. 5). In order to match the future projected global energy demand, “global oil output will reach 115 million barrels per day by 2040”, which is roughly a 34% increase above the current level of 86 million barrels. Second, natural gas

production will ascend from 113 trillion cubic feet in 2010 to a projected 185 trillion in 2040 (2012: p. 23 and 41). At the end of 2018, the IEA reported that the world order will consume approximately 100 million barrels of oil per day (or 36.5 billion barrels a year) worldwide throughout 2019, which in nine years (2010 – 2019), represented a 12% increase in global oil consumption (IEA 2018b). In 2017, natural gas stood at 129.5 trillion cubic feet, which was a 14.6% increase from 2010 (IEA 2018c). At this level of fossil fuel consumption and production, the world order is heading towards a 3 to 5-degree Celsius increase scenario between 2050 to 2100 (IEA 2013; IPCC 2018). Therefore, if the current pace of global development and its dependency on fossil fuel production and consumption continues or even grows, there will be massive repercussions for the biosphere and the livelihoods of future generations.

Many scholars have been arguing that sometime this century we will witness the peak of global conventional oil production, and while there is plenty more coal and natural gas, these two sources are also likely or some point to hit a peak of production. Peak oil is the point in time when the world will produce the most oil it ever has, and thereafter, production will go into decline. These scholars and geologists have different opinions when conventional oil will peak but the consensus is it is sometime between 2006-15 (Bardi 2009; Bentley 2016, Deffeyes 2008, Hicks and Nelder 2008; Hirsch et. al. 2005; Hubbert 1956). In 2013, OPEC states that their current oil reserves are an estimated 1,206 billion barrels (roughly 81 per cent of the world's global reserves) (OPEC 2014). British Petroleum argues there was roughly 1,687 billion barrels of proven oil reserves at the end of 2013, where OPEC controls 71.9 per cent (British Petroleum 2014). The IEA report in 2013 suggests that conventional oil is an estimated 1.3 trillion barrels:

with remaining recoverable oil resources representing about 2.7 trillion barrels. Globally, proven reserves have increased modestly since 1990, despite the growth in consumption. The global reserves-to-production ratio, based on current consumption levels, is in the range of 40 to 45 years (IEA 2013: p. 17 - 20).

These interpretations do not account for proven reserves of unconventional oil which sit at around 400 billion barrels, “with estimated recoverable resources of 3.2 trillion barrels” when unconventional resources are estimated (IEA 2013: p. 17).

To reiterate, if the world’s energy demands are increasing during the peaking of conventional oil, then I would argue that this helps explain some of the reasons for the massive investments in Canada by transnational public and state-owned oil and gas firms. As it stands, 90 per cent of known oil reserves in the world are controlled by state-owned firms. As a result, 10 per cent of oil reserves are controlled by publicly listed firms, and from this 10 per cent, over half of these privately exploitable reserves are from within Canada (McNulty 2007). Exxon Mobile (the largest oil firm by market capitalization) only supplies the world currently with 2 per cent of its energy needs (Di Muzio 2012). If global investors and giant oil and gas firms are locking the global political economy into a carbon dependent future, then a significant aspect of this story can be traced to developments in Canada, since companies can be given greater access to those resources under conditions of disciplinary neoliberalism and the new constitutionalism as discussed below (Gill 1995, 2008).

While Canada has had a conventional oil industry since the 1858, as Larry Pratt (1976) notes, the Canadian government and oil companies, along with the United States oil companies, have also attempted, since the 1890s, to develop the Athabasca Tar Sands (see also: Chastko 2004; Nikiforuk 2010; Sweeny 2010). Due to lack of technology and capital investment, this project was unmanageable, until the 1970s, as I will address in chapter four (Chastko 2004; Pratt 1976). Since the early 2000s, the rise in the price of oil made unconventional tar sands oil more profitable to exploit. Consequently, Canada’s proven reserves saw a massive increase. For example, in 2003, Canada’s proven oil reserves ballooned from 10 billion barrels to 180 billion barrels “after oil

sands resources were deemed to be technically and economically recoverable” (Chastko 2004; Clarke 2008; EIA 2014; Nikiforuk 2010). According to the Energy Information Agency (EIA) of the United States, this ranked Canada the country with the third largest proven oil reserves in the world (EIA 2014). The areas of exploitation are mostly found in Alberta (on or surrounding Aboriginal people and First Nations disputed land claims), and are an estimated 140,200km in size (Nikiforuk 2010).³ This does not include (Northern) British Columbia, Saskatchewan, Northwest Territories, Newfoundland, Ontario, Quebec³, Nova Scotia, or New Brunswick where future shale gas and other unconventional hydrocarbon projects are emerging (Black et. al. 2014). Nor does this area include the possible future mega-pipeline projects of Keystone XL Pipeline, Enbridge Northern Gateway Pipelines (Kinder-Morgan), and the TransCanada Pipeline. Thus, one of the most important recent developments in Canada’s political economy is its exploitation of unconventional fossil fuels. This dissertation investigates how the carbon capitalist order creates the current contradiction between the looming threat of climate change and the carbon-intensive development in Canada and explores the historical dimensions of Canada’s unconventional hydrocarbons. It will also analyze economic, political and ecological consequences for Canada and the world. In doing so, I make an original theoretical and empirical contribution to the debates in international and Canadian political economy. My research focuses on a key paradox that is global in nature but highly pertinent to Canada: the fact that whilst there is increasing awareness of the threat of global climate change, Canada is intensifying its production of unconventional hydrocarbons. Larry Pratt (1976) argued that “[a]nyone so foolhardy as to write a book about energy in Canada in the 1970s is risking the likelihood that his or her research will be overtaken

³ The Provincial Government of Quebec had banned the fracking of oil and gas deposits in the province in 2011. This led to a lawsuit by Pine Resources Inc. v. Federal Government of Canada (through North American Free Trade Agreement Chapter 11) for \$USD 118.9 million USD dollars. The case has yet to be settled (Wilt 2016; Global Affairs Canada 2018).

by events and rendered obsolete before it reaches the bookstand” (p. 9). One could possibly return to this quote written over thirty years ago, as the price of oil has plummeted once again, to \$US35.62 a barrel, and many economists argue it will not return to its all-time high of \$US147.02 2007/8. In this way, the tar sands may once again be a footnote in history (Goldman Sachs 2015; Krauss 2015; Wolf 2015). As a result, from a practical point of view with the price of oil dropping recently, there is growing concern amongst investors and owners of energy firms that Canada’s unconventional hydrocarbon industry production and consumption will be slowed, displaced, or abandoned, although this is thoroughly disproven in Chapter six (Austen 2015; Dawson 2015, Johnson 2015; Leach 2014; Lukacs 2014).

However, despite the price drop and recent political change, Canada’s unconventional production is not slowing but increasing: “Canadian oil output will actually keep growing for several years (growing by as much as 1 million barrels per day by 2018), due to partly completed new projects that are gradually coming on line” (Stanford 2015: n.p.). What are declining are monetary investments, new unconventional hydrocarbon projects, increased job layoffs and insecurities for workers in Alberta and across Canada. The socio-political-economic significance and impact of the price drop has been heavily felt in the province of Alberta. This partly led to a more “progressive” political regime change as the New Democratic Party of Alberta toppled a forty-four-year Progressive Conservative Party dynasty (Manson 2015). Various journalists have also highlighted that former Prime Minister Harper was ousted for putting all Canada’s chips into the tar sands which has resulted in a full majority liberal government, under the new Prime Minister, Justin Trudeau (McCormack 2015).

There are various problems with analyzing the importance of oil from price alone. Mainstream interpretations of the recent oil price drop use neoclassical economic theory focused

on supply and demand to explain the recent drop, more critical approaches have shown how general equilibrium theory cannot explain the fluctuation of oil prices (Bichler and Nitzan 2015a, 2018; Keen 2011; Oppenheim 1977). Despite this neoclassical explanation remains dominant as reflected in Saudi Arabia's Oil Minister Ali al-Naimi argument that "[n]o one can set the price of oil — it's up to Allah [market]," (emphasis added, Oyedele 2015: n.p.). This perspective largely ignores speculation in commodity stock exchanges, geopolitics and state intervention and therefore fails to question and problematize how oil is priced (Bichler and Nitzan 2014; Dickers 2011). Daniel Yergin (2015) argues that since November 27th, 2014, there has been a historic change of roles within OPEC, whereby Saudi Arabia, "backed by the Persian Gulf Emirates" have shifted their position as "swing producers", essentially controlling the price of oil, and handed over "all responsibilities for oil prices to the market." The rationale provided by Saudi Arabia is "[they are] hoping that lower oil prices will stimulate economic growth and demand for oil" (Yergin 2015: n.p.). This could be an attempt to expand fossil fuels, specifically oil, as the dominant energy source. As the United Nations Environmental Programme (2015) reveals, investments in the fossil fuel industry are still outpacing renewable energies and more importantly, European and Asian governments are "tempted to see a bigger role for gas in the future generation mix, now that oil prices have plunged to the \$50 to \$60-a-barrel area and that there is a chance of some of this reduction is being mirrored in future oil-linked gas purchase contracts" (p. 12). Yet, there is no other commodity, besides oil, that can be "assured of being consumed from the time that it is produced" (Debar et. al. 1991: p. 127).

Thus, this dissertation explores the development and expansion of carbon capitalism in the present conjuncture and studies how this can help us understand Canada's unconventional hydrocarbon industry in the age of climate change. This project is identified with the works of very

few political economy and international relations scholars who have studied how the production and consumption of energy shapes and reshapes the global political economy and its patterns of social reproduction (Di Muzio 2015a; Di Muzio 2011; Di Muzio and Ovadia 2016; Gill and Law 1988; Hall and Klitgaard 2012; Huber 2013; Nikiforuk 2012; Podobnik 2006; Smil 1994; Urry 2013). In other words, fossil fuels are generally theorized as natural resources, inputs, or auxiliaries in industrial production. This conceptualization, however, tends to lead to commodity fetishism by focusing on price when crisis points are reached – either prices are too low or too high (Bichler and Nitzan 2014; Bina 1988; Caffentzis 2013; Huges and Lipsy 2013; McNally 1981, 1986; Yergin 2015), or on how they are produced or consumed (Heinberg 2011; Huber 2008, 2013; Nye 1999). Most literature on energy is focused on the United States and emphasizes Western geopolitical strategy, imperialism, hegemony or how oil is a strategic commodity in order to explain its historical and present importance (Bromley 1991; Hancock and Vivoda 2014; Harvey 2003; Stokes and Raphael 2010).

This research then focuses on the former literature, in order to address how Canada's unconventional hydrocarbon industry can be theorized as being interconnected in constituting and reconstituting the global political economy, social reproduction, and market civilization on a carbon-energy dependent future world order. From the standpoint of its theoretical contribution, the heart of this dissertation is to highlight and critique narrow traditional international and Canadian political economy explanations that ignore or underplay the central role of fossil fuels to modern capitalism.

My thesis then moves beyond mainstream theorizations that overlook or underplay energy systems by focusing on how energy, specifically fossil fuels, are essential for understanding modern capitalism and social reproduction (Debar et. al. 1991; Di Muzio 2015a). My central

ontological starting-point is the idea that relations of power, historical structures and social reproduction cannot be understood outside of the contemporary use of fossil fuels. In other words, fossil fuels have been made essential to the global political economy and everyday life in many parts of the globe but should never be theorized as standing outside of social relations of power on an international scale. This project will theorize and empirically show the key challenges to carbon capitalism in the twenty-first century by focusing on the important case of Canada and the key contradiction or paradox noted above. Canada is one of the world's leaders in reconstituting fossil fuels as the dominant energy system through its unconventional hydrocarbon industry. As such, the research will be guided by, and argues, the following primary thesis: that the contradiction between global climate change awareness and the intensification of fossil fuel production and consumption can be explained by the accumulation of money as the primary drive of capitalism and the fact that modern social reproduction is carbon-energy dependent.

The assessment of this thesis will also be guided by three related arguments: first, Canada's current development trajectory of exploiting unconventional hydrocarbons is a political project of maintaining capitalist accumulation and energy-intensive modes of life premised on fossil fuels. The primary reason for the development of unconventional sources is that: 1) most conventional supplies are controlled by state-run oil and gas firms outside of Canada; and 2) unconventional hydrocarbons have become more easily exploitable due to scientific and technological developments and – at the time of their significant development – an elevated price for oil. Thus, should prices drop significantly below the cost of production, US\$60 to US\$100 (Lane 2015), we can reasonably predict that capital investment in unconventional hydrocarbon projects will come to a standstill or be curtailed in some fashion. I will address the various socio-political factors that influence, and at times, dictate fluctuations in global oil prices throughout the thesis.

Second, in order to explain the current paradox of carbon capitalism and climate change in Canada, this research conceptualizes capitalism not simply as a mode of production, but more fundamentally, as a mode of development premised on the accumulation of money. What matters from this point of view is the magnitude of capitalization: what activity is being capitalized and by whom and for what ends? In the contemporary period, the capitalist mode of development has been increasingly locked-in by what Gill (1995, 2008) has called disciplinary neoliberalism and the new constitutionalism – reforms, policies and laws that entrench capitalist social reproduction and make it more difficult to alter capitalist patterns of energy-intensive development (Gill and Cutler 2014; Gill 1995, 2008).

Third, the problems of transitioning to low-carbon energy forms of social reproduction are manifold. There is no known alternative energy source that can sustain current levels of production and consumption let alone increase them. Energy demand will likely increase and intensify from Brazil, Russia, India, China, and South Korea and non-Organization for Economic Co-operation and Development (OECD) countries as they seek more energy-intensive lifestyles and their corporations pursue accumulation both at home and abroad. Additionally, centuries of what Di Muzio has called the *carbonization of everyday life* and built environments in Canada have created a vicious cycle of path dependency whereby production and social reproduction require evermore fossil fuels (2015a: p. 10). The power of oil and gas firms to influence the trajectory of the global political economy is enormous given the scale of their enterprises and the valuable and essential nature of their commodities. Finally, while there are mobilizations for alternatives to carbon capitalism, they continue to be fragmented and marginal and thus have not been amounted to a sustained and persuasive alternative (Brand and Wissen 2013, 2018).

The rest of this chapter provides, the theoretical framework, research methods, a detailed outline of the argument and chapters, and scholarly contribution employed in this dissertation.

Theoretical Approach: Critical Historical Political Economy

The theoretical approach employed in this dissertation recognizes that social scientific inquiry requires a diversity of conceptual tools that need not be confined to any one discipline, theory, or theorist. My analysis draws on a critical historical political economy approach to examine the social forces and relations of power in constituting and reconstituting carbon capitalism in Canada. In my view, the present conjuncture did not emerge spontaneously – that is, by a series of accidents, nor was it determined by transhistorical, structural laws. Both agency and structure are important in theorizing the emergence and development of carbon capitalism in Canada. What this means is that human beings make history but not necessarily under conditions of their own choosing (Marx (1852)[1978]).⁴ By mobilizing some of the key insights and conceptual tools offered by each perspective, I believe a more comprehensive, historical, and critical explanation can be found for the ongoing contradictory development of Canada’s tar sands, during the age of climate change, by drawing from a critical historical political economy approach which consists of two distinct theoretical approaches: ecological/biophysical political economy and historical materialism (Cox 1987; Di Muzio 2015a; Gill 1993, 2008; Hall and Klitgaard 2012).

Biophysical or ecological ‘economics’ and scientific studies of energy and geology highlight two foundational viewpoints: the first, the world actually has limits to production and growth because the planet has a finite amount of resources. From this viewpoint, I argue that the

⁴ Karl Marx states “[m]en make their own history, but they do not make it just as they please; they do not make it under circumstances chosen by themselves, but under circumstances directly found, given and transmitted from the past. The tradition of all the dead generations weighs like a nightmare on the brain of the living” (Marx ([1852]1978: 595).

global political economy has radically expanded, transformed, and has developed into a paradox in what Fernand Braudel (1981) conceptualized as the *limits of the possible*, which he described as actual existing historical structures, social and ecological constraints that can restrict or limit humanity's capability to socially reproduce their livelihoods. The second, that energy or energy systems are just as foundational as labour or capital in the making and remaking of wealth, capitalism, and world order (Alam 2009; Di Muzio 2015a; Di Muzio and Ovadia 2016; Georgescu-Roegen 1975, 1976; Hall and Klitgaard 2012; Heinberg 2011; Meadows et. al. (1972)2004; Smil 1994). As Smil, states:

[e]nergy is the only universal currency: one of its many forms must be transformed to another in order for stars to shine, planets to rotate, plants to grow, and civilizations to evolve. Recognition of this universality was one of the great achievements of nineteenth-century science, but, surprisingly, this recognition has not led to comprehensive, systematic studies that view our world through the powerful prism of energy (Smil 2000: p. X).

As a result, one ontological starting-point drawn from this perspective is how various forms of energy are used, transformed, and created in order to help constitute and reconstitute various civilizations. In other words:

[t]he evolution of human societies has been dependent upon the conversion of ever larger amounts of ever more concentrated and more versatile forms of energy. From the perspective of natural science, both prehistoric human evolution and the course of history may be seen fundamentally as the quest for controlling greater energy stores and flows (Smil 2010: p. 1).

Therefore, these theoretical approaches articulate that the material world is determined by both natural, scientific laws, and it is human centered or socially reproduced.

In regards to the scholarship above, historical materialism is complementary and fundamental, insofar as it stresses that human beings make history, not commodities or technology. For historical materialists, their focus is on how labour and work is central to the human sociality of how humans produce and reproduce their livelihoods through their relationship and dependency

on nature (Debair et. al. 1991; Engels (1887)1966; Foster 1999; Moore 2015; O' Connor 1988; O'Connor 1994; Schmidt (1962)2014; Smith 2008). Although there are various interpretations of historical materialism, their critiques specifically focus on ahistorical or teleological assumptions, developed from liberal narratives of capitalist progress, and structural Marxist formulations of history and so-called economics (Gill 2008; Marx (1867)1976; McNally 1988, 1993; Mies 1986; Perelmen 2000; Wood 2002). For fundamental critiques of abstract structuralists and economic Marxism, also known as orthodox Marxists, see Cox 1987; Gill 1993; Gramsci 1971; Thompson 1978. Thus, the tradition of historical materialism focuses on human exploitation and emancipation that highlights the concepts of class, exploitation, alienation, colonialism and imperialism. Although, it should be remarked that there are different and competing approaches of historical materialists e.g. on the following concepts: class, exploitation, alienation, colonialism and imperialism see: Anievas and Nisancioglu 2015; Arrighi 1994; Bakker and Gill 2003; Brenner 1977; Coulthard 2014a; Cox 1987; Di Muzio and Dow 2017; Federici 2004; Gunder-Frank 1975; Mies 1986; Ollman 1976; Stavrianos 1981; Wallerstein 1974; Wood 2002.

In this dissertation, then, historical materialism, as a form of social scientific enquiry, is valuable in order to demonstrate the contradictions in the carbon capitalism of Canada in the age of climate change. At least three major points are worth stressing below: 1) commodity fetishism and techno-determinism, 2) market civilization and social reproduction and 3) historicizing the role of energy in political economy.

The literature in Canadian Political Economy as well as Global Political Economy and certain forms of anthropological inquiries into the history of human development have a tendency to articulate that commodities and technology have been the driving force of history (Clark 2007; Diamond 1999; Haley 2011; Hawken, Lovins, and Cohen 2000; Homer-Dixon 2009; Innis

(1930)1999, 1946; Jevons 1866; Landes 1998; Lovins and Cohen 2011; Mumford (1934)2010; Pomeranz 2000; Schumpeter (1942)2008; Smith (1776)2005; Stanford et. al. 2014; Watkins 1963). Karl Marx was one of the first to critique this form of historicism as a fetish and determinist formulation of understanding human history. Marx critiques these historical assumptions as commodity fetishism and techno-determinism. As Marx (1876)[1976] believed that fetishizing technology ignored the actual driving force of human history and development: class struggle. David McNally, drawing from Marx, critiques political economy approaches that focus solely on commodities as having inherent properties without examining the “social and class relations of production as determinant of the historical process”; and that such a theory, rather than revealing the “essential relations of capitalist society, reproduces the reified images in which capitalism immediately presents itself” (McNally 1986: p. 162). For example, oil and other forms of fossil fuels and non-carbon energies have been fundamental in the shaping and reshaping the global political economy. Historical materialism then contributes to the task of tracing how these commodities, or the role of oil and other forms of energy, shapes the production and reproduction of real life (Altvater 2007; Huber 2013; Malm 2013, 2016; Podobnik 2006). From this perspective:

it is even more absurd to focus exclusively on the site of oil extraction, because the biophysical capacities of oil its density, liquidity, and subterranean nature are harnessed and mobilized in the production and reproduction of life in many contexts that stretch far beyond oil’s geological state (Huber 2011: p. 39).

In other words, the above perspectives, specifically liberal and staples political economy, “constituted a form of ‘vulgar materialism’ which liquidates the dimension of human practical activity” from political economy” (McNally 1986: p. 162). Thus, commodities “appear as autonomous figures endowed with a life of their own” (Marx (1867)1976: p. 165). The power of a thing does not appear as it really is - the product of social relations but rather, “as objective characteristics of the products of labour themselves, the socio-natural properties of these things”

(Marx (1867)1976: p. 165). For example, the power of oil appears to be rooted in its ‘socio-natural properties’ rather than the particular historical geographies and social relations that metabolize the capacities of oil in particular ways (Huber 2013: p. 35). Techno-determinism focuses solely on the ‘factors of production’ (e.g. land, labour and capital) and ignores the social totality of how these ‘factors of production’ came into being. As a result, class relations and therefore social power and struggle inherent in the production and reproduction of technology and commodities is removed from the history of capitalism. In this way, history is reduced to a technico-material process (Marx [1867]1976; McNally 1981, 1986). To reiterate, historical materialists see the origins and maintenance of capitalism, through property relations, involving often violent social transformations of removing people from the means of their livelihood and of production so that they are transformed into wage labourers dependent on the market for their survival and social reproduction.

As a result, I draw from three concepts that provide crucial insight into how the production and consumption of energy shapes and reshapes the global political economy: social reproduction, petro-market civilization and carbon capitalism. The concept of social reproduction has many interpretations, the concept typically brings the readers’ attention to the differential practices that reproduce the human, biological and ecological substance of everyday life – differential because communities and classes reproduce their lifestyles in different ways across space and time (Bakker 2007; Beneria 1979; Bhattacharya 2017; Braedly and Luxton 2010; Elias and Rai 2019; Gill and Bakker 2003; Himmelweit 1995; Katz 2001; LeBaron 2010; Sargent 1987). Working from a critical feminist standpoint, Bakker and Gill have conceptualized social reproduction as comprising three dimensions: “biological reproduction, the reproduction of labor power and social practices connected to caring, socialization and the fulfillment of human needs” (Gill and Bakker

2003: p. 4; see also: Bakker 2007). As important as these dimensions are, social reproduction can also be conceived in more general terms. Di Muzio and Dow argue that social reproduction can be theorized as a means of how any specific forms of “society produces, consumes and reproduces its lifestyles, how it conceives of these lifestyles and how they defend them juridically or through the application of violence” (Di Muzio and Dow 2017: p. 9). Since this thesis is concerned with the political economy of Canada writ large, I will be concerned with the ways in which Canadian lifestyles are largely carbon energy-dependent and what this might mean for the future of social reproduction.

If we follow Braudel, we can argue that what is commonly referred to as the market economy rests on the base of everyday social reproduction. For Braudel, the market economy and capitalism are distinct. The market economy can be “...reduced to playing the role of a link between production and consumption, and until the nineteenth century, it was merely a layer more or less thick and resilient, but at times, very thin-between the ocean of daily life that lay stretched out beneath it” (Braudel 1977: p. 41). While some scholars critique Braudel’s views, the market economy is reminiscent of Adam Smith’s invisible hand insofar as both conceptions see a pure sphere of exchange relatively untouched by political or corporate power (Teschke 2003: p. 129ff). Gill’s conception of market civilization, however, avoids such a romantic view of the market and understands how “the allocation of goods, services, everyday life and culture is mediated and arbitrated by capitalist market mechanisms, market forces and market values” (Gill 1995: p. 399-404) within a hierarchy of power and resistance. Building on Gill’s concept, Di Muzio conceptualizes market civilization as a petro-market civilization which reinforces the centrality of fossil fuels to everyday life and the wider global order (Di Muzio 2011).

Again, to follow Braudel, we can conceive of social reproduction and the market economy as the collective base upon which capitalism proper may prey. In Braudel's conceptualization, capitalism is akin to a predatory, parasitic force, accumulating because of its strategic advantage and position within the wider social structures of material life and the market economy. For Braudel and others, capitalism is a social and political system premised on absorbing and redistributing social wealth towards the top of the economic pyramid, where the capitalist class (or world capitalism) presides. Whereas Braudel conceives of the market economy as relatively transparent and competitive, therefore more prone to regulation and the imposition of regimes of just prices, capitalism is a higher form of exchange that is domineering and uses the previously existing social hierarchy to its advantage (Braudel 1977: p. 62). Therefore, if we can agree with Braudel, capitalism is a sophisticated and restricted layer of the economy that is dependent on hierarchy. Capitalism attempts to control or manipulate the market economy, production and consumption around the globe for profit. But Braudel, of course, offered very little discussion of fossil fuels and their connection with the rise of capitalism, since he wrote principally about the period up to the 18th century.

By contrast the concept of carbon capitalism can help draw our attention to the fact that accumulation is bound up with the monetization of energy. Such accumulation is at the heart of petro-market civilization and its social reproduction. Carbon capitalism not only highlights the central importance of carbon energy in production and social reproduction, but it also helps us understand how the acceleration and relative universalization of capitalist development would have been impossible without abundant, affordable and accessible fossil fuels (Di Muzio 2015a).

Carbon capitalism also provides insight into how "the act of capitalization rooted in ownership" as one of the primary drivers of capital accumulation (Di Muzio and Dow 2017: p. 8).

Karl Marx, in *Capital Volume III*, loosely mentioned capitalization but largely as fictitious capital instead of understanding capitalization as “purchased ownership claims to future flows of income” (Di Muzio and Dow 2017: p. 8). Capitalization can be understood in two different ways.⁵ First, capitalization “is the act of discounting to present value an expected future flow of income adjusted by some factor of risk. The primary reason why this act is done by owners/investors is because of the time value theory of money” (Di Muzio and Dow 2017: p. 8). Time value theory of money simply means that “that...a unit of currency (for example, dollar, Euro, Yen) is worth more today than it is tomorrow because it can start generating interest sooner” (Di Muzio and Dow 2017: p. 8). This is why capitalists consistently “discount future flows of income” and anything that can generate “an income stream can, at least theoretically, be capitalized” (Di Muzio and Dow 2017: p. 8). The second meaning of capitalization is, when applied to corporations, it is the market value of the firm. This is

easily calculated by taking the number of shares outstanding and multiplying it by the price of one share at any given point in time. Shares in companies represent a claim to future earnings with the overall value of capitalization fluctuating based on expected earnings and actual earnings when they are reported. Poor earnings or returns typically send share prices down, while meeting and beating earnings expectations sends the perceived money value of the company up (Di Muzio and Dow 2017: p. 8).

As a result, carbon capitalism views capitalization as the yardstick of corporate and state power since capitalization always has a forward-looking indicator. We can use levels of capitalization as a proxy for understanding how investors envisage the future, and in this case, the global energy industry.

⁵ “Capitalization or the process whereby expected future profit is discounted into a present value stretches back to the Italian city-states of the 13th century and likely before” (Di Muzio 2015 p. 73).

Carbon capitalism is different from both neoclassical economics' and orthodox Marxists' theorizations of capitalism as corporate or investor earnings cannot be reduced to just the production of commodities (Di Muzio and Dow 2017: p. 8; see also: Bichler and Nitzan 2009). For example, Exxon Mobil's capitalization is not merely contingent on their ownership of oil reserves but a wide range of structural power and income generating assets such as transportation, advertising, refineries, etc. to labour laws, physical and intellectual property rights protection, taxation and environmental standards (or their lack of), etc.; all these factors and more bear on their earnings (Bichler and Nitzan 2009; Di Muzio 2014; Di Muzio and Dow 2017). In other words, when investors or other social forces capitalize Exxon Mobil (buy equity in the company), they are in essence capitalizing Exxon Mobil's potential capabilities to shape and reshape the terrain of social reproduction "in ways that generate better earnings than its rivals in the corporate universe. This is also true for every capitalist firm listed on an exchange" (Di Muzio and Dow 2017: p. 8). Therefore, this dissertation is about creating a new dialectical understanding of capitalism by theorizing the relationship between carbon energy, capitalist accumulation, and the social reproduction of energy-intensive lifestyles or what Brand and Wissen (2013) call the imperial mode of living in Canada and across the globe. The imperial mode of living refers to the

prevailing patterns of production and consumption that disproportionately rely on global labour power, resources and sinks. The deep-rootedness of these patterns is reflected in societal relationships between forces and in everyday practices, particularly in the countries of the global North and explains both the continuity and the crisis of prevailing society-nature relationships. However, since the imperial mode of living has been spreading to important countries of the global South, its contradictions intensify and struggles over the future shape of society-nature relationships gain importance (Brand and Wissen 2012: p. 690).

Carbon capitalism and the imperial mode of living are currently anchored into crisis-deepening patterns based on the principle of "unlimited appropriation of the resources and labour capacity of

both the global North and the global South and of a disproportionate claim to global sinks (like forests and oceans in the case of CO₂)” (Brand and Wissen 2018: p. 16).

Outline and Organization of the Argument:

This study on Canada’s carbon capitalism in the age of climate change is organized into seven chapters including the introduction and the conclusion. Chapters two, three, and four historicize the general problematic of the thesis by locating the current contradiction in actual existing historical social structures. Whereas, Chapters five and six focus on present social structures and their contribution to the contradiction. Chapter seven is the concluding chapter which provides a brief overview of the dissertation’s findings, future research projects, and includes a final word. Below, is a further detailed sketch of the dissertation’s contents.

Chapter two critiques the prevailing Canadian political economy approaches, which are Canadian-Marxism and (neo)Staples, in their understanding of how Canada’s political economy has historically unfolded. This chapter first highlights that both approaches have insufficient theoretical frameworks on capital accumulation, capitalism, and settler colonialism. As a result, I develop my own theoretical framework of what capital accumulation and capitalism are which provides greater insight in how settler colonialism, as a form of social reproduction, laid the foundation for both carbon capitalism and petro-market civilization to eventually emerge and codify in Canada’s development. Put differently, settlers, colonialists, capitalists, and other immigrant social class formations, both historically and in current patterns of existence in Canada, are dependent and ultimately rest on the *longue durée* of Aboriginal dispossession. This chapter provides an alternate critical historical account that illustrates how Aboriginal modes of living were capitalized and appropriated by colony administration, early capitalist settlers, and joint-charter enterprises, and *remain so to this day*.

Whereas Chapter two is largely concerned with broadly addressing settler colonialism in Canada, Chapter three focuses on the history of Canada's hydrocarbon industries, the rise of the Seven Sisters, and their relationship in the making of a global petro-market civilization. Chapter three starts by establishing the relationship between the violent enclosures, through settler colonialism, which gave birth to the history and development of Canada's oil industries. I critique the dominant Canadian political economy approaches for having primarily focused and debated over who owns Canada's oil industry – be they 'foreign' or 'residential' capitalist classes. As the Seven Sisters, who came to control and own Canada's oil industries (for brief periods), ended up owning and controlling most of the world's oil production. As a result, this tells us very little about the Seven Sisters and why the world order transitioned from coal to oil. The second part of Chapter three reviews conventional international political economy approaches: (neo)Realism, (neo)Liberalism, and (neo)Marxism on their theorizations of energy and energy systems and how they understood the Seven Sisters. In short, conventional international political economy approaches have largely reduced the study of oil (or energy) to either a *strategic commodity* or *input* for global militarism and capitalism. These approaches principally view the Seven Sisters as just an oil cartel for the Netherlands, Britain, or the United States' nation-states. I critique both of these positions insofar that energy and energy systems are foundational in the making and remaking of the global political economy and social reproduction. Moreover, I demonstrate how the Seven Sisters facilitated the transition of the world order towards a global petro-market civilization that was not always favourable for their 'host-nations.' This chapter concludes by arguing that the Seven Sisters were indeed a corporate cartel of investors and dominant energy firms with the global objective of locking-in global society into fossil fuel-dependent patterns of

social reproduction, which leads to Chapter four and the Organization of the Petroleum Exporting (OPEC) related oil crises and the larger capital accumulation crises of the 1970s and 1980s.

Chapter four builds-on from Chapter three. First, Chapter four assesses and critiques the conventional international political economy interpretations, explanations, and outcomes of the OPEC energy crises. Conventional international political economy primarily interprets these crises as either the decline, rise, or transformation of the United States' global hegemony over global political economy. Second, is their 'economic explanations' for the price increase of oil during these energy crises. Both (neo)Realists and (neo)Liberals fundamentally believe in the neoclassical economics' theory of supply and demand. Whereas, (neo)Marxists attempt to anchor the price increases in the cost of production (mainly labour costs). I critique both explanations of the price increase of oil as not only insufficient, but also not grounded in reality. This is indeed important as the world's population, including Canada, believe that oil is priced by global demand and supply, which is not the case. Whereas, (neo)Marxists generally openly accept that commodity prices correlate with labour costs or exploitations which has never been empirically proven. As a result, I provide alternative analyses and resolutions on the OPEC energy crises and the larger capital accumulation crises that followed. The first resolution is what Shimshon Bichler and Jonathan Nitzan conceptualized as the *Weapondollar-Petrodollar Coalition*. The Weapondollar-Petrodollar Coalition demonstrates not only potential collaboration between United States government officials, OPEC nation-states, and dominant oil corporations for raising the price of oil but the intensification of the monetization, weaponization and carbonization of globalized social reproduction. This leads to the second resolution which was that the dominant international oil corporations, using their record profits, gave birth to the unconventional era of oil, specifically in Canada. Finally, Chapter four concludes that these larger crises of energy and capital

accumulation overshadowed the emergent global environmental movement that already was discussing the *limits to growth* and potential future environmental devastation that could happen if the world order continue to accelerate and lock-into a petro-market civilization and carbon capitalism developmental trajectory.

Chapter five defines neoliberalism as a debt-growth-restructuring nexus and specifically focuses on Canada's new constitutionalism which is primarily about locking-in fossil fuel-based and energy-intensive unlimited growth while locking-out future possibilities of democratic intervention within Canada's political economy. Chapter five elaborates on Chapter four by connecting how the politics of the energy crises (in the 1970s and 1980s) led to the free trade era in Canada. I then define and demonstrate how Stephen Gill's concepts of new constitutionalism and disciplinary neoliberalism provide crucial insights as to why Canada has locked itself into the supremacy of capital accumulation, generally through international free trade agreements and global institutions. In other words, this supremacy of capital means the extension and protection of the political-economic rights of investors and dominant oil corporations to further develop Canada's unconventional hydrocarbon industries while attempting to limit democratic state intervention. Finally, this chapter provides a critical re-interpretation of unlimited growth and how debt should be conceived as a *technology of power*. Therefore, this chapter, drawing from the conceptual lens of new constitutionalism, disciplinary neoliberalism and the theoretical standpoint of unlimited growth and debt as power, I argue, provides a fundamental explanation to why Canada's governmental regimes are obsessed with growth (measured in gross domestic product) and provides great insight as to why the tar sands were re-born in the late 1990s and continue to be under production and development to this very day.

Chapter six highlights that the looming affects and crises of climate change are an actual potential future reality. Yet, why has Canada become one of the world's leaders in reconstituting fossil fuels, as the dominant energy system through its unconventional hydrocarbon industry, despite the science and future scenarios on climate change? Chapter six tackles this question in two parts. First, it returns to the early and mid-2000s and explores the global discourse on the peak of conventional oil and the traditional international political economy approaches on the potential of this period being one of oil insecurity or oil scarcity. I critique these approaches as having inadequate explanations of: 1) why the price of oil increased; 2) is this period one of oil insecurity or scarcity? And 3), most importantly, I argue that the events of early and mid-2000s and dominant investors and oil corporations led to the reshaping of world order towards fossil fuel dependency in the age of climate change awareness. The second part of chapter six first critiques the traditional Canadian political economy approaches on their groundless assumption that Canada's vision of becoming an unconventional 'energy superpower', in the age of climate change, is a contradiction because: 1) it principally benefits the United States' economy and United States-based oil corporations and 2) Canada is lagging behind the world order in transitioning to low-carbon forms of social reproduction. Instead, I provide a detailed critique and alternative arguments as to why Canada is attempting to become an unconventional energy superpower, in the age of climate change, which I believe is a result of actual existing historical and present social structures that are embedded in carbon capitalism, petro-market civilization and globalized social reproduction. Finally, Chapter six critiques the assumptions that low-carbon world order is possible with just 'green investment', technological advancements, and the greening of lifestyles and livelihoods. Therefore, why Canada is becoming one of the world's leaders in reinforcing fossil fuels, as the dominant energy system, through its unconventional hydrocarbon industry, may not be as

contradictory a development trajectory as one may think, but rather a mere reflection of the future of the energy-intensive carbon-based world order.

Chapter seven concludes this dissertation by outlining the main arguments and evidence, notes how this dissertation contributes to the field of Canadian and international political economy, and offers avenues for future research.

Methods and Scholarly Contribution:

From the standpoint of its theoretical contribution, this dissertation project is novel since its method attempts to integrate insights from a number of literatures while going beyond narrow traditional international political economy explanations that ignore or underplay the central role of fossil fuels to modern capitalism. To do so, this study will cut across but also seek to synthesize a number of literatures. Six bodies of knowledge stand out as most relevant to this project: 1) theoretical writings on Canadian political economy and international political economy; 2) conventional and critical writings on imperialism, capitalism, energy systems, peak oil price theory, and climate change; 3) conventional and critical writings on the role of the nation-state and world order; 4) interpretations of economic growth and the biophysical limitations of the biosphere stemming from the environment and ecology literature; 5) practical and theoretical writings on development, underdevelopment, neocolonialism and human insecurity; 6) the literature on energy and energy systems. Through critical engagement and assessment of these bodies of knowledge, I argue that a more comprehensive and insightful explanation can be given for the creation of Canada's unconventional hydrocarbon industry as well as how it is interwoven with the environmentally unsustainable nature of carbon capitalism.

In order to critically examine why Canada is developing its unconventional industry, one must understand how national political economies are interconnected in webs of accumulation and

resistance on a global scale (Gill 2008). By drawing from theoretical and methodological approaches of ecological political economy and historical materialism, this thesis then critiques (neo)realism, (neo)liberalism and (neo)Marxist international relations theories, global political economy and Canadian political economy on several grounds: 1) these paradigms do not have empirical or theoretical grounding linking energy and capital accumulation; 2) they do not sufficiently address the centrality of fossil fuels in globalized social reproduction or development and; 3) they do not address the looming threats of climate change or biophysical limitations in accordance with how capitalism could maintain its current levels of growth, production, consumption, and affluent energy-intensive livelihoods through sustainable development and investment, nor do they address how to make the transition to renewable or green energy, or the social forces and mechanisms that can make this happen. Therefore, I argue how traditional theories of international relations do not address the contradiction between global climate change awareness and the intensification of fossil fuel production and consumption. In part, this can be explained by the accumulation of money as the primary driver of capitalist enterprise and the fact that modern social reproduction is carbon-energy dependent.

International Political Economy, like International Relations theory, more broadly, have insufficiently addressed the question of energy as the material base of the global political economy (Gill and Law 1988: Chp. 13). Most conventional textbooks and scholarly journals on both International Relations and International Political Economy barely mention key words such as energy, oil, coal, etc., with the exception of scarcities or when oil prices, specifically, escalate as surveyed by Charles A. S. Hall and Kent A. Klitgaard in 2012, Llewelyn Hughes and Phillip Y. Lipsy in 2013, and Di Muzio and Ovadia in 2016. I argue that both fields of Canadian and International political economy of inquiry have “largely sidestepped a deep analysis of the

importance of energy to global capitalism and the social reproduction of a liberal world order more broadly” (Di Muzio and Dow 2019: p. 560). There are some minor exceptions: e.g. a chapter on oil and energy in Gill and Law 1988 and Strange 1988; see also Underhill 2000; Balaam and Dillman 2013; Di Muzio and Ovadia 2016. Di Muzio and Ovadia (2016) argue that energy has never been the fundamental focal point of study and therefore “[t]he study of the global political economy, as it were, is generally disconnected from any material energy base and the limits and challenges posed by non-renewable fossil fuels in particular” (2016: p. 5). This will be problematized further, and more specifically, below.

Realism and Neorealism both study energy in terms of a strategic military commodity inherent in foreign policy agendas, specifically in Western countries and especially the United States of America (Klare 2001; Lipschutz 1989; Loft and Korin 2009a, 2009b; Painter 1986; Yergin 1990, 2011). However, this approach not only ignores its importance for the accumulation of capital but also overlooks how fossil fuels are connected to the social reproduction of the global economy. Moreover, the Realist perspective generally reduces international relations to an *anarchical realm* based on state capabilities for securitizing energy needs (Klare 2008). This was seen during the so-called energy crises of the 1970s, in the current debates surrounding peak oil, as well as in Klare’s argument that we are in a period of resource wars (Klare 2002). This approach has yet to take seriously the implications of the limits to growth or the contradictions of carbon capitalism and has instead, argued for the increased securitization (militarization) of impending crises that climate change could create (Buxton and Hayes 2016; Department of Defense 2014; Gilbert 2012; Goldenberg 2014; O’Neill 2009).

Liberalism and neoliberalism emphasize cooperation between nation-states as well as powerful institutions and alliances in finding a potential alternative to fossil fuel dependence

(Hawken 1993; Hawken, Lovins, and Cohen 2000; Keohane and Nye (1997)2011; Lovins and Cohen 2011; Mulligan 2010a, 2010b). Liberalism and neoliberalism, unlike realism and neorealism, have engaged the energy literature from the point of view of the market and capitalist price system. Like neorealism, they use an approach heavily influenced by neoclassical economics and by the belief in rational actors. Their focus on scarcity, the limits of growth, climate change, and energy allows the global market (market ecology) to shape and solve these crises (Albo 2007; Bachram 2004; Brand 2012; Hawken 1993; Hawken, Lovins, and Cohen 2000; Newell and Paterson 2010; and Xenos 1987). This approach not only removes power from their conception of the private sphere (or civil society) but also argues for a form of green or climate capitalism. Green or climate capitalism is the argument that capitalism can maintain its current levels of growth, production, consumption, and affluent energy-intensive livelihoods through sustainable development and investment, therefore transitioning to renewable and green energy. The social forces and mechanisms that can make this happen are investors, entrepreneurs, the market, and the nation-state (Hawken 1993; Hawken, Lovins, and Cohen 2000; Newell 2015; UNEP 2011, 2015; Zehner 2012). This dissertation challenges this perspective as it investigates the power relations and social forces that shape and reshape carbon capitalism.

Both (neo)realist and (neo)liberal scholarship ignore the totality or webs of social force and relations that are deeply embedded in what Michael Watts (2005) calls the oil complex. The oil complex is the arrangement

...between oil, finance, and weapons of war, and it has resulted in a close association between oil security as a strategic concern and various types of conflict. At the same time, the postcolonial state—the oil-dependent government or petrostate—has assumed a central significance within the broader architecture of an international political economy of oil dominated by the U.S. global acquisition strategy (2005: p. 378-9).

Bichler and Nitzan (1995), Watts (2005), Di Muzio (2015) and I argue that there are several key institutional elements of the oil complex which is predicated on using power as violence to shape and reshape the terrains of globalized social reproduction through structural and physical social forces and relations, which will be explored in Chapter 3 and 4.

Marxism focuses on the balance of power in the world system through their concepts of imperialism and uneven and combined development (Anievas and Nisancioglu 2015; Brewer (1980)1990; Gill 2008; Harvey 2003; Smith 2010). Unlike the two perspectives above, Marxism focuses on capitalism as a mode of production and many now recognize that fossil fuels have been at the heart of capitalist development. For example, one school of thought in Marxism understands this mode of production as fossil capitalism (Altvater 2007; Foster 1999; Malm 2013, 2016; McNeish and Logan 2012; Zalik 2008). However, most of these scholars do not attempt or focus on the biophysical limitations of the biosphere, nor are they overwhelmingly concerned with capitalization and social reproduction. In this sense, they have yet to theorize carbon capitalism as (part of) a civilizational order rather than simply a mode of production – what Di Muzio (2011) building on Gill (1995) has called a petro-market civilization.

Finally, the scholarship in Canadian political economy is dominated by two perspectives: (neo)Marxism and (neo)staples. While these two approaches have debated each other for more than 50 years, the debates have consistently been reduced to the questions surrounding commodity fetishism, the role of the Canadian state internationally and nationally, the role of Canadian elites, and what type of economy Canada has: a manufacturing, finance or staples economy? (Carroll 1982; Clement 1975; Gordon 2010; Haley 2011; Innis 1946; Klassen 2009; Klassen and Albo 2012; Levitt 1977; McNally 1986; Panitch 1977; Panitch 1981; Parker 1983; Porter 1965; Smardon 2011; Stanford 2014; Watkins 1963; Williams 1988). The main differences between Staples,

(neo)Staples and (neo)Marxism is how ‘economic events’ and ‘development’ unfold. For example, Staples theorists emphasize the international realm – the global market and foreign states as the driving force of Canadian capitalist development (Drache and Clement 1985; Innis 1956; Watkins 1963). For their part, the (neo)Marxists attempt to locate indigenous factors for capitalist development, generally through national class struggle and property relations (Brenner 1977; Gheller 2015; McNally 1981, 1988; Panitch 1977, 1981; Wood 2002). This analytical difference in approaches seems strange since one could posit that both national and global social forces are at work in explaining Canadian capitalist development as no nation-states are isolated containers nor absolutely structured by global forces, they are dialectically interconnected (Anievas and Nisancioğlu 2015; Cox 1987; Di Muzio and Dow 2017; Gill 2008). In this thesis, I take a different approach to Canadian political economy using the concepts of social reproduction, petro-market civilization, and carbon capitalism (Bakker and Gill 2003; Di Muzio 2015; Di Muzio and Dow 2018; Gill 1995). Using these concepts help me to challenge notions put forward by both Marxists and (neo)staples theorists that splinter capital and the economy into different spheres, as if capitalists, investors, etc. are forced to be tied down to one industry or one country (Bichler and Nitzan 2009; Cox 1987; Di Muzio 2015b; Gill 1991, 1993, 2008; Overbeek 2012; Sklair 2001; van der Pijl 1984, 1998). While placing Canada into the world system is important, it underestimates the role and power of the state, corporations and their interactions. Examining this more carefully in relation to the influence that energy firms have on the federal and provincial governments is necessary. Finally, there is growing literature surrounding First Nations and Aboriginal peoples of Canada. This literature focuses on the role of the Canadian state, primitive accumulation (or expulsions), racism, and colonialism given that the vast amounts of pipeline, fracking, and resource extraction is taking place on contested land (Alfred 2005, 2009; Black et.

al. 2014; Brown 2014; Coulthard 2014; Green 2003; Howlett 2010; Huseman and Short 2012; Preston 2013; Slowey 2007). This literature is very important but tends to be more rights-focused than a critical examination of the political economy of carbon capitalism in Canada and world order.

Conclusion:

As suggested above, most Marxists, liberals, and realists understand oil as a strategic commodity and generally focus on who controls and owns the flow of oil. Another common assumption held by these approaches is their idea that the biosphere is limitless: that production and affluent social reproduction can continue exponentially for everyone (Chakrabarty 2014, 2017; Trainer 2007, 2015, 2019). Even Marxists, with the goal of Socialism, barely address how far and in what ways a Socialist economy would handle the looming threat of climate change and limited resources (Foster 2009, 2018; Malm 2016; Moore 2015; Trainer 2019). Thirdly, another misconception by liberals and realists is that capitalism can operate under a low carbon economy or that capitalism can be sustainable (Fredrichs 2013; O'Connor, 1994; Trainer 2007, 2019). So far, in order to develop a green economy, a transformation not only from an energy intensive market civilization is needed but also considerable changes in patterns of social reproduction. Renewable energies may or may not be the future of energy systems but this transition underestimates how carbon intensive and violent the world's production, transportation, and industry are in maintaining the carbonization of everyday life through social reproduction. Therefore, while capitalism produces scarcities by sabotaging production, as we will show in the OPEC crisis discussed in chapter four, we do in fact have to acknowledge the actual limitations of planetary life, not only on the basis of commodities, but also on the basis of understanding how and why the relentless need for unlimited growth takes place. Therefore, could carbon-intensive capitalism,

which disproportionately benefits the plutocratic owning class while externalizing costs to society at large, threaten the fundamental human security of future generations? And all in the name of capital accumulation?

Chapter Two: Settler Colonialism and Canadian Political Economy

Canada has no history of colonialism.

– Prime Minister Stephen Harper,
Addressing the G20, 2009.

Introduction:

What is political economy? For most scholars, it encompasses contributions from social scientists in all disciplines by recombining the disparate “disciplines; of economics, history, cultural studies, political science, sociology, and anthropology in its own distinct theoretical tradition of materialism” (Drache and Clement 1985: p. X-XI). The intended objective of political economy, and more specifically Canadian political economy, is it attempts to provide an understanding of how history and so-called ‘economic systems’ unfolded and are organically linked to current social, cultural, ideological, and political orders (Drache and Clement 1985). The problem in most political economy literature starts here. The concept of ‘economic systems’ creates a false duality between ‘politics’ and ‘economics.’ In general terms, this field of study in Canada has been dominated by the theoretical traditions of (neo)Staples and (neo)Marxism⁶ (Drache and Clement 1985; Hurl and Christensen 2015). Ongoing scholarly debates within both traditions have focused on the following issues: state dependency, Canadian capitalism as a mode of production based on extracting ‘natural resources’ for export or domestic wage-labour exploitation, and Canadian imperialism (Dow 2016; Kellogg 2015a; Klassen 2014). We should note there is nothing ‘natural’ about the production and consumption of ‘resources’ (Huber 2013). Within this tradition there are two major recurring and interconnected debates; the first debate questions whether Canada is dependent on ‘staples’ (natural resource sectors) or ‘manufacturing’

⁶ This refers to scholars who may also identify themselves as ‘Canadian Marxists’ and will be used interchangeably.

(value-added sectors) for export and development (Drache and Clement 1985; Fast 2014; Innis (1930)1999; Kellogg 2015a; Klassen 2014; Panitch 1977, 1981; Smardon 2011; Watkins 1963). The second is primarily concerned with Canada being either an imperial state on a planetary scale under the United States of America's Empire by invitation or a so-called periphery or colony of it (Albo and Klassen 2012; Gindin and Panitch 2012; Gordon 2010; Keating (1993)2002; Klassen 2014; Levitt (1970)2002; Neufeld 1995a; William 1988). Unfortunately, these debates have spanned for almost a half-century and have become unfruitful and relatively stagnant. Both theoretical approaches have so far offered a very limited theory that establishes how important Aboriginal⁷ dispossession and fossil fuels (Chapter three onwards) were and are to the social reproduction of modern Canadian capitalism. In this sense, there is a large gap in the literature and one that this thesis aims to rectify by highlighting Aboriginal dispossession and fossil fuels as being integral to explaining the development of capitalism in Canada. It should be stressed that I acknowledge that I am a settler scholar living on both First Nations and Indigenous peoples land. Moreover, I do not speak for either social group but rather I attempt to demonstrate how settler colonialism is a genocidal project and inherent to how Canada's political economy unfolded.

In this chapter, I specifically focus on how settler colonialism laid the foundation for carbon capitalism and petro-market civilization to eventually emerge in Canada (see also Chapter three). The thesis of this chapter is Canada's political economy and social reproduction was and still is dependent on the *longue durée* of Aboriginal dispossession (Alfred 2005; Braudel 1980; Coulthard 2014a; Simpson 2014; Veracini 2010, 2015; Wolfe 2016). In order to demonstrate this argument, I explain that both Canadian-Marxism and (neo)Staples theorists have insufficient theoretical

⁷ I leave it up to the individual or peoples to identify themselves as they choose to and to respect their decision. As “[t]he words ‘indigenous’ and ‘aboriginal’ here are used interchangeably to describe Metis, First Nation and Inuit peoples of Canada, whether or not they have official state-endorsed ‘status’. ‘Indigenous’ is used by the United Nations and ‘aboriginal’ is the language of Canada’s constitution” (Kulchyski 2016: p. 30 – 31).

frameworks on colonialism, capital, and capitalism in addressing linkages between settler colonialism and social reproduction in Canada. Therefore, I develop an alternative theory to capital and capitalism that can contribute to building the central importance and linkages between aboriginal dispossession and carbon capitalism in Canada. Finally, I illustrate that Aboriginal dispossession is codified in Canadian development and social reproduction and is also interconnected to the British Empire's capitalist colonial-imperial mission of reinforcing early forms of a capitalist petro-market civilization based on social reproduction on a world scale.

Section I: The Specters in Canadian Political Economy

This section explores the dominant Canadian political economy perspectives which stem from the European political economy traditions of Smithian liberalism and Marxism into understanding Canada's political economy historically and in the contemporary era (Drache and Clement 1985; Hurl and Christensen 2015). I will demonstrate that there are tremendous contradictions with 'Canadianizing' these European approaches insofar that both (neo)Staples and (neo)Marxist theorizations of what capital accumulation and capitalism are have limited explanatory power in understanding how the colonial-capitalist developmental nexus in Canada unfolded.

Staples and later (neo)Staples approaches stem from Adam Smith's liberal commercialization model in explaining the origins of capital and capitalism in Canada and globally (Drache 1995; Haley 2011; Innis (1930)1999, 1956; Parker 1983; Watkins 1963). Smith argues 'development' can largely be reduced to the social division of labour that stems from spontaneous, voluntary and intensifying equal exchange relations (trade) and free labour (Perelmen 2000: p. 102ff). Smith's inquiry into the British colonies, articulated through this natural division of labour, articulates that the key to economic growth, for both Englishmen and settlers, was to feed the

British Empire with resources: cotton, food, coal, timber, fur, etc. The settler populations were flourishing due to the result of free labour, vast amounts of land, and voluntary commercial transactions in the settler colonies (Smith [1776]2005). He does not mention where the land came from nor mentions the importance of the unfree labour of African and Aboriginal slavery or indentured European slaves (Perelmen 2000: p. 106ff; see also: Donald 2011; Linebaugh and Rediker 2000; Neeganagwedgin 2012; Williams [1944]1990). The reasons for this omission are that Smith was much more concerned with how market relations led “to center on individual self-interest as the basis for the efficiency and superiority of a free market” (Vimalassery 2013: p. 297). Smith’s analysis on the so-called ‘free market’ and ‘commercial interactions’ removes the central importance of war, colonialism, slavery, and other means of violence that was foundational to the making of the British Empire and replacing it with voluntarism (Brewer 1989; Cox 1987; Di Muzio and Dow 2017; Mann (1993)2012; Marx (1867)1976; Perelmen 2000). This liberal commercialization model has been heavily critiqued in explaining the origins of global capitalism and has less merits in the colony known now as Canada (Brenner 1977, 1993; Gheller 2015; Klassen 2014; Marx (1867)1976; McNally 1981, 1988; Wood 2002). Smith conflates the origins of stock with capital and capitalism as a spontaneous process which circumvents how the origins of capital and capitalism came into existence “dripping in blood” globally (Marx (1867)1976: 926ff). My focus, like Marx, is to emphasize the question around Smith’s historicism of the origins of stock (capital) and examine how certain people have so much stock while others did not. Smith provides no answer to either question, other than that some people in the distant past were more frugal than other people (Marx (1867)1976: p. 506ff; see also: Perelmen 2000: p. 223).

The importance of both the Staples and (neo)Staples approach was to craft and revive economic historicism through political economy in response to the rise of neoclassical economics

in the United States and Canada (Berger 1986; Drache 1995; Innis 1956; Mackintosh 1923; Parker 1983). As much as Innis critiqued neoclassical economics for its lack of historicism, removing ‘politics’ (the state and institutions) from ‘economics’ (the market), he, and later on (neo)Staples, inherited their understanding of capital (as a material entity) and capital accumulation from neoclassical economics (Schmidt 1981: p. 66; see also Innis 1956, Watkins 1963). Capital, for the neoclassical school of economics, is “a material entity (though ideas/technology are sometimes included) used in production” (Di Muzio and Dow 2017: p. 5). For example, one of the most commonly used economics textbook argues that capital “is the set of tools that workers use: the construction worker’s crane, the accountant’s calculator, and this author’s personal computer” (Mankiw 2009: p. 47). If we follow this definition of capital, then the accumulation of capital is when people attempt to own “more and more factors of production over time” (measured in units of satisfaction or utility) (Di Muzio and Dow 2017: p. 5). Neoclassical economics argues capital or capital goods are measured in units of satisfaction or utility which was borrowed from Utilitarianism philosophy (or political theory) and especially Jeremy Bentham’s *felicific calculus* (Bichler and Nitzan 2009; Gill 2008; Hunt (1979)2002). First, this is not what capitalists pursue as the end goal of capital accumulation (Bichler and Nitzan 2009). Second and more importantly, since the 1960s, the neoclassical economics understanding of capital has been disputed for a variety of other factors known as the capital controversy or Cambridge debate (Arnsperger and Varoufakis 2006; Cohen and Harcourt 2003; Harcourt 1972; Keen 2011; Sraffa 1960). Therefore, we can dismiss this definition of capital.

It is hard to pin-point what Staples and (neo)Staples theorists actually mean by capitalism because their methodology and historicism is a collection of liberal political economy, neoclassical economics, institutionalism, and Marxism (Innis 1956; McNally 1981; Panitch 1981; Parker 1983;

Watkins 1963). In most cases, they never provide a definition of what capitalism is or how it is different than other modes of development or production. Staples and (neo)Staples scholars seem to understand capitalism to be a mode of production premised on spontaneous or voluntary exchanges through the market, technology, institutional pressures, competition, and the accumulation of capital (Innis 1956; Mackintosh 1923; Watkins 1963). Their primary focus is understanding the interdependency between the Canadian state and the price system (global market). For example, all of the world's 'natural resources' are controlled and priced by the 'invisible hand' of 'boom and busts' cycles (Clarke et. al. 2013; Haley 2011; Stanford 2014; Watkins 1963). Therefore, Canada is always trying to 'escape' from their notion of a *staples trap*. An example of a staples trap is when the price of oil drops, this leaves the Canadian state or 'Canadian taxpayer' with a heavily 'fixed capital' investment or infrastructure when oil prices 'bust' (Haley 2011; Innis 1956; Watkins 1963 and see Appendix A).

The primary emphasis in the Staples and (neo)Staples approaches are Canada's historical and present development trajectory which has been dependent on staples extraction (Canada's natural resource sectors) for the world Empires (e.g. France, Britain, and now the United States) (Haley 2011; Innis 1956; Levitt (1970)2002; Watkins 1963; William 1988). In other words, the 'problem' with 'Canadian development', for (neo)Staples, drawing from a very crude understanding of the Dependency and World System Theory, is that Canada's development trajectory (or positioning in the world state system) mimics former European and United States dominated 'colonies' and 'peripheries' as it is mostly a 'natural resource' based economy (Gunder-Frank 1978; Innis 1956; Kellogg 2015a; Wallerstein 1974; Watkins 1963). In order to resolve this tendency, (neo)Staples promote some form of a leftist-nationalist project which would remove Canada's dependency on foreign capital, resource ownership and domination, from mainly

United States' corporations and their export dependency to the United States Empire (Kellogg 2015a; Laxer and Martin 1974; Pratt 1976). They promote a modernization theory of development and growth insofar that it is only through developing 'Canadian-based' technology, research, and manufacturing sectors that Canada's economy can create some form of independence from the domination of foreign capital (Rostow 1962). Finally, (neo)Staples theorists draw on Joseph Schumpeter (1942)[2008] and John Maynard Keynes' (1935)[2003] theorization of capitalism as promoting entrepreneurship, competition, and having the capabilities to resolve its 'internal and external crises' through state intervention and technological advancement (Haley 2011; Laxer 2015; Levitt (1970)2002; Stanford et. al. 2014; Watkins 1963).

There has been a long-standing critique of (neo)Staples' scholarship by Canadian Marxists. These (neo)Marxists argue that (neo)Staples have the tendency to see the drivers of history and development as commodities and technology instead of human-beings in webs of social relations. This has led them towards a commodity fetishist and techno-determinist view of history and development, which in turn, has largely ignored the Canadian capitalist class and Canadian forms of imperialism (Gordon 2010; Gordon and Webber 2016; Kellogg 2015a; Klassen 2014; McNally 1981, 1986; Panitch 1981; Shipley 2017). More generally, for Marx and Marxism, what is important are changes within their concept of 'modes of production.' The modes of production are conceptualized as the property relations that dictate how any historical society produces and reproduces (Banaji 2010; Marx (1867)1976). For Marx, capitalism represented a historic break from earlier modes of production for two reasons: 1) the capitalist mode of production means that society produces commodities for sale on the market; and 2) labour is subsumed by capital, which means that capitalists extract-surplus value from workers' labour power that they sell on the market as a commodity (Brenner 1977; Wood 2002). Therefore, Marx

debunks Smith's origins of capital and capitalism through voluntarism, as seen in his chapters on so-called primitive accumulation (1867)1976: Chps. 26 to 33).

In my opinion, Marx had three intellectual phases: Marx the philosopher, Marx the historian, and Marx the would-be scientist. This chapter is only concerned with Marx the historian and Marx the would-be scientist. The historian Marx, whom I share various affinities with, demonstrated that the origins of capitalism lie in the dispossession or expropriation of peasants from their means of subsistence and understood capital as a social relation. Unfortunately, when writing the volumes of *Capital*, he attempted to construct a more scientific theorization of both capital and capitalism (as Marx tried to dedicate *Capital* to Charles Darwin) (Di Muzio and Dow 2017). For example, Marx tried to locate 'natural' laws of motion in order to "predict future outcomes—in Marx's case, the emergence of communism out of the contradictions of capitalism" (Di Muzio and Dow 2017: p. 5). It was Marx the scientist that provided a material measurement of how capital is accumulated, as surplus dead labour or known as the labour theory of value (Di Muzio and Dow 2017; Nitzan and Bichler 2009). Put differentially, when Marx came to "define it analytically to explain exploitation in the workplace, 'capital' becomes 'dead labor' or machines/objects that produce commodities" (Di Muzio and Dow 2017: p. 5). For example, Marx argues

Capital is dead labour, that, vampire-like, only lives by sucking living labour, and lives the more, the more labour it sucks. The time during which the labourer works, is the time during which the capitalist consumes the labour-power he has purchased of him (Marx (1867)1976: p. 160).

And

But it is only in the factory system that this inversion for the first time acquires technical and palpable reality. By means of its conversion into an automaton, the instrument of labour confronts the labourer, during the labour-process, in the shape of capital, of dead labour, that dominates, and pumps dry, living labour-power. The separation of the intellectual powers of production from the manual labour, and the conversion of those powers into the might of capital over labour, is, as we have

already shown finally completed by modern industry erected on the foundation of machinery (1867)1976: p. 282).

In sum, Marx's theory of capital accumulation, are material things used in the production process of commodities and "the only thing that can produce more value in the process of producing commodities is human-labour power— essentially, the capacity to work" (Di Muzio and Dow 2017: p. 6). Therefore, "[t]he labour theory of value is the argument that workers are not paid the full value produced by their labour throughout the working day. No one has been able to prove this or solve the transformation problem" (Di Muzio and Dow 2017: p. 6; see also: Bichler and Nitzan 2009). As seen in Chapter 1, I argue that capitalists, corporations, nor investors simply make their earnings from narrow boundaries of the production of commodities (Bichler and Nitzan 2009; Di Muzio 2015a; Di Muzio and Dow 2017, 2019).

When orthodox Marxists use scientific Marx to explain that capitalists are accumulating capital, they mean the accumulation of more material factors that assist in the production of commodities. Therefore, this explains why particular schools of Marxism still conflate the industrial revolution in England as the origins of global capitalism (Brenner 1977; Dimmock 2014; Di Muzio and Dow 2017; Malm 2016; Wood 2002; Zmolek 2013). As a result, scientific Marx and his more orthodox followers have insufficient definitions of both capital and capitalism because no capitalist, as the end goal of capital accumulation, "pursues the accumulation of ever more machines or evermore labourers" but simply more and more accumulation (Di Muzio and Dow 2017: p. 7). There are two other interrelated problems that Canadian Marxists inherit from the scientific phase of Marx: 1) the most dominant discourse of Marxism in Canada is known as Political Marxism as they conceive the origins of capitalism within a peculiar form of property

relations transformation from Euro-feudalism⁸ to capitalism (Brenner 1977; Evans 2016; Gheller 2015; Klassen 2014; McNally 1981; Wood 2002).⁹ This discourse has now been applied to settler colonies. For example, Charles Post (2011) attempts to find this social transformation in rural northern states of the United States of America and Frantz Gheller (2015) attempts to find it in the provinces of Quebec and Ontario in Canada (see also: Lafrance and Post 2019). This approach has been largely critiqued for Eurocentrism, removing colonialism, patriarchy and slavery from capitalism, and reducing the origins of capitalism to replicating internal England transition (Anievas and Nişancioğlu 2015; Bhambra 2010; Di Muzio 2015a). Political Marxists create neat divisions between social relations of oppression (non-productive) and exploitation (productive) (Bhattacharya 2017; Wood 2002). For instance, Ellen Meiksins Wood argues “that gender and racial equality are not in principle incompatible with capitalism...although class exploitation is constitutive of capitalism...gender or race inequality are not” (1990: p. 60ff).¹⁰ This separation is even seen in their conceptional differences of imperialism and colonialism. Imperialism seems to be inherent to global capitalism and colonialism refers to historical events outside of global capitalism (Wood 2002, 2003). In other words, as Jason W. Moore (2015: p. 16 – 7 emphasis added) argues “[t]he mistake is to see capitalism as defined by wage-labour, any more than it is defined by the world market.” Therefore, while they recognize Canada is either a colonialist or imperialist state towards Aboriginal populations and territories, this has nothing to do with

⁸ Marc Bloch (1962) demonstrates that there were no universal tendencies of European feudalism. Feudalistic social relations appeared differently in every ‘European’ territory.

⁹ Ironically, “[e]ven today, at times, Smithian is used as a rather harsh pejorative among people on the Left. For example, Robert Brenner flings the accusation at such influential theorists as Andre Gunder Frank, Immanuel Wallerstein, and even Paul Sweezy. Surprisingly, Brenner then himself sounds a Smithian note by asserting that the ‘original pressure’ for the breakdown of feudalism came from the increased demand for English cloth” (Perelmen 2000: p. 373).

¹⁰ Adolph Reed Jr.’s critique of Ellen Meiksins Wood sums up the dilemma “‘capitalism is conceivable without racial [and gender] divisions.’ True enough. However, many things are conceivable that do not exist and have never existed - unicorns, dragons, and the homo oeconomicus of neo-classical economists’ fantasies ...” (2002: p. 28).

Canadian capitalism ‘proper’ until wage-labour or resource extraction emerges on their land (Gordon 2010; Hall 2015; Klassen 2014). This division is defended through Marx’s differentiation between absolute and relative surpluses in accordance to subsumption of labour to capital, which conflates industrialism and wage-labour relations as the only form of capitalist production (Di Muzio and Dow 2017; Gordon 2010; Hall 2015; Ince 2014; Kellogg 2015a; Klassen 2014; Moore 2015).

Therefore, I argue that Staples, (neo)Staples, and (neo)Marxist literature understands colonialism as a historical event, through European mercantilism, and this generally perpetuates, intentionally or not, a form of Eurocentrism that celebrates European modernity/capitalist development as the only ‘linear progression’ or inevitable developmental trajectory (Anievas and Nişancioğlu 2015; Bhabra 2010; Coulthard 2014a). There are distinctions between both approaches. Staples theorist Harold Innis seems to suggest that the first wave of settlers in New France had capitalism in their bones (Gheller 2015: p. 20ff). Innis does recognize the fact that settlers were dependent on Aboriginals for their social reproduction (only through the fur trade) (Innis (1930)1999). He reduces this complex relationship of settlers and Aboriginals as progressive, spontaneous and naturalizes trade relations (guns for furs etc.) (Innis (1930)1999: p. 59ff). He ignores how land could be valuable, nor mentions how the territory of New France was established by conquest and dispossession of Aboriginal peoples in the area¹¹, nor addresses the waves of assimilation or elimination by the Catholic Church, French colonial administration, and merchant companies (Cavanagh 2014; Weaver 2003). The reason for this is Innis’ political project

¹¹ The aboriginal tribes in the area were: “Malecites, Abenakis, Mi’kmaq, Etchemins, Montagnais, and Algonquins (i.e., the Algonquian language group), and Hurons, Hochelagas, Stadaconas, Oneidas, Onondagas, and Mohawks (i.e., the Iroquoian language group) occupied territory on either side of the St. Lawrence, and from Lake Ontario to the Bay of Fundy: they had done so ancestrally (probably with other communities), and they continued to do so at the time of discovery, and also during the seventeenth century (if in consolidated or variegated form)” (Cavanagh 2014: p. 102).

that was embedded in the Canadian nationalist project, and was not about colonialism or decolonization (Kellogg 2015a; Schmidt 1981: p. 68). Most of (neo)Staples theorists' attention still reduces past and present colonialist structures to the levels of the Canadian State (e.g. Provincial and Federal) and domestic and foreign corporations attempting to extract 'natural resources' illegally or legally on Aboriginal lands (See Fast 2014; Mills and Sweeney 2013; Slowey 2008; Stanford et. al. 2015; Watkins 1977). While important, it does not address settler social reproduction and only understands 'natural resources' as inputs into the capitalist mode of production.

Within (neo)Marxism, there are various and conflicting narratives on understanding colonialism, the rise of the so-called West, and transitions to capitalism. In general terms, the 'big debate', within the global Marxist literature, as it relates to Canadian capitalism, is between two different Eurocentric Marxist perspectives: World Systems Theory and Political Marxism (Anievas and Nişancioğlu 2015). Put simply, the prime movers of history and the transition to capitalism for the World System Theory is the intensification of exchange relations (trade) which is similar to Staples and (neo)Staples approaches (Wallerstein 1974, (1983)2003); Watkins 1963). Political Marxism, on the other hand, focuses on class conflict as the prime mover of history and the transition to capitalism (Brenner 1977, Gheller 2015; Klassen 2014; McNally 1981, 1986, 1988; Wood 2002). Therefore, the emphasis in both approaches is that colonialism was an historical event and its contribution primarily focused on resource extraction, trade, slavery, etc. to European metropolises, which contributed very little or was foundational to European capitalism depending on the (neo)Marxist framework (Anievas and Nisancioğlu 2015; see also: Chakrabarty (2000)2009).

In sum, the fundamental critique with ‘Canadianizing’ these European political economy approaches on the origins of capitalism in Canada is that neither Adam Smith nor Karl Marx generally studied or acknowledged how important Aboriginal dispossession was and still is to global capitalism. Smithian-based or orthodox Marxists-based Canadian political economy perspectives are not only Eurocentric but do not differentiate the key differences between colonialism and settler colonialism in relation to settler social reproduction and capitalism (Alfred (1999)2008, 2009; Coulthard 2014a; Pasternak 2014; Veracini 2014; Wolfe 2006). Also, both (neo)Staples and orthodox (neo)Marxists have inadequate theory and definition of what capital accumulation and capitalism is in relation to how Canada’s colonial-capitalist political economy unfolded. Therefore, as with Braudel (1979) and Marx (1867)1976, I do not see capitalism’s origins simply in England nor do I agree with reductionist Marxists dialectics (laws of motion or general laws of history) where Eurocentric linear modes of production transform and unfold in a particular patterns (Brenner 1977; Comninel 1987; Hilton (1976)1985; McNally 1988; Wood 2002). Instead, as Donald Denoon (1983) argues, there seems to be a tendency in economic historicism to view all “settlers as having capitalism in their bones” (i.e. Staples and (neo)Staples theorists) or “none at all” (i.e. Marxists theorists) (p. 303; See also Vimalassery 2013). Therefore, I will argue that settler colonialism is inseparable from settler social reproduction, market civilization, and capitalism in Canada.

Section II: Settler Colonialism as Social Reproduction

This section explores my theory of capital and capitalism in relation to classical liberal political economy, settler colonialism as historical and ongoing racialized-violent forms of Canadian settler, colonial and capitalist social reproduction in Canada. Settler colonialism is inseparable from Canada’s political economy and development.

My theory of capital stems from Braudel (1983: p. 236ff) who demonstrated that the etymology of the term ‘capital’ stems from the Latin word *capitale* which was first used in the twelfth to thirteenth centuries in the Italian city-states to conceptualize:

 funds, stock of merchandise, sum of money, or money carrying interest. It was not at first defined with any rigour, as the discussions of the time centred primarily on interest and usury (to which scholastics, moralists and jurists eventually opened the door in good conscience, because, they said, of the risk run by the moneylender) (Braudel 1983: p. 233).

In general terms, capital was not a concrete term until the 14th and 16th century which came to mean “a sum of money to invest or alternatively, a sum of money already invested in expected profitable activities...it is investment in ‘profitable activities’ that matter, not factory production per se” (Di Muzio and Dow 2017: p. 6; see also: Canna 1921; Muldrew 1998). The confusion for both (neo)Staples and particular (neo)Marxists on the theory of capital accumulation stems from Adam Smith. Edwin Cannan argues that Smith redefined capital as material goods used for production and this was a “very serious departure from the conception of capital which had hitherto prevailed. Instead of making the capital a sum of money which is to be invested, or which has been invested in certain things, Smith makes it the things themselves” (Cannan 1921: p. 480; emphasis added). This serious re-invention of the term capital, from Smith, as seen above, has led to both neoclassical economics and orthodox Marxists believing that capital is a material entity used in “in production, albeit quantified in a monetary unit” (Di Muzio and Dow: p. 7). The accumulation of ‘capital’ then “in neoclassical economics is the accumulation of factors of production, and for [more orthodox] Marxists, the accumulation of dead labor or instruments used in the production of commodities” (Di Muzio and Dow: p. 7). I argue, not only do capitalists not want to accumulate either of these factors, but understanding capital and capitalism in this context limits both of these approaches in explaining how settler colonialism was and is foundational to Canadian capitalism.

My definition of capital is that it can be viewed as a social relation of structural power that highlights “the contrast between those with a substantial or even privileged ownership, control or access to both financial and/or physical assets, in contrast to the bulk of the remainder of society (most of labour and their dependents) (Gill and Law 2008: p. 103ff). As capital accumulation depends on “...the power of the state to define, shape and be part of a regime of accumulation” (Gill and Law 2008: p. 103ff). But, when it comes to capital accumulation as the end objective for the capitalist classes, I argue

what capitalists really want is more differential power measured in money, not more machines or factors of production as an end goal. Marx undoubtedly knew that the goal was to get ever more money, but his definition of capital committed him to viewing it as a material entity rather than an abstract register (money units) of [structural] power (Di Muzio and Dow 2017: p. 6).¹²

In other words, “[t]o be a capitalist then, is to be an owner/investor in income generating assets with the difference between capitalists largely stemming from the monetary value of their capitalization or claims on future earnings” (Di Muzio and Dow 2017: p. 9). Simply put, capital accumulation is ownership claims¹³ on the biosphere, human practices, everyday life sustenance (e.g. land, shelter, labour, food, medicine, etc.) that become commodity or income generating (or future earning) assets within a hierarchy of power and resistance, social structures and institutions. This definition of capital emphasizes the importance and inseparability of capitalist state, juridical law, commodification (private property), class struggle, and the act of capitalization that is predicated on ownership. I argue capitalism

is a politico-economic system premised on the property relations between hierarchically arranged owners and non-owners whereby income-generating assets are...capitalized based on the institutional social [and structural] power of business and governments to generate income streams by shaping and reshaping the

¹² For an insightful discussion on the differences of direct, relational, and structural social powers and capital accumulation see Gill and Law 2008.

¹³ Ownership claims that can be tradable or vendible and this is why capital is measured in a money of account (Di Muzio and Dow 2017: p. 8 – 9)

landscape of social reproduction through the market and price system (Di Muzio and Dow 2017: p. 9).

The structural and social power of capital has, in shaping and reshaping social reproduction, derived from the capitalism system and organs of the capitalist state that allows investors, owners, capitalists, or corporations to seek more and more ownership claims over the biosphere, human activities, and everyday life sustenance, thereby attempting to exclude others. The structural power of the state, juridical law, merchant companies, joint-stock companies and now corporations, etc., which is needed in establishing private property and commodification that attempts to restrict or limit social reproduction only through the capitalist price system (which commodity prices are measured in money), is known as market civilization. This forces the rest of humanity to seek various ways to access, predominately money through wages or debt, in order to socially reproduce their livelihoods and lifestyles through the capitalist price system and market civilization. Therefore, my conception of capitalism and capital also have no difficulty in seeing how different modes of production, labour, finance, etc. and forms of social reproduction can exist within capitalism.¹⁴ As any social, physical, ideological entity that can generate an income (or future earning) can be essentially capitalized unless met with incredible resistance. Therefore, I argue that European colonialism, settler colonialism, and later on, imperialism was primarily about expanding capitalism and its price system with the process of capitalization over social reproduction to mold the world into an interconnected global capitalist market civilization through waves of global mass dispossession.

¹⁴ For example, Di Muzio and Dow argue (2017: p. 9) “...slaves are non-owners of any income-generating assets, including their own labour. But transatlantic slavery was a wholly capitalized enterprise from the for-profit companies who transported and sold slaves in the Americas and Caribbean to the work done on plantations. To take but one example of many, consider that most of the Southern planters who would eventually lead the American Revolution were deeply in debt to Northern and British financiers. In effect, these financiers were capitalizing the work of slaves for profit on plantations as slave masters repaid their mortgages (among other debts) at interest to their creditors. More than this, the slave system in the United States and elsewhere also helped erect an international economy enabling the further capitalization of additional income streams (for example tobacco, sugar, cotton, iron).”

My theory of capital accumulation and capitalism provides insight into another side of classical liberal political economy. This side of classical liberalism was deeply rooted in the colonialist-slavery-liberal mentality which was foundational to global British capitalist Empire (or pax-Britannica) and critique Smithian liberalism (Cox 1987; Perelman 2000; Piterberg and Veracini 2015). Edward Gibbons Wakefield denounced Smith and argued that the social division of labour was never in human history a by-product of voluntary consent. Instead, the social division of labour was developed through violence which should remove alternative modes of life and legitimize a new form of authority, hierarchy, and exploitation (Marx (1867)19761976: p. 932ff; see also: Piterberg and Veracini 2015). This form of liberalism is deeply embedded with the narrative of European modernity and supremacy. European modernity is where theorists “thought that [European] modern society was ‘civilized,’ and that this quality was related to economic developments...So thinkers proceeded by formulating economic dichotomies that distinguished the [non-European] uncivilized from the [European] civilized” (Reyna and Downs 2005: p. 2). This is seen in all the works of John Locke, Jeremy Bentham, both John Stuart and James Mill, James Steuart, E.G. Wakefield, Robert Gourly, and John Rae who were heavily involved in joint-charter colonial and slavery enterprises (Bhandar 2018; McCarthy 2009; Piterberg and Veracini 2015).¹⁵ For example, John Rae and Robert Gourly lived in Canada and Wakefield did visit. Their main focus was how to turn both ‘savages’ (meaning Aboriginal people) and non-productive settlers into wage-labourers. Furthermore, their other focus was over how to re-privatize

¹⁵ “John Locke, for instance, famously declared America to be a ‘vacant land’ occupied only by nomadic savages still in the state of nature, and hence a land ripe for European expropriation, as no ownership-conferring labor had yet been mixed with it. Less famously, he was an original shareholder in the Royal African Company which was chartered in 1672 to monopolize the English slave trade” (McCarthy 2009: p. 24-5). “James Mill was engaged by the East India Company in 1819, became its Chief Examiner in 1830, and remained with it for the rest of his life...John Stuart Mill, who was also employed by the East India Company for most of his adult life and rose to be Chief Examiner in his last year there (McCarthy 2009: p. 24-5 and 167-9).

(monetize) colony land further, as settlers had too much land and had little incentive to sell their crops or labour to the global market (Di Muzio 2015a; Perelmen 2000, Weaver 2003).

Brenna Bhandar argues it should be of no surprise that the “philosophical ground in the work of [John] Locke, [Jeremy] Bentham, J.S. Mill, and others, who had reconceived of land ownership as based not on hereditary titles and inheritance (birthright), but on labour, expectation and security” (2015: p. 19; see also: Bhandar 2018). This transformation in concepts of private property is interlinked with the racialized and gendered notions of civilized and non-civilized, in England and later Great Britain, and then their settler colonies’ populations.

As a result, the political project of these classical liberal scholars was focused on socially re-engineering human life (race, gender, and class relations) and property relations through violence, enclosures, enslavement, and colonialism towards a new wealth regime and modes of social reproduction (Alfred 2009; Bhandar 2015, 2018; Coulthard 2014; Di Muzio 2015a; Federici 2004; Marx (1867)1976; McCarthy 2009; McClintock 1995; Mies 1986; Moore 2015; Perelmen 2000; Simpson 2014; Varacini 2010). This is further seen in how liberal political discourses became inseparable with ‘scientific’ discussion on biological race, gender and later on class, serving to justify slavery, colonialism, new forms of patriarchy¹⁶, market civilization, exploitations, and eliminating the commons (Bakker 2007; Bhandar 2015, 2018; Bodley 2015; Coulthard 2014a; Federici 2004; Gill 1995; McCarthy 2009; Mies 1986). This led to a remaking of liberal political economy by Thomas Malthus (1798)[1998] and David Ricardo (1817)[2001] who demonstrated how ‘economics’, private property rights, and ‘natural resources’ matured together on Locke’s concept of improvement of private property which were invoked to justify exclusion (See Weaver 2008: p. 79ff). This liberal political economy embraced and justified the

¹⁶ This is also seen in how women were disciplined throughout Europe and their colonies: witch trials, creation of social reproduction as non-productive labour, eliminating birth control, etc. See Federici 2004 and Mies 1986.

slave trade, colonialism, patriarchy, and working-class exploitation as it led to social reproduction of affluence for a minority of wealthy men and made Great Britain into a global empire (Perelmen 2000: p. 236ff; See also: McClintock 1995; Mies 1986). “Capitalist states that had developed in Atlantic Europe by the eighteenth century were killing machines. Roughly seventy to eighty percent of their budgets were spent to pay the expenses of ongoing wars and the debts of past wars” (Reyna and Downs 2005: p. 17; see also: Mann (1986)2012 and (1993)2012). This led both European nation-states and joint-charter enterprises to become the engine of violence for these transformations (Di Muzio and Dow 2017; Mann (1983)2012; (1986)2012; Reyna and Downs 2005; Stern 2011; Schoenberger 2008).

Wakefield, Rae, and Gourlay argued that British colonialism was a way to solve English Poor Laws, which to them, represented ‘...the greatest evil which overshadows the fate of England’ (Gourlay as cited by Perelmen 2000: p. 332). The English Poor Laws provided very minimal social protectionism to the surplus population of Great Britain that was not incorporated into factories (Marx (1867)1976; Polanyi 1957). In Canada, the liberal-colonialist debates centered on how to regulate, control, restrict and in some cases eliminate ‘savages’¹⁷, peasantry, and ‘working class’ populations from socially reproducing their livelihoods outside of the nascent global capitalist market civilization (Piterberg and Veracini 2015; Weaver 2003). Both subsistence farmers, as well as Indigenous people, were seen as backwards in North America and needed to be transformed, dispossessed or eliminated (Coulthard 2014a; Gheller 2015; Piterberg and Veracini 2015; Simpson 2014; Veracini 2010; Weaver 2003). This political project reinforced owners and non-owners of the means of production and divided people along racialized, gendered,

¹⁷ Describing all Indigenous people globally.

and class lines (Perelman 2000: p. 336; See also; Bhandar 2016, 2018; Federici 2004; McClintock 1995; Mies 1986).

This branch of classical liberal scholars provides greater insight into why settler colonialism and capitalism can be integrated together in Canada. It should be noted here that settler colonialism still exists in Canada and functions along with historical and modern Canadian capitalism. Settler colonial studies is “a field of inquiry that examines a specific type of European colonialism premised on land acquisition and population replacement [or containment], in contrast to colonialism, premised on resource exploitation and surplus labour markets” (Pasternak 2014: p. 147; see also; Veracini 2010, 2015, 2019). Thus, “[u]nlike colonials in South Asia and Africa, settlers in Canada did not ‘return’ to the metropole. Rather, they stayed seeking eventually to replace Aboriginal societies with their own. Replacement is embedded in the institutional logic of settler colonialism and in the structure of jurisdiction” (Pasternak 2014: p. 147; see also: Veracini 2014). Therefore in Canadian political economy, Aboriginal peoples’ dispossession and replacement of their modes of life and land is removed from the central ontology of colonization in Canada (Alfred (1999)2008, 2009; Coulthard 2014a; Pasternak 2014; Veracini 2010, 2014; Wolfe 2015). Yet, Canadian political economy scholars still theorize Canada as an ‘empty land’¹⁸, or promote assimilation in order to ‘emancipate’ Aboriginal people from their colonial-capitalist created impoverished conditions¹⁹, or divorce colonialism from capitalism (as different modes of

¹⁸ Watkins states “[t]he phenomenon of the new country, of the ‘empty’ land or region overrun by the white man in the past four centuries, is, of course, well known. The leading examples are the United States and the British dominions. These countries had two distinctive characteristics as they began their economic growth: a favourable man/land ratio and an absence of inhibiting traditions (1963: p. 143). He only later on corrected this fundamental flaw in his edited book *Dene Nation – the Colony Within*, University of Toronto Press, 1977.

¹⁹ John H. Brodley (2015) argues how Western social scientists understand ‘poverty’ today was an irrelevant concept and did not exist per se in small subsistence societies (p. 23ff). Gerald Taiaiake Alfred notes further that most “[c]onventional approaches are based on an accession to the colonial-capitalist agenda with respect to Aboriginal people and their lands. The agenda is heavily promoted by largely pro-assimilationist media and mainstream non-Aboriginal scholars, with integration into the market economy and cultural assimilation advanced as the only viable

production) in Canada (Flanagan 2006; Gheller 2015; Gordon 2010; Innis (1930)1999; Klassen 2014; McNally 1981; Watkins 1963; Widdowson 2015; Widdowson and Howard 2008). As a result, Aboriginal people, their land, modes of life and resistance drift mostly out of history when understanding historical or modern Canadian capitalism and settler social reproduction. Furthermore, Canadian Political Economy scholarship writ large underplays or ignores how Canada's settler and 'former' colonial, and now capitalist social reproduction is premised on Aboriginal dispossession and the inherent logic of elimination through containment, subordination or replacement (Coulthard 2014a; Simpson 2014; Veracini 2015, 2019; Wolfe 2016).

There are differences between settler and colonial populations in their involvement in the historical and ongoing colonization and imperialism of Aboriginal people (Barker 2009). Yet there is one similarity although differential and unequally, their patterns of existence are premised on modes of violence by former colonial administrations and charter companies now called Canadian governments and corporations, for protecting and providing their lifestyles and livelihoods which were/are dependent on Aboriginal land, technology, trade, exploration, war and resources. Therefore, the establishment of settler colonialism is a form of social reproduction. Settler colonial social reproduction demonstrates how Canada's settler populations reproduce their livelihoods and lifestyles through historical and ongoing colonialism/imperialism and violence as it is premised on the perpetual containment, subordination or elimination of First Nation and Aboriginal populations and their modes of life.

Terra nullius (vacant land) was and still is a widely-held assumption in North America (Alfred 2009; Cavanagh 2014; Coulthard 2014a; Harris 2004; Simpson 2014). The doctrine of terra nullus, which rests on a doctrine of cultural inferiority, was dominant throughout colonization in

pathways to a better life for First Nations people and communities. This perspective is also at the centre of government policy and, it is fair to say, forms the view of the vast majority of the Canadian population" (2009: p. 44).

Canada's history. For example, in 1763, New France was implemented on an unclear land mass, 1783 to 1850, Upper Canada (now known as Ontario) had 50 million acres that was purchased or conceded on fabricated 'legal treaty grounds' (Alfred 2009), and in 1871 to 1899, the new domain of Canada purchased 48.5 million acres that was stolen from the Hudson Bay Company. This intensified the dispossession of 'natives' and placed them on reserves (Weaver 2003: p. 134ff). Patrick Wolfe (2016: p. 20) reminds us "colonialism did not impress its will on a blank slate" as Aboriginal peoples had their own differential societies with their own modes of life, including dependency on their land, as in every type of civilization. The importance of settler colonialism is the historical reminder that the French and later the British were dependent on Aboriginal people. Not simply for fur trade exploration, food production, technology, but also for territory and peace. As Gerald Taiaiake Alfred argues:

Canada's legal claim to a territory is based on the doctrine of terra nullius, peace and friendship treaties with Aboriginal peoples, and various Royal Proclamations assuming imperial prerogative to pre-empt Aboriginal ownership of land. Britain (and France before it) secured control against other would-be colonial powers by recognizing Aboriginal nationhood and sovereignty both in rhetoric and practice, as Europeans were not militarily capable of defeating Aboriginal nations outright, and needed Aboriginal alliances to confront their colonial rivals...once Britain gained a preponderance of effective control over North America, it ignored earlier recognitions of Aboriginal nationhood and political sovereignty, as well as the legal guarantees to land ownership and access provided by treaties... (Alfred 2009: p. 44-5)

This happened when Britain managed to gain its colonial monopoly; the Aboriginal population was significantly reduced by various colonial and tribal wars and epidemic diseases (Alfred 2009; Harris 2004). This made them incapable of resisting on a mass scale against future settler populations and further dispossession. The Aboriginal populations who did resist were now targeted for various modes of assimilation and elimination (Alfred 2009; Bodley 2015; Coulthard 2014a; Harris 2004; Milloy 1999; Murray 2017; Pasternak 2016; Simpson 2014).

The logic of elimination within settler colonialism provides two key historical and ongoing aspects of social reproduction in Canada. The first, is that the political project of the settlers became a logic of elimination when “Aboriginal people obstructed settlers’ access to land...” (Wolfe 2006: p. 387-388). This demonstrates that for settler colonialism “...the primary motive for elimination [was] not race (or religion, ethnicity, grade of civilization, etc.) but access to territory. Territoriality is settler colonialism’s specific, irreducible element” (Rose 1991: p. 46, as cited by Wolfe 2006: p. 387). Second, that both colonials and settler colonizers come to stay (under duress or not) and therefore the violent invasion and occupation was about replacement to securitize their social reproduction. This is not an ‘historical event’ that ended but an ongoing social structure as it is codified in liberal-colonial discourse and the patterns of existence among settlers (Bhandar 2015; McLaren et. al. 2005; Morgensen 2011; Weaver 2003). Its ongoing nature is applied by social technologies of power and violence, such as: law, ownership (private property), a written constitution and state power (Brown 2014; Coulthard 2014a; Crosby and Monaghan 2012; Morgensen 2011). Thus, the primary objective of settler colonialism was territorial conquest for settler social reproduction and the defense of this peculiar form of social reproduction was met either juridically or through various strategies for containment, assimilation, displacement, or elimination (Alfred 2009; Coulthard 2014a; Simpson 2014; Veracini 2015, 2019; Wolfe 2016).

Settler colonial and Aboriginal scholarship critique both (neo)Staples and (neo)Marxism for two reasons. The first reason is that both perspectives in Canadian political economy do not see land in itself as producing or having value in capitalism, with the exception of rent or through labour (or improvement) (Hall 2015; Innis 1956; Watkins 1963). Glen Coulthard argues that the problem with European political economy, (whether liberal or Marxist), is their anti-ecological foundations (2014a: p. 14). Second, it reduces the Aboriginal peoples’ struggles in terms of their

own social reproduction to Western ‘economic’ or ‘monetary’ social relations. This divorces white supremacy, patriarchy and other structures and modes of discrimination and violence from Canada’s political economy. This separates settler colonialism into the social dimensions of treaties, law, recognition, self-determination and places the emphasis of struggle only on the politics between Canadian governments and Aboriginal populations, removing its foundation from how settlers socially reproduce their livelihoods (Alfred 2009; Bhandar 2015, 2018; Borrows 2001; Coulthard 2014a; Pasternak 2014; Stanley 2015). How liberal law and legal organizations operate has been under-theorized in understanding capitalism (Gill and Cutler 2014). As Bhandar (2015: p. 3) notes

while the very problem of what ‘capital’ is cannot be separated from the modes of its legal organisation, it is clear that legal forms are not solely determined by economic processes of exchange. Juridical forms of property, in all their complexity and plasticity have been central to multiple modes of capital accumulation and dispossession” (Bhandar 2015: p. 3).

In sum, settler colonial and Aboriginal scholarship and certain Canadian political economy scholars have attempted to bridge the gap between political economy and settler colonialism (Churchill 1983; Coulthard 2014a; Gordon 2010; Hall 2015). There are tremendous problems with this ‘marriage’, specifically, with Marx’s concept of ‘so-called primitive accumulation’. A key point made by Marxist political economy is that it denies that capital can exist independently of politics. Marx systematically demonstrates that the relations of production are intertwined with politics and the state. Capitalism, or any mode of production, is based on unequal exchanges, hierarchy and violence, not by spontaneity or voluntarism (Marx (1867)1976: Chps. 26 to 33). Another important factor about this concept; Marx arguably knew the European colonial project was one of the social configurations for the rise of capitalism and Euro-supremacy through violence and occupation on a world scale (1867)1976: p. 915ff). This has led (neo)Marxists and

critical scholars to draw upon this concept quite frequently to describe the historical and current realities of First Nations and Aboriginal people's dispossession of their land (Brown 2014; Coulthard 2014a; Hall 2015; Hoogeveen 2015; Ince 2014; Kulchyski and Bernauer 2014; Nichols 2015; Roberts 2017).

On the other hand, both Cole Harris and Patrick Wolfe argue that Marx's conception of primitive accumulation did not take place in Canada or the United States as European colonials did not remove the Aboriginal off their means of subsistence for their labour power (Harris 2004: p. 167; Wolfe 2016: p. 20ff).²⁰ With this in mind, the importance of eliminating or displacing Aboriginal traditional modes of life and subsistence was about replacing Aboriginal people writ large, in favour for the social reproduction of settlers be they capitalists or subsistence farmers. Still, there are four problems which arise from a primitive accumulation framework, in this context: 1) profit, for scientific Marx and his followers, is only extracted during wage-labour exploitation, 2) it was not entirely successful, 3) it ignores the capitalist social totality in social reproduction since it reduces resources and land as auxiliaries in capitalism, and 4) it also disregards how capitalism currently exists differently and unequally in the everyday lives of settler and Aboriginal populations in Canada. The problems only deepen when (neo)Marxists use David Harvey's (2003) re-theorization of primitive accumulation into accumulation by dispossession, to account for the importance of Aboriginal land possession in Canada (See Gordon 2010; Hall 2015). Harvey argues 'capital' generally through crises (over-production or under-consumption), becomes dependent on austerity or imperialism, etc., to spread, transform or eliminate 'non-

²⁰ Although, Massimo De Angelis (2004) and Coulthard (2014a) demonstrate that Marx did not intend that dispossession always meant mass proletarianization, Coulthard goes on to say "Marx's primitive accumulation must be stripped of its early normative developmentalist character. It is incorrect to view it as a necessary condition for development forms of critical consciousness and associated modes of life that ought to inform the construction of alternatives to capitalism in settler-colonial contexts" (2014: p. 151-2).

capitalist' social relations and modes of production, in order to 'spatially fix' global capitalism (2003). This provides very little insight as it cannot only be empirically or historically validated, but it describes all forms of dispossession from both capitalists and non-capitalists alike (Bichler and Nitzan 2006; De Angelis 2004). Therefore, this 'unhappy marriage' has led settler colonial and Aboriginal scholars to continually draw upon current Canadian political economy frameworks, which have been relatively silent on how the logic of assimilation, elimination and Aboriginal dispossession contributed to modern Canadian capitalism through social reproduction (Coulthard 2014a; Hall 2015; Pasternak 2015). Settlers and capitalists are dependent on the Canadian state to shape and reshape their patterns of existence through reinforcing Aboriginal elimination in order to promote current patterns of social reproduction and capitalist accumulation.

In conclusion, Glenn Coulthard (2014a: p. 13) reminds us that, "the history and experience of dispossession, not proletarianization, has been the dominant background structure shaping the character of the historical relationship between Indigenous peoples and the Canadian state" and this dispossession was capitalized in order to generate money, as well as how settler and global social reproduction is foundational to how Canada's political economy unfolded and remains so presently. In other words, instead of understanding dispossession, land, labour and resources as independent spheres of production and historical events in the development of Canada's political economy, I argue they must be addressed as interrelated in the making of global capitalism and Canada's historically specific mode of social reproduction.

Section III: The Making of Canada's Political Economy on 'Native Land'

This section critiques the prevailing conventional Canadian political economy approaches on how Canada's political economy developed and has always been reduced by Canadian scholars

to the fur trade that becomes incorporated into conceptually ambiguous Eurocentric modes of production (e.g. feudalism, mercantilism, or capitalism) (Pentland 1981; Schmidt 1981 see also: (Alfred 2009; Bourgeault 1983; Ciccariello-Maher 2016; Coulthard 2014a; Drache and Clement 1985; Gordon 2010; Hall 2016; Harris 2004; Innis (1930)1999; Kellogg 2015a; Klassen 2014; Kulchyski 2016; McNally 1981; Panitch 1977; Royle 2011; Schmidt 1981; Watkins 1963; Wolfe 2006, 2016). As well, all previous political economies and modes of life by Aboriginal peoples are consistently removed or have been labeled as primitive communism (Bourgeault 1983; Dumbar-Ortiz 2016; Engels (1884)2010; Pentland 1981). The historical narrative of how Canada's political economy unfolded is stuck on either how capitalists or non-capitalist 'labour surpluses' were accumulated (Marxism) or how resources were extracted for the French, British and later by the American Empire (Staples and (neo)Staples) (Haley 2011; Innis (1930)1999; Kellogg 2015a; Klassen 2014; Kulchyski 1992, 2005, 2016; McNally 1981; Pentland 1981; Watkins 1963). Another approach is by the settler colonial scholarship who argue that European nation-states (differently) transitioned the world order from mercantilist to industrialist, which shifted colonial relationships between settler administrations and Indigenous peoples from one of necessity and tolerance towards one of necessary displacement of Indigenous peoples, either leaving them to be assimilated or eliminated (Wolfe 2016). These approaches are limited in understanding how Canada's political economy developed, insofar that their focus is on three distinct or separate spheres of extraction: labour, resources, or land. These are then categorized into various stages of European modes of production. These approaches ignore how the foundations of market civilization and carbon capitalism were imposed by the nation-states of Britain and France, their joint-stock enterprises (e.g. the Hudson Bay Company, North-West Company, etc.), and their early settler capitalists and colonial administrations (Bodley 2015; Di Muzio 2015a; Weaver 2003). As

a result, I provide an alternative critical historical narrative that highlights the importance of how Aboriginal land, labour, diplomacy, technology and navigation (canoe, territory), knowledge and skill (knowledge of edible plants and animals)²¹, resource locations, skinning and trapping etc.) were all capitalized and appropriated by colony administration, early capitalist settlers, and joint-charter enterprises to generate ever-more money for affluent social reproduction and remain so today.

In this thesis my focus is on how carbon capitalism and petro-market civilization (that started in Britain) is a mode of development and is organized through the accumulation of *commodified differential power* as measured in money (Di Muzio 2015a). In so doing, I do not provide an artificial birth-date of capitalism in Canada. Rather, I argue by drawing our attention to the process of capitalization of any entity that generates income streams that makes capitalism produce surpluses (registered in money) (Bichler and Nitzan 2009; Di Muzio 2015a). These capitalist property relations and social forces reinforce these relations (joint-stock enterprises, colonial administrations, and market civilization) must refer to how all historical and present forms of labour exploitation, private property, stocks, bonds, and commodities etc. are capitalized and monetarized; to omit this ignores key aspects of capitalism altogether.

For example, Harold Innis' (1930)[1999] book *The Fur Trade in Canada* articulates an historical narrative of how Canada was created because of its physical geography, technology, staple (fur), communication, and transportation, that linked the white settler colony to European (mainly France and England) capital and markets. The interplay between 'economic forces', geography and technology "determine the ways staple production had shaped the political map of

²¹ Graeme Barker (2006: 1) notes "[a] dozen crops make up over 80 per cent of the world's annual tonnage of all crops: banana, barley, maize, manioc, potato, rice, sorghum, soybean, sugar beet, sugar cane, sweet potato, and wheat" most of these crops came from the so-called New World.

a small, open economy like Canada's and had molded the country's core institutions and development” (introduction by Jay 1999: p. v). Innis’ investigation of the fur trade then focuses solely on how French and British independent fur traders, the Hudson Bay Company, and the NorthWest Company were simply merchants for European metropolises. He conceptualizes all material goods involved in the fur trade as capital and yet ignores why both independent fur trades and charter-enterprises were accumulating furs in the first place: to obtain money. The fashion, costume, and clothing industries were already capitalist throughout Europe by late-sixteenth century (Braudel 1979: p. 311ff). This investigation also fails to address the totality of the colonization project of British North America as these early capitalists and settlers were also searching for agricultural land, migration, gold, coal, timber, etc. Innis neglects to address how the Hudson Bay Company was a Company-State that shaped and reshaped the white settler colony and social reproduction (Cavanagh 2014).

On the other hand, Canadian Marxist Peter Kulchyski’s work (1992, 2005, 2016) states “it is not that Aboriginal people in Canada have not contributed labour to the development of capital: Aboriginal peoples’ labour through the historic fur industry was the foundation for the development of the nation” (2016: p. 32). In other words, where Innis focuses solely on how fur in itself was foundational to the making of Canada, the Marxist literature attempts to focus solely on the exploitation of labour (Pentland 1981). Yet, as Glenn Coulthard (2014a), Cole Harris (2004), and Patrick Wolfe (2016) argue, settler colonialism was not primarily about Aboriginal labour but their land. The more orthodox Marxist fetishization over the importance of labour and labour-surpluses as the sole rationale in understanding modes of production therefore demonstrates a confusion in understanding Canada’s political economy. The confusion is highlighted in Ron G.

Bourgeault's work (1983) who conflates Indians (sic) and settlers' relationship with European serfdom as:

...[t]he fur trade was feudalistic in the sense that the Indians as a primary source of labour for mercantilism, were transformed from producers of goods and services entirely for collective use, into a peasant or serf labour force bound to particular trading posts, with the commanding officer (on behalf of the merchant capitalist) functioning as a feudal lord...Although existing within a form of feudal relations under merchant capital, the northern Indians were still formally within the emerging capitalist system as a whole because what they were producing was a commodity for the developing capitalist market (p. 48 - 9).

He concludes with the idea that “[t]he social structure of society, the form of colonialism that developed, and the state that emerged, were all related to the form in which the surplus labour of the Indian as a peasant was extracted” (1983: p. 55). This is an inaccurate and Eurocentric historical picture as Aboriginals did not need settlers nor the Hudson Bay Company for their social reproduction (actually the very opposite), nor were there any legal frameworks like serfdom, nor did the Hudson Bay Company or colonial administration hold the monopoly of violence (until roughly the late nineteenth century) to enforce these relations, nor were all elements of Canadian colonialism primarily about the fur trade. Therefore, (neo)Staples and (neo)Marxists approaches to Canada's colonialist and capitalist past reduces these into ‘stages of surplus extraction’ or distinct forms of accumulation.

The fur trade is definitely an important mode of accumulation, yet it does not fit into the model of European modes of production. Innis did appreciate “the central role aboriginal people played in the enterprise, even though their involvement was not his primary concern” (introduction Jay 1999: p. xii). Yet, his depiction of the Aboriginal populations was as passive agents in the making of the fur trade as the “aboriginal consumers had inevitably abandoned their traditional material culture in favour of the technologically superior one offered to them by the newcomers” (introduction Jay 1999: p. xiii). Even in the present (2014 - 19), this is still a contested argument,

despite the book being originally written over 80 years ago. Indeed, some Aboriginal people and tribes are still resisting core features (technology, culture, environmental degradation, patriarchy, racism, capitalism etc.) of Western imperial modes of life (Alfred 2009; Black et. al. 2014; Coulthard 2014a; The Ino-nda-niimi Collective 2014; Simpson 2014). In order to grasp the totality of the fur trade, it cannot be simply perceived as a merchant mode of production premised on just simply the extraction of furs for European markets. Rather, it must be conceptualized as a mode of social reproduction that was imposed by European Empires (France and Britain) in order to accumulate evermore wealth and power and broaden the growing global capitalist market civilization (Gill 1995). This is seen in how settlers, colonial administrations, and charter-enterprises attempted to recreate a new hierarchical class society through capitalizing, enslaving or removing Aboriginal populations and their modes of life which was majorly dependent on Aboriginal production, land and labour. Therefore, I will demonstrate that the Hudson Bay Company, and later on, the creation of the Canadian State were and are colonist and capitalist institutions that were principally about extending capitalist market civilization onto Aboriginal and settler social reproduction.

The creation of the Aboriginal reserve system (by the British) in Canada was cemented through the Royal Proclamation of 1763 that was issued by King George III. The treaty was designed “to quell Pontiac’s War, an Anishnaabek uprising comprised of the Three Fires Confederacy led by Obwondiag, an Odawa warrior known by many historians as Pontiac” (Pasternak 2014: p. 147). Yet, this ‘peace treaty’ was by far and large not made with peace in mind. It should be noted that the Royal Proclamation was also a last desperate attempt to stop and punish ‘American’ settlers and wealthy land and slave owners from expanding westward (Di Muzio 2015: p. 125 - 6). More importantly, the Royal Proclamation should be conceptualized “as an imperial

property right: preemption, which is essentially the right of discovery” (Pasternak 2014: p. 156). Dan Bousfield (2016: p. 116) argues that the Royal Proclamation “was explicitly designed to govern and limit the transfer of territories through private sale, placing a reciprocal relationship between the federal government and Aboriginal populations while limiting the role of market forces in land transfers” (see also: Borrows 1997). It was illegal for Aboriginal peoples to sell their lands to anyone but the Crown. The reasons for this were not to protect Aboriginal people from settler populations or joint-charter enterprises but to “protect its [British] mercantilist interests” (Pasternak 2014: p. 158). In other words, it was about expanding the role of market forces in Aboriginal social reproduction through colonial administrations’ intervention for British and domestic interests.

The reserve system that followed, became what Michel Foucault (2008) conceptualized as biopower and biopolitics (settler governmentality)²² where colony administration (the British Crown and Hudson Bay Company) became the Aboriginal populations’ governing sovereign. These created spaces were primarily about ‘population management’ (Harris 2004: p. 174; Pasternack 2016; Stanley 2015). For example, Harris notes:

[t]he geography of resettlement. This new human geography—the survey lines, the property boundaries, the roads and railways, the farms, the industrial camps, the towns—became, from a native point of view, the most pervasive disciplinary technology of all. Superimposed on their former lands, it defined where they could and could not go. Made by newcomers, it was reinforced by property rights held by landowners (or renters or leasers) wary of trespassers, people who knew their rights and where, in their terms, “Indians” belonged... From their various vantage points, landowners watched and excluded. The courts, indeed all the colonial powers...backed them up...Severe malnutrition was common, at times to the point of starvation” (2004: p. 179).

²² For a more in-depth analysis of colonial governmentality see Morgensen 2011; Crosby and Monaghan 2012.

This settler-liberal governmentality was administrated by structural and physical violence by the British-colonial-imperial state and the Hudson Bay Company, in order to expand and protect colonialist and settler social reproduction (Crosby and Monaghan 2012; Harris 2004; Morgensen 2011; Pasternack 2014, 2016). The logic of physical force (war, starvation, etc.) was replaced by the logic of assimilation. “The early legislation regulating the lands and lives of Indians reflected the colonial policy objectives of assimilation. The earlier imperial policy of ‘civilizing the natives’ was displaced by the objective of assimilating First Nations into the larger white settler population” (Bhandar 2016: p. 3). This is seen in the passage in 1869 of the “Act for the Gradual Enfranchisement of Indians, the Better of Management of Indian Affairs, and to extend the provisions of the Act 31st Victoria,” rendered bare the colonial “dedication to assimilation” (Bhandar 2016: p. 3).

The Hudson Bay Company (may also be referred to as The Company) is a charter-enterprise created by the British monarchy (under King Charles II in 1670) and was under the leadership of Charles’s cousin Prince Rupert and a group of “of investors or ‘adventurers’ trying for the discovery of a new passage into the South Sea, and the finding of some trade for furs, minerals and other considerable commodities” (Royle 2011: p. 5). The Company controlled a land area of almost 4 million square kilometers known as Rupert’s Land. This charter granted the Hudson Bay Company an exclusive monopoly of juridico-political-economic rule over this land. It did have some competition from the North West Company (a French-Montreal based proto-corporation) from 1779 to 1821. Due to the frequent ongoing skirmishes between the two proto-corporations who hired mercenaries, Aboriginal and Metis people, and settlers, both parties decided on a merger (as their profits plummeted) making the Hudson Bay Company the de facto owner of Rupert’s Land, Indian Territory (Oregon Country), and New Caledonia (British

Columbia) in 1821 (Newman 1985; 1987; Perry 2015; Royle 2011). While the two conventional approaches at issue (Staples and Marxism) focus on the Hudson Bay Company as the only joint-stock company that traded for furs for European metropolises, I argue that the Hudson Bay Company would be better conceptualized as the first Company-State, like its sibling, the East India Company (Cavanagh 2011; Stern 2011). Secondly, the Hudson Bay Company has been consistently labeled as non-capitalist because non-wage-labour was exploited, mainly from the Aboriginal and Metis. Yet, much like today's corporations and capitalists, the Hudson Bay Company diversified its portfolio of ownership and sold stock based on its future earning potential. In this sense, the Hudson Bay Company was a capitalist, for profit enterprise, regardless of whether it used wage-labor or not.

Edward Cavanagh (2011: p. 101; see also: Stern 2011) demonstrates that the English East India Company “was a company with sovereignty and subjects, a company that made war and peace, a company with courts, tax-systems, and a complex governmentality; no less than a "Company-State." The Hudson Bay Company operated the exact same way (Cavanagh 2014; Galbraith 1957; Royle 2011). The power of these firms is reflected in Kindleberger and Aliber: ‘by 1695 there were 140 joint stock companies with a total capital of £4.5 million, more than 80 percent had been formed in the previous seven years. By 1717, total capitalization had reached £21 million’ with the vast majority of the companies aimed at overseas trade (2005: p. 47). In 2019, these 140 joint-stock companies would be roughly worth £90,831,510,000 billion (Bank of England inflation calculator). This is no surprise as Stern argues “they [English Charter-companies] came from the same stock; they were corporate bodies politic, founded in charters, letters, patents, and instruments of incorporation but functioning as political authorities and communities in their own right” (2006: p. 702). These Company-states, like the Hudson Bay

Company, reflect Charles Tilly's (1985) polemic thesis of how war-making and state-making are interconnected as the power to tax, protect business, create war and artificial threats which is central to all European forms of state-making in order to achieve a monopoly over the means of violence. The importance of understanding the Hudson Bay Company as a Company-State is it challenges the mainstream (Liberal and Marxism) historical narrative that these proto-corporations were directly controlled by the English monarchies and metropolitans. Peter C. Newman (1987: p. xx) states "[d]uring most of the half-century it ruled over this enormous domain, the Company's authority was supreme: it exercised nearly every mandate of a sovereign government." Instead, these proto-corporations often directly, without much oversight, engaged in imperialism, colonialization, with or without consent and did "the dirty work of empire" (Cavanagh 2014; Stern 2011). Therefore, the Crown's main role was to grant and extend any "company's charter at home" (Cavanagh 2014: p. 28 - 9). Once these joint-stock corporations came into existence, the Crown and Parliament barely had any authority and oversight over the newly formed company's operations on the ground, nor was their profitability solely based on the metropolises of Europe (as discussed below).

As a result, the Hudson Bay Company was both the imperium (legitimacy of rule) and dominium (security over property) against illegal squatting or non-Hudson Bay Company fur traders. This gave the company the power:

to send either Ships of War, Men or Ammunition, unto any their Plantations, Forts, Factories, or Places of Trade aforesaid, for the Security and Defence of the same, and to choose Commanders and Officers over them, and to give them Power and Authority, by Commission under their Common Seal, or otherwise, to continue or make Peace or War with any Prince or People whatsoever, that are not Christians, in any Places where the said Company shall have any Plantations, Forts or Factories, or adjacent thereunto . . . (The Royal Charter for Incorporating the Hudson's Bay Company Granted by His Majesty King Charles the Second, in the twenty-second year of his reign, A.D. 1670 (London: R. Causton & Son, 1816): p. 16- 17 as cited in Cavanagh 2014: p. 29).

The Hudson Bay Company was given the right to create agreements and treaties with all Aboriginal populations on Rupert's Land such as bands of Inuit, Chipewyan, Assiniboine, Ojibwa, Blackfoot, and Cree. The Hudson Bay Company was not a laissez-faire (free equal exchanges) establishment with First Nations groups. Instead, in order to secure the liberal right of private property and monopoly of trade throughout the territory, there was the perpetual need for war, coercion, or concessions. The Hudson Bay Company was dependent on establishing relationships with the Aboriginal and Metis populations who would trade furs, help with exploration and dispossess settlers or Aboriginal and Metis populations not associated with The Company. Yet, the Hudson Bay Company was always expecting attacks by (allied or enemy) 'Indian Armies (sic)'²³ thus had a "defence force composed of multiple home-guard squadrons," which would later become The North-West Mounted Police established in 1873 (Cavanagh 2014: 33; see also: Monaghan 2013). The North-West Mounted Police was established "with the objective of establishing 'rule of law' through the vast North-West. As 'agents of the National Policy...the Mounties were empowered as police, magistrates, soldiers, and diplomats" mainly targeting Aboriginal and Metis populations (Monaghan 2013: p. 125-6). Thus, reducing the Hudson Bay Company to just a fur-based company removes the actual historical reality which was primarily about "sustaining revenue and maintaining [']good governance['], just as it was in India [with the East India Company] before the late eighteenth century" (Cavanagh 2014: p. 27).²⁴

²³ "By the late 1860s and early 1870s, some of the violence from the United States Indian Wars spilled into the Canadian Prairies" (Monaghan 2013: p. 125-6).

²⁴ "Good Governance" is by far and large a questionable term. "Conflicts with Indigenous people were a common part of HBC history. Although the Company relied on Native collaboration and participation in the fur trade, it was often attacked for the conduct of its employees and its territorial expansion. The HBC also introduced alcohol and diseases to Native tribes, as well as disrupting traditional economy through its massive trade of guns, knives, blankets, and other manufactured goods. Clearly a disruptive factor...Beginning in the 1780s, for example, in Saskatchewan, raids & attacks by Natives began to become frequent occurrences. During the 1885 'Riel Rebellion' by Metis and Cree warriors, the HBC was the "principal provisioning agent for the troops dispatched to quell the uprising..." (Newman 1985: p. 620).

The Hudson Bay Company can not only be considered a Company-state but also Canada's first (fully) capitalist institution (Galbraith 1957; Newman 1985; 1987; Royle 2011; Schefke 2008;). The Company was seen by both the Church (Protestant and Catholic) and other colonial administrators as the worst colonizing agent. The Hudson Bay Company often refused or ignored clergymen from entering First Nations communities as “[t]here seemed little point—let alone profit... it was not the company's business” (Cavanagh 2014: p. 35). More importantly, due to its monopoly position, many colonial officials, for example James Fitzgerald, who wanted to colonize Vancouver Island by himself, for coal and also to spread English civilizational values, argued “the powers they have exceeded; the duties they have neglected ... [they have] no history but that which is written in day book and ledgers. All their functions they have forgotten, except that of trading; all their powers have been exerted for the sole purpose of making money” (as cited by Royle 2011: p. 11). How did the Hudson Bay Company make money? The Hudson Bay Company capitalized various income-generating assets not just private property, labour, and furs but building towns (forts) and mining. For example, the beaver skin, one of the most capitalized commodities by the Hudson Bay Company, was worth “ten shillings, \$2 payable in goods at 50 per cent on the invoice cost. Each skin averages one and a half pounds, and is worth in New York or London \$5 per pound; value \$7 50. The beaver skin is the circulating medium of the country” (Slacum (1836-7)[1912]: 191). However, Aboriginal peoples were depended upon for land speculation, explorations, mapping, surveying and map-making²⁵ to find resources (coal, gold, and later on oil), new Aboriginal tribes and fur areas, and strategic military and trading posts. Most maps and surveys

²⁵ “Without the cooperation of the natives, without their assistance as guides and interpreters in exploration, without the adoption of many tools, methods, and other items from their material culture, the fur trade could not have developed as it did. Nor would European geographical exploration and discovery have taken the direction that the history of our western and northern cartography reveals...discovery was only a Eurocentric claim to priority in viewing homelands long familiar to their indigenous inhabitants...Native peoples were not simply the source of supply for the fur trade. They were necessary, if unequal and sometimes reluctant, frustrating and frustrated, participants in this [HBC] complex operation” (Ruggles [1991](2011): p. 12).

would be sold to fur traders, settlers and mining companies (mainly coal) for £80 (Ruggles [1991]2011: p. 3). The Hudson Bay Company also employed more than just traders, Aboriginal and settler labour, but also doctors, bookkeepers, carpenters, clerks etc. (Newman 1987; Royle 2011; Ruggles (1991)2011. The Hudson Bay Company was also heavily involved in Indian (sic) slavery:

[t]he price of a [Indian] slave varies from eight to fifteen blankets. Women are valued higher than men. If a slave dies within six months of the time of purchase, the seller returns one-half the purchase money. As long as the Hudson Bay Company permit their servants to hold slaves, the institution of slavery will be perpetuated, as the price, eight to fifteen blankets... The slaves are generally to cut wood, hunt, and fish, for the families employed by the Hudson Bay Company, and are extra work. Each man of the trapping parties two to three slaves, who assist to hunt, and horses and camp; they thereby save the company of employing at least double the number of otherwise be required on these excursions (Slacum (1836-7) 1912: p. 191-2).

The Hudson Bay Company sold stock and was a stockholding company as noted by John Forsyth and William A. Slacum in (1836-7) (published in 1912). The Hudson Bay Company shifted ownership regimes in 1863 when a London-based group called the International Financial Society reissued stock and the Hudson Bay Company was capitalized at £2,000,000 (See Appendix B). The shift in ownership was:

[l]ed by railway man Edward Watkins...the International Financial Society group was a consortium of London banking interests that bought up Hudson Bay Company stock by offering £300 for every £100 of stock – at a time when the market price was £190. The new owners of the Company quickly increased Hudson Bay Company's market capitalization issuing a prospectus that promised impressive returns by promoting settlement, minerals and a transcontinental telegraph – all based on selling or leveraging the Company's vast land holdings. The share issue was a roaring success. The International Financial Society took its profits and promptly folded, leaving Hudson Bay Company, for the first time in its corporate life, widely held. More than 1700 new shareholders expected a healthy return (Bliss 1987: p. 207).

The Hudson Bay Company was forced to sell Rupert's Land and most of its land holdings in 1869 to the newly established domain of Canada (created in 1867). Due to the pressures of Great Britain,

the ‘Canadian’ settler capitalist class and the government of the domain bought Rupert’s Land for a sum of “£300,000 [and received] one-twentieth of the fertile lands, and title of its posts” (Perry 2015: p. 168). This was described as “[o]ne of the greatest transfers of territory and sovereignty in history [and] was conducted as a mere transaction in real estate” (Perry 2015: p. 168). All three parties argued that the Hudson Bay Company could not settle Western Canada under the new aegis of ‘finance capital’, build the railway, industrialize, manage Aboriginal populations (towards assimilation)²⁶, or stop United States expansionism (Dobbins 1985; Innis (1930)1999: p. 380ff; Perry 2015). Therefore, Marry Dobbins (1985: p. 8) argues that after the Hudson Bay Company sold their land to the newly formed Canadian state in 1869, “[t]he Department of Natural Resources replaced the Hudson’s Bay Company as colonizer.”

The importance of the American Revolution for independence (1765 – 1783), the Quebec Act (1774), and the Royal Proclamation resulted in an accelerated state-formation and building of British North America, later known as Canada. The British North American colonial state’s foremost function was to protect investors in trade and railway industries, not citizens, as Ian McKay states “[t]here were many investors in this Victorian Canada; there were no citizens” (McKay 2010: p. 363). Other main functions then “were largely restricted to maintaining law and order; the order’s military expansion into the West; the acceleration of the process of capitalist accumulation” (McKay 2010: p. 365). Canada’s political system was founded on the exclusion of “most adults, on grounds of race, ethnicity, class, or gender, from participation in the formal political process—in fact, a racially restrictive franchise would characterise Canadian elections up until the 1970s” (McKay 2010: p. 366). The capitalization (and investment) of the British colonial-

²⁶ “The Act for the Gradual Enfranchisement of Indians, the Better of Management of Indian Affairs of 1869 was just implemented by Domain of Canada. This Act reinforced the “...reserve system, a programme of mandatory residential schooling, the passage of the carceral *Indian Act*, and the political crackdown that followed the Northwest Rebellion” (Perry 2015: p 169).

state was dependent on a massive enclosure movement, from 1750 to 1920 (Girard 2008: 128ff). This created a new British-centric nation-state, parliament, currency, banking system, and elite class (see also: Greer 2012; Naylor (1975)2006; Norrie et. al. 2008; Smith 2012; Weaver 2003). The newly established Canadian state became the inseparable engine of these massive transformations in property relations, through colonial law, debtor-creditor law²⁷, security (militarism), and registration (money), that reinforced, maintained, and/or created private property (MacLaren, et. al. 2005).²⁸ These practices led to natural resources exploration and extraction, infrastructure and industrialism (railway, factories, shipbuilding, cities, roads, etc.) and management (elimination, assimilation, or containment) of the Aboriginal reserve system (Alfred 2009; Bousfield 2016; Carter 1990; Coulthard 2014a; Girard 2008: p. 130ff; Harris 2004; Morgensen 2011; Pasternak 2014; Simpson 2014; Veracini 2019).

The colonial administration became obsessed with not becoming a de facto territory of the United States. The colony of Upper Canada and later the Dominion of Canada sought to stop United States territorial expansion into what is now known as Canada's Western provinces (Weaver 2003: p. 13 and 251). This was accomplished by allowing Loyalist settlers and new waves of migration from both Western and Eastern European countries and, at same, dispossessing Aboriginals and displacing them onto new reserves (Carter 1990; Evans 2016; Macpherson 1953). This led to the rapid creation of the banking system, railway, mining (gold, coal, etc.), shipbuilding, timber, and agrarian system which that became the heart of Canadian Confederation (Clarke 2008; Emery 2008; Evans 2016; Naylor (1975)2006; Norrie et. al. 2008; Sager and Panting

²⁷ The creation of mortgages replaced the old usury law in 1811. This indebted both 'old' and 'new' settlers from 1820 to 1860s and led to a wave of dispossession and enclosures (Weaver 2003: p. 246-7).

²⁸ "Individualized property rights – defined by government surveyors, secured by government-managed registration systems, and supported by legislation – figured as prime assets in the economies of newly colonized places" (Weaver 2003: p. 352).

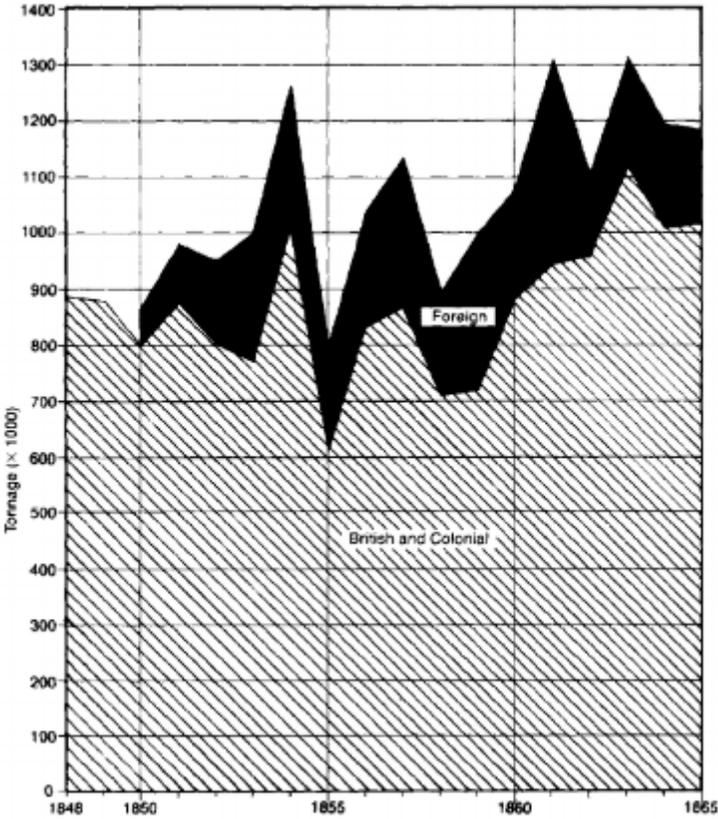
1990; Smith 2012; Stevenson 1981; Weaver 2003). With the rise of capital accumulation came the rapid acceleration of coal use. For example coal, in Canada was already being mined for domestic and international consumption since 1715 in Nova Scotia. The General Mining Association, which owned all the Maritimes coal operations, was largely comprised of absentee owners in London and was generally considered as a cartel (ended in 1857) as it also owned United States coal before the American Revolution (see Sweezy 1938). But post-American revolution, Nova Scotia coal mining started to rapidly accelerate production for England and colonial Canada domestically. Coal went from 20,000 tonnes per year in 1825 to 600, 000 tons in 1867 and then 8 million tonnes by 1913 (Fleischman and Oldroyd 2001: p. 31-6) The ‘Great Land Rush’, in ‘Western Canada’, is a fabricated narrative where land was in abundance, for those who could afford it²⁹, but became increasingly dispossessed or scarce for those settlers (mainly Aboriginal and Métis peoples) who could not afford, improve, or secure their land. The rationale was two-fold: 1) various forms of settlers, and especially Aboriginal tribes, were not ‘improving’ the land in the Lockean sense and 2) of course, for non-elite settlers there was the ‘threat’ of a democratic revolution (Girard 2008; McKay 2010). The discourse used to justify the dispossession in colonial law was that Aboriginal people and settlers were illegally squatting.

Furthermore, Britain and settler colonists subsequently imposed foundations for market civilization and carbon capitalism, in what was to become modern Canada, through shipbuilding and the shipping industries which were also capitalist. As in England, and then Great Britain, the domestic forestry scarcity, that emerged in the 15th century, was only one of the main rationales for transforming from organic economy towards a fossil fuel-based economy (Di Muzio 2015a:

²⁹ “This settlement policy took shape first in the Dominion Lands Act of 1872, which conferred land rights to family farmers over a period of three years of active land cultivation and the payment of a \$10 CAD administrative fee” (Evans 2016: 10).

Chp. 3; Goldman 2002; Wrigley 2010). How Canada's political economy unfolded was deeply interconnected with Great Britain's colonial-imperial mission of protecting and expanding their emerging capitalist empire. We should recall that Great Britain was a naval superpower through ships, but lacked wood domestically; they will solve this problem through Canada's ship-building and shipping industries. However, the Staples and (neo)Staples approach generally understands shipbuilding and the shipping industry as a dependency and as a noncapitalist linkage between Great Britain and Canada, whereas Marxist and neoclassical economics scholarship see transportation as another 'input' into production (Sager and Panting 1990: p. 13 and 47). Sager and Panting (1990: p. 47) argue transportation is not simply another input into production but foundational in the making of the British Empire. As without shipping there would be no: lumber, coal, sugar, tobacco, cotton, etc. and the shipping industry was heavily interdependent on warfare ships (Di Muzio 2015a: Chp. 3). Yet, from 1815 to 1860, 5.2 million tons of commodities (lumber, coal, fur etc.) were shipped from British North America to Great Britain (Sager and Panting 1990: 29) (See Figure 1).

Figure 1: British and Foreign Tonnage Entering United Kingdom Ports from British North America, 1848 – 65



Source: Adapted from Eric W. Sager and Gerald E. Panting. (1990). *Maritime Capital: The Shipping Industry in Atlantic Canada, 1820 – 1914*. (Montreal: McGill-Queen’s University Press): p. 43.

Traditional Canadian political economy perspectives have generally overlooked how foundational shipping and naval warfare was to the British Empire, global capitalism, and Atlantic Canada’s predominant role in supporting it (Brewer 1989: p. 28; Di Muzio and Dow 2017; Sager and Panting 1990: p.23; Thomas 1986: p.38ff). While Great Britain was dependent on Baltic nations for lumber, it was also dependent on Canadian resources, especially for shipbuilding and protection. As Sager and Panting point out: “Britain’s colonies accounted for almost half of all new tonnage being built in the empire” (1990: p. 33, 43; See Table 1).

Table 1: British North America-Built Ships on Registry in the United Kingdom, 1846

Colony	No.	Tons	Percentage of British North American Tonnage on Registry in United Kingdom
Canada	326	154,930	28.3
New Brunswick	608	228,368	41.7
Nova Scotia	417	103,319	18.8
Prince Edward Island	311	56,079	10.2
Newfoundland	63	5,631	1.0
Total	1,725	548,327	100

Source: Adapted from Eric W. Sager and Gerald E. Panting. (1990). *Maritime Capital: The Shipping Industry in Atlantic Canada, 1820 – 1914*. (Montreal: McGill-Queen’s University Press): p. 34.

The Navigation Acts (which gave Great Britain a de facto monopoly in shipping) was “the core of a system of imperial protection in which shipbuilding was born. The Charta Martitima of 1660 gave trade between Britain and her colonies exclusively to British shipping” (Sager and Panting 1990: p. 24). In order to protect these shipping lanes, the shipbuilding industry in colonial Canada was capitalized by three forms of income-streams: 1) ships 2) warfare 3) shipping (Sager and Panting 1990: p. 77).³⁰ While Staples theorists see the shipping industry as being entirely owned by British subjects, most shareholders were not ‘foreign’ merchants but local financiers (bankers and insurers), from what would become the provinces of Ontario, Quebec and the Maritimes (Sager and Panting 1990: 78, 84). Therefore, while Staples theorists focus on resources, Marxists on labour, and settler colonial scholars on land as the distinct driving forces making Canada’s political economy, they ignore the importance of how colonial Canada became foundational for the reasons above, but also, by establishing shipping and warfare in the British Empire, it imposed a petro-market civilization and much of the origin of a carbon capitalist world order.

³⁰ “In the British registration system, shares in ships were measured in 64ths, and a single shareholding might consist of only one or two shares, or as many as 64 shares in a vessel. The dispersal of ownership is indicated by the fact that there were some 40,000 shareholders in all vessels registered from 1820 to 1914” (Sager and Panting 1990: p.78).

Conclusion:

How Canada's political economy unfolded on 'native land' is linked to Di Muzio's (2015: Chp. 3) findings based on research on how Great Britain was the first country to escape from 'organic civilization' to a petro-market civilization. In both locations, the accumulation of capital became wedded to the use of fossil fuels as will be seen in Chapter 3. The rise of the British Empire would have been impossible without the deep linkages of transformation in money creation, the Bank of England, coal (energy), colonialism, slavery, militarism and the capitalization of the British state. The importance of establishing settler colonialism in connection to the rise of petro-market civilization and carbon capitalism illuminates that colonialism cannot be simply reduced to just 'feeding' the European Empires of 'resources'. Settler colonialism helped build and maintain a British-led petro-market civilization and world order founded on the use of fossil fuel energy. Settler colonialism led to the greatest land conquest in history (from 1650 – 1900) (Weaver 2003)³¹, interlocking and intensifying modes of war and commodity production for an emergent global market civilization and, indeed, for the Great Atlantic Migrations³² that followed (Di Muzio 2015; Evans 2016; Latham 2002; Reyna and Downs 2005; Schoenberger 2008). In other words:

[t]he great Western colonial powers claimed 55 percent of the world's land area and had significant control over two-thirds of the world. For the next 150 years, virtually all Aboriginal territory was conquered by colonizing industrial states, and as many as 50 million Aboriginal people may have died as a result. This process created the modern world system, but it did so at an enormous cost in ethnocide, genocide, and ecocide suffered by the peoples and territories forcibly incorporated into the new global system (Bodley 2015: 9-10, emphasis added).

³¹ The great land rush represents "the first assault on a planetary scale to remove the commons and replace it with engross private property for private riches and remove public domain" (Weaver 2003: p. 360)

³² "Between 1846 and 1924, as many as 55 million people migrated from Europe to (largely) the New World—the largest international migration in history" (Evans 2016: 6).

The creation of the modern European world system by most Marxist, liberal or Weberian historical accounts, see this era as ‘progress’ and yet this so-called progress, or European liberal-capitalist modernity, would have been impossible without the “unprecedented assault on the world’s indigenous peoples, [land] and their resources” (Bodley 2015: p. 13).

In sum, how Canada’s political economy unfolded cannot be conceptualized by simply focusing on Eurocentric modes of production. There is, of course some truth in settler colonial and traditional perspectives (Marxism and Staples) that labour, land and resources are fundamentally important in the making of the Canadian political economy. However, all three perspectives largely have an inadequate understanding of capitalism and capital. Secondly, they ignore how the complex interdependency of settler colonialism and capitalism worked together in Canada, and still does today. Aboriginal populations were not passive agents in the making of Canada, nor are they today (Alfred 2009; Bodley 2015; Coulthard 2014a).³³ Third, all perspectives largely underplay the importance of fossil fuels for Canada’s economy (see Chapter 3). In order to understand how Canada’s oil industry developed nationally and internationally, the next chapter discusses the making of a world order founded on petroleum.

³³ As Canada is currently under the conditions of what Derek Gregory (2006) calls the colonial present. In which Indigenous peoples continue to be ruled under (and resist) settler populations imperial mode of living.

Chapter Three: The Seven Sisters and Petro-Market Civilization

He who owns the oil will own the world... Who has oil has empire.

– Senator Henri Berenger,
Director, Comité General du Petrolé, France,
World War I³⁴

Introduction:

The next two chapters focus on the construction of the global petro-market civilization. This chapter explicitly focuses on the origins of Canada's hydrocarbon development and the Seven Sisters in relation to how the accumulation of capital, through the monetization of energy and violence, is at the heart of carbon capitalism, petro-market civilization and its social reproduction. In order to address this hypothesis, I first critique the shortcomings of conventional Canadian political economy interpretations on the Canadian oil industry – their debate is primarily over who owns the industry – be they 'foreign' or 'residential' capitalist classes (Kellogg 2015b; Laxer and Martin 1976; Pratt 1976; Shaffer 1983b; Watkins 2008;). The narrow emphasis between these 'owners' provides no explanation as to why Canada or the rest of the world transitioned from coal to oil. As a result, I turn to international political economy to explain this phenomenon. Yet, even the traditional international political economy approaches, (neo)realism, (neo)liberalism and (neo)Marxism,³⁵ have inadequate theoretical frameworks to address energy systems in shaping the world order. The fields of Canadian and international political economy scholarship, I argue, have largely circumvented the importance of energy to global capitalism, social reproduction and the liberal world order more broadly (Di Muzio and Dow 2019). The study of oil is usually reduced

³⁴ As cited in Shaffer 2006: p. 54.

³⁵ While there are distinct differences between classical schools of realism, liberalism, and Marxism from their new schools of thought – I address them simultaneously.

to a strategic commodity for global militarism and capitalism and associate oil's importance to periods of so-called 'scarcity' and 'high prices' (Bichler and Nitzan 2002, 2014; Di Muzio 2015a; Dow 2016; Hancock and Vivoda 2014; Huges and Lipsy 2013). This is due to conventional international political economy which has historically been silent on the importance of energy systems until the Organization of the Petroleum Exporting Countries (OPEC) and related crises in the 1970s (Hancock and Vivoda 2014). As a result, I revisit the giant corporations, known as the Seven Sisters, who controlled the global oil industry, until the creation of OPEC in 1960 and argue that the Seven Sisters' objective was to intensify the transition towards a global carbon capitalism, petro-market civilization, and the carbonization of everyday life (Di Muzio 2015a). Therefore, this chapter challenges the common misconception, from both conventional Canadian and international political economy literature, that holds the position that the Seven Sisters were just an oil cartel for the Netherlands, Britain, or the United States' nation-states (Bromley 1991; Gilpin (1987)2001; Laxer 1974; Laxer and Martin 1976; Nowell 1994; Podobnik 2006; Yergin 1991).

Section I: The Birth of Canada's Oil industry

This section highlights the shortcomings of the conventional history of Canadian hydrocarbon industries that has been simplified to generally romanticize 'big business' or 'tough white men' conquering the Canadian wilderness in search of fossil fuels (Laxer and Martin 1976; Pratt 1976; Preston 2017).³⁶ This historicism reduces the birth of conventional and unconventional Canadian oil industries to: 1) how they came into production, through scientific and technological improvements, or 2) how foreign or inter-governmental (Provincial and Federal) ownership and funding is distributed (Chastko 2004; Clarke 2008; Fossum 1997; Nikiforuk 2010; Sweeny 2010).

³⁶ Jen Preston (2017: p. 2) states "[t]hese same clichéd accounts of Canadian history structure narratives of tar sands extraction in Alberta where white pioneers (such as Sydney Ells and Dr. Karl Clark) ultimately tamed nature in order to convert it into a profitable resource."

More importantly, conventional Canadian history perpetuates the myth, following the Staples thesis, that Canada consistently moves “from colony to nation to colony” (Innis 1956: p. 405). What this means is that Canada’s economy is largely theorized as being systematically exploited and dominated by ‘American capital’ (Carroll 1986; Haley 2011; Innis 1956; Kellogg 2015a; Laxer 2015; Laxer and Marin 1976; Levitt [1970]2002; Smardon 2011; Stanford et. al. 2014). The reason for this is Canada is conceived as having a weak residential capitalist class “...making Canada a hewer of wood and drawer of water, profits flowing south to the benefit of US capitalism” (Kellogg 2015b: p. 222-3). This narrative that Canada has a weak domestic and international capitalist class has been heavily critiqued by an abundant number of scholars (See: Berger 1970; Carroll 1982, 1986; Clement 1975, 1977; Gordon 2010; Kellogg 2015a, 2015b; Klassen 2009, 2014; Panitch 1977, 1981; Porter 1965). Therefore, I argue the problem with these accounts of the oil industries is they conceal how violence, energy and Aboriginal dispossession are central to the creation of Canada’s particular form of carbon capitalism (Coulthard 2014a; Dow 2016; Preston 2013, 2017; Slowey 2008).

The history of Canada’s oil industry started in the decade that followed Confederation (1867) when the global whaling industry started to collapse. The collapse was due to the rising cost of whale oil at \$US2.50 per gallon because the whale populations were near extinction (Black 2000; Coleman 1995; Podobnik 2006: p. 44).³⁷ At this time, we should recall that coal was primarily used in the transportation (railway) industries. It would be used for heat and electricity later in the United Kingdom, United States and Canada (Di Muzio 2015a Chapter 3; Nye 1999;

³⁷ Brian Black (2000) argues “[b]y the early 1800s, whaling vessels collected thousands of gallons of oil during three- to five-year voyages. While the takes on such voyages varied greatly, sixty to seventy kills constituted a satisfying voyage. By 1850, roughly \$3 million of capital supported this industry, which created a product valued at nearly \$8 million annually...during the later 1840s, when shortages of whale products made them too costly to remain competitive. While there were still whales in the ocean, the fishery had been forced to move to the Pacific or to other very deep waters, thereby increasing production costs and the final price of the oil” (p. 16 - 20).

Podobnik 2006: Chapter 2, 3). However, whale oil was used as either a lubricant or in the production of candles. Abraham Gesner, from Halifax, “obtained oil from bituminous coal in 1846 and called it kerosene. This same name quickly extended to all illuminating oils made from minerals...during the 1850s” (Black 2000 p. 21). This industry grew rapidly, in the United States and Canada, replacing whale oil, and by 1859, “nearly sixty firms were manufacturing coal oil at an investment of nearly \$4 million” dollars (Black 2000 p. 21; see also: Sweeny 2010). This industry was short lived because urban-centers suffered from rampant pollution caused by the refining of coal into oil, and this process was also not cost efficient (Black 2000; Podobnik 2006). This led to the search for conventional oil across North America. In Canada, the ‘discovery’ and development of fossil fuels led to the acceleration of Aboriginal dispossession (nationally and globally³⁸) and the creation of reservations (See Figure 2 see also: Alfred 2009; Berger 1970; Bousfield 2016; Burr 2003; Clarke 2008; Coulthard 2014a; Dylan et. al. 2013; Morgensen 2011; Neu 2000; Pasternak 2016; Slowey 2008).³⁹ What is now known as the Alberta’s tar sands, oil sands, or bituminous sands was first recorded by a white colonial settler named Henry Kelsey (governor of the HBC at Fort York), through Aboriginal people’s observations and conversation, in 1715 (De Mille 1969: p. 5). Peter Pond was the first white man to reach the Athabasca River in 1778 (Chastko 2004; Clarke 2008; Nikiforuk 2010). However Aboriginal people have lived in the Athabasca River region since time immemorial and used the black ooze for caulking canoes, ceremonies, etc. (de Mille 1969). Following, this

[a]s early as 1793, the explorer Sir Alexander Mackenzie had mentioned that tar and oil could be found oozing from the banks of the Athabasca. Since that time, few

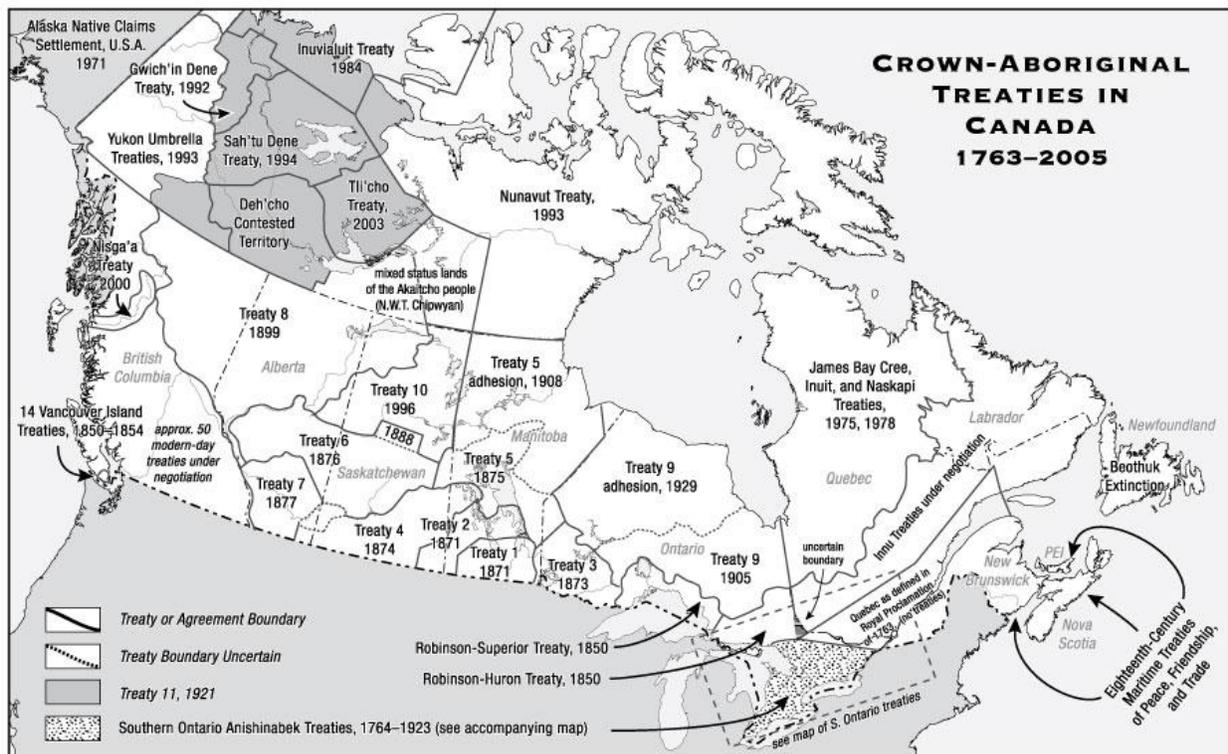
³⁸ See Christina Burr (2003) on how Enniskillen township drillers helped dispossess other Indigenous social groups in both Dutch and British colonies for the search or development of oil. For a history of Canadian Imperialism during this time-period (1867 – 1914) see Berger 1970.

³⁹ In 1841, “the Canadian Geological Survey, whose purpose was and remains the mapping of geological resources for private exploitation...was...the second institution of its kind in the world, following on the heels of Britain’s Geological Survey by only six years” (Block 2017).

explorers of the area failed to mention the tar sands or to speculate on its future potential... In 1875-76, A.R.C. Selwyn and Professor Macoun of the Geological Survey of Canada reported that petroleum existed in the Athabasca region in ‘almost inexhaustible supplies’....and in 1890 and 1891 R.G. McConnell ‘estimated that there were 4,700 million tons of tar in the region, as well as natural gas, bitumen, oil and pitch’ (Huseman and Short 2012: p. 217).

When oil, gas or gold were found in the Athabasca region, the federal government of Canada, “began to negotiate Treaty 8 with the First Nations people in the region” (Slowey 2007: p. 7; see also: Preston 2017).

Figure 2: Map of Crown-Aboriginal Treaties in Canada 1763 – 2005



Source: Adapted from Southern Chiefs’ Organization Inc. Retrieved from: <http://scoinc.mb.ca/about/treaties/>.

It is of no surprise that Treaty 6 (signed in 1876), Treaty 7 (1877), and Treaty 8 (1899) were signed with the rise of oil importance and findings (Hoogeveen 2015; Slowey 2008).

Aboriginal tribes were pursued by the Euro-North American colonizers to establish treaties that "...involved the natives extinguishing their 'underlying title' to their land, usually in return for a variety of economic and material benefits such as cash payments, hunting and fishing equipment, ammunition and the like" (Huseman and Short 2012: p. 217). In 1899, Treaty 8 was signed⁴⁰ with "the Cree and Athapaskans (or Dene) peoples – including Beavers, Chipewyans, Dogribs, Slaveys, and Yellowknives – [who] were the two major language groups in the region" (Huseman and Short 2012: p. 217). This new colonial administration was primarily concerned with the security and control of the vast Aboriginal populations, through land reserves, especially where geologists found gold or oil from 1876 to 1923 (Clarke 2008; Pasternak 2016; Preston 2017; Slowey 2008). Shiri Pasternak (2016) argues that the reserve system should be defined as a form of fiscal warfare since by the time of Confederation, "...fiscal strategy had become 'a silent war' against Indigenous peoples. Taking up arms against Indians was no longer an acceptable form of social control and so the subjugation of First Nations proceeded in a civil manner 'through lawfully sanctioned administrative surveillance'" (p. 320-1). Therefore, energy, resources, settler and capitalist social reproduction was dependent on Aboriginal dispossession/reservations.

However, the birth of Canada's oil industry was not in Alberta or in the Athabasca River region. The industry first emerged in Southern Ontario's oil fields, near the Aboriginal reservation called Aamjiwnaang (see Figure 2 Southern Ontario Anishinabek Treaties, 1764 – 1923).⁴¹ In

⁴⁰ Preston notes "[m]ost treaties were signed "under significant duress and entered into negotiation with little bargaining power and under conditions of mass starvation. In attempting to clear the plains of Indigenous people, Canadian officials used food or the denial of food to force nations into treaty negotiations..." (2017: p. 7). Gabrielle Slowey (2008: p. 7-11) argues that Treaty 8, according to the Aboriginal peoples of the area, was not supposed to be 'fenced' in on parcels of land.

⁴¹ Tobin Black's work (2014: p. 135ff) argues that for over 100 years now Imperial Oil amongst other oil and chemical companies set up what is known as Chemical Valley in southern (Sarnia-Lambton) Ontario (that still exists to this day) where approximately 40 percent of chemicals are produced in Canada. Chemical Valley is located and surrounds the Aboriginal community called Aamjiwnaang which has had a long legacy of contested land claims and often devastating environmental impacts from Chemical Valley such as air and water pollution.

1851, Charles Nelson Tripp of Woodstock, Ontario “joined with his brother and businessmen from Hamilton and New York City to form the International Mining and Manufacturing Company for the purpose of producing asphalt from the Ontario gum beds situated in Ennisilen Township – this was the first oil company in North America” (de Mille 1969: p. 19). The first oil well was hand dug in 1856 and was capable, through the use of a handpump, of producing 160 gallons of crude oil per hour. In 1858, J. M. Williams found more “gum beds” in Oil Springs, Ontario. This sparked a number of investors and speculators, especially, when larger wells “were struck in the adjacent Petrolia field in 1866 [and] the future of the industry was more certain” (Grant and Thille 2001: p. 391-2). By 1870, Canadian companies were exporting to Europe, roughly 100 refineries were in operation, and oil “had become a household word in that part of Canada which supplied the manufactured goods required by the early settlers moving to Western Canada” (de Mille 1969: p. 20). Due to European demand for petroleum, “[i]n 1871 the value of total output exceeded the cost of materials and wages by 88 percent, and value added (CAN\$1.505 million dollars) exceeded the value of total capital (CAN\$1.036 million dollars) by a significant margin” (Grand and Thille 2001: p. 394). This historical narrative is often overshadowed by the ‘discovery’ of Titusville, Pennsylvania, in the United States in 1859, also known as the Drake Well on Oil Creek (Black 2000; Yergin 1991).

This ‘Canadian dominance’ in global oil production was rather short-lived (Grant and Thille 2001; Laxer 2015; Laxer and Martin 1976).⁴² The first of many problems was “the inferior quality of kerosene refined from Ontario's sulfurous crude oil” (Grant and Thille 2001: p. 390-1), compared with J. D. Rockefeller’s Standard Oil Trust in the United States which was dedicated to ‘standardizing’ the quality of kerosene (Yergin 1991). Rockefeller’s Standard Oil Trust’s “output

⁴² “Oil wells were drilled in Russia, Poland and the Caspian Sea area of Azerbaijan in the early 1800s” but mostly for domestic consumption (Laxer 2015: p. 9).

caught up with international demand, [just as] Ontario firms were displaced from overseas markets” (Grant and Thille 2001: p. 390-1).⁴³ J. H. Fairbank, the leading Ontario crude oil producer in 1870-72, stated, “I think we were exporting heavily, mainly altogether to England, but the Americans drove us out by producing better and cheaper oil” (as cited by Grant and Thille 2001: p. 392). In order to deal with ‘competition’ from Standard Oil, and in the face of ‘falling import prices’, the Imperial Oil Company Limited “emerged in May 1880 in order to consolidate ownership and rationalize production” (Grant and Thille 2001: p. 398).⁴⁴ Imperial Oil, much like Standard Oil, attempted to monopolize all the refineries in Ontario. It was a joint-stock company with a capitalized value of \$CAN500,000 and a “formal arrangement allowed the firm to eliminate redundant capacity, with all of the refineries inherited by the firm shut and production concentrated in a single establishment” (Grant and Thille 2001: p. 398; see also: Laxer and Martin 1976).⁴⁵ Imperial Oil, similarly to Standard Oil, was developed not just as an oil and gas producing company but had multiple capitalized income streams: 1) oil and gas production, 2) chemicals and building materials, 3) transportation, 4) an investment wing, 5) refining and marketing (Laxer 1976: p. 20 - 1). In 1883, “...Imperial had developed twenty-three branch offices from coast-to-coast and exported kerosene to China, India, Japan, Australia, and South America” (Shaffer 1983b: p. 35). The Imperial Oil versus Standard Oil petroleum war ended in 1889/90 when Standard Oil bought Imperial Oil. For most conventional historians and Canadian political economy literature, the story ends here, until 1952, with the ‘discovery’ of the Leduc Oil fields (in Alberta by Imperial

⁴³ See Frank (2005) for Canadians’ involvement in the making of Austria’s Galicia oil fields.

⁴⁴ Imperial Oil “was established by ten of the leading refiners-including Englehart, Waterman Brothers, Mutual Oil and most of the participants in the London Refining Company-with over 85 percent of the "estimated pecuniary strength" of 2 refineries in Ontario” (Grant and Thille 2001: p. 398).

⁴⁵ Imperial Oil “...achieved a significant degree of vertical integration: it included several large crude oil producers; it entered into a long-term supply contract with the main gathering and distribution company; it secured the experience of the leading manufacturers of chemical products used in the industry; and it operated its own cooperage, tin can manufacture, candle-making and lubricant plants” (Grant and Thille 2001: p. 398).

Oil) and subsequently with the rise of the tar sands in the late-1960s and 1970s because of the OPEC ‘energy crisis’ (Chastko 2004; Clarke 2008; Nikiforuk 2010; Pratt 1976; Sweeny 2010).

The conventional historical and political economy literature on fossil fuels in Canada has generally disregarded the fact that Aboriginal peoples had their own distinct modes of living, within the geographical space, where most Canadian fossil fuels were ‘discovered’ or developed (Black et. al. 2014; Coulthard 2014a; Nikiforuk 2010; Preston 2017; Slowey 2008).⁴⁶ This has led to barely mentioning Aboriginal peoples who are legally the rightful owners, nor does it address the environmental and socio-political-economic impacts of fossil fuel developments that surround their land. Moreover, their forms of resistance to resource development are also generally ignored (Black et. al 2014; Clarke 2008; Coulthard 2014a; Nikiforuk 2010; Preston 2013, 2017). The importance of understanding the history of Canadian conventional and unconventional fossil fuel industries, as being related to Aboriginal dispossession and reservations, is that dispossession continues (to the present) and has led to what many Aboriginal and critical scholars call environmental racism or sacrificial spaces or zones for petroleum that is foundational for capitalist and settler social reproduction (Alfred 2009; Black et. al 2014; Coulthard 2014a; Dow 2016; Pasternak 2016; Preston 2017).

While the history of Canada’s hydrocarbon industries seem to support the ‘Canadian myth’ of how ‘foreign-based’ corporations came to control ‘Canadian’ resources, this was not a Canadian exception but rather a globalized phenomenon. In terms of Canadian political economy, by 1960, the Seven Sisters, who were the Anglo-Persian Oil Company (United Kingdom); Gulf Oil (United States); Standard Oil of California (United States), Texaco (United States); Royal Dutch Shell

⁴⁶ “Sydney Ells’, possibly the grandfather of bituminous research, original 1913 maps...Aboriginal people are glimpsed occasionally in the dotted lines on Ells’ maps around reserves or in diary descriptions of their labor as trackers and freighters hauling the tar sands south. But like most reports of the age, they are empty of Aboriginal land uses – an omission” (Davidson and Gismondi 2011: p. 47 - 48).

(Netherlands); Standard Oil of New Jersey (United States); and Standard Oil Company of New York (United States), dominated the international oil industry for over fifty years and came to control 90 percent of Canada's oil industry (in the late 1950s and early 1960s), its highest share of control (James Lorimer & Company 1981; Sampson 1975: p. 5; see also: Laxer 2015; Laxer and Martin 1976; Preston 2017: p. 7-8; Shaffer 1983b). The theoretical explanation for this phenomenon, by the (neo)Staples approach, is that Canada has a dependency on the United States Empire (Pratt 1976; Watkins 2008). (Neo)Marxists argue that while United States-based corporations may have 'owned' the petroleum industry, Canadian 'residential capitalists' and provincial and federal governments were heavily involved in the process (Kellogg 2015b). It should be noted that both Canadian political economy approaches steadfastly maintain that capitalist classes pursue and accumulate 'Canadian-capital' or 'United-States-capital,' which seems to be measured in machines, labourers, and other factors of production (Gordon and Weber 2016; Klassen 2014). Yet, there is far more to this narrative as the Seven Sisters controlled roughly 89 percent of world crude production by 1957 (Gill and Law 1988: Chp. 13; James Lorimer & Company 1981; O'Connor 1962; Sampson 1975; Shaffer 1983b; Tanzer 1969). The debate between (neo)Staples and Canadian-Marxists, over Canada having a weak or strong capitalist class, is rather a limited approach to understanding the history of both global and Canada's oil industries. As a result, I argue that Canada's oil industry has consistently mirrored the patterns of the global oil industry and became a part of the global corporate empire called the Seven Sisters and now turn to traditional international political economy approaches on their theorization on energy or energy systems.

Section II: Energy and World Order(s)

This section outlines and critiques the approaches used by conventional international political economy theorization on energy and energy systems. The creation of international political economy, as a field of study, was not rooted in political economy, but as a sub-discipline of international relations theory (Di Muzio 2015a; Gill and Law 1988; Gilpin (1987)2001; Hancock and Vivoda 2014). The reason for this is that traditional international relations approaches, classical realism and idealism (also known as liberalism), could not account for the global capitalist economy ‘crises and transformations’ from the mid-1950s to 1970s such as:

[n]eocolonialism, the abandonment of the gold standard, floating exchange rates, rising oil prices, the limits to growth thesis, the environmental movement in the capitalist core, the debt crisis of the ‘Third World’ and the riddle of stagflation (among other events) all seemed to demonstrate that there were considerable flaws and omissions in mainstream accounts of international politics and power. (Di Muzio 2015: p. 7).

In terms of energy systems, Hancock and Vivoda (2014) argue that the ‘energy crisis’ of the 1970s where OPEC placed an oil embargo on the United States, which then spiked the price of oil by 400 percent in 1973 and 1979, gave birth to international political economy of both (neo)realist and (neo)liberal traditions. These traditions are primarily concerned with contributing to national and international governmental and institutional policies to manage the crises and transformations mentioned above (Gill and Law 1988; Gilpin (1987)2001; Hancock and Vivoda 2014; Keohane and Nye (1977)2011).

(Neo)realism and (neo)liberal international political economy scholarship focus on questions relating to the politics of “distribution of limited resources and the power that explains distributional outcomes” (Hancock and Vivoda 2014: p. 207). As “[p]ower is fundamentally about the ability of one actor – a state, organization, or individual – to change the behavior of another.

Power also includes the ability to set agendas and structure rules, which in turn, benefit some actors and disadvantage others” (Hancock and Vivoda 2014: p. 207). Power is generally measured by nation-states’ military strength or gross domestic product (Gilpin (1987)2001; Hancock and Vivoda 2014). This has reduced the study of energy to “[t]he potential for supply disruptions or oil price inflation [which eventually] lead international relations and international political economy theorists towards a concern for energy security” (Di Muzio and Dow 2019: p. 561). The main concern for both of these approaches, then, is how global actors (mainly nation-states) use their power in the world order to get ‘access’ (or securitize) energy – specifically oil. This is seen in the explosion of literature on the OPEC energy crisis in terms of access and security (see: Barnes 1972; Campbell 1977; Chubin 1976; Hallwood and Sinclair 1982; Levy 1974, 1982; Mikadashi 1980, 1981; Penrose 1979; Pollack 1974; Smart 1977; Turner 1976; Veit 1977; Willrich 1976).

Classical realism⁴⁷ (Carr (1939)2001; Morgenthau 1948; Strange 1988) and (neo)realism (Waltz 1959, 1979) both reduce the complexity of geopolitics to conflictual conditions related to the constitution of world order as anarchical. The fact that there is no world government to keep nation-states in check reinforces an ethic of self-help or zero-sum game relations, where international cooperation or organizations cannot be trusted (Gill and Law 1988; Hancock and Vivoda 2014). Nation-states are the main unit of analysis. Nation-states are the only “...central authority with the ability to make and enforce laws, rules and decisions within a specified territory – have primary power in international relations” (Hancock and Vivoda 2014: p. 207). Neorealism attempts to fill in the gaps of classical realism, specifically on methodology (Waltz 1959, 1979).

⁴⁷ Realism is also known as mercantilism or economic nationalism. This scholarship, in international political economy, “dates back to the mercantilist era when governments plundered other territories in order to expand their own wealth” (Gill and Law 1988: p. 25-6). What classical realists fail to address is how joint-charter companies, banks, mercenaries, and emerging global elites, etc. were heavily involved in this process and how there is very little evidence to support that these social forces only worked in the interest of their host-nation or population (Cavanagh 2011; Di Muzio and Dow 2017; Stern 2011).

Classical realists drew their method and theoretical stance from political theory texts such as: Thucydides' "History of the Peloponnesian War", Machiavelli's "The Prince", Hobbes' "Leviathan", etc. to prove human nature existed as only self-interest, especially during times of 'state of nature' (anarchic or no rule of law) (Ashley in Keohane 1987; Neufeld 1995a; Walker in Der Derian and Shapiro 1989). Neorealism, then, critiques classical realism and idealism to move towards a more 'scientific' explanation by utilizing the Western positivist behavioural science revolution to explain why nation-states behave in self-interested ways, using mathematical modelling (Ashley in Keohane 1987; Keohane 1986). Classical realism and (neo)realism reduce international political economy, like international relations, to methodological statism'. Methodological statism "...is a method of social scientific inquiry that prioritizes the state as the major actor in global affairs and assumes that state authorities largely operate in the 'national interest', understood to be knowable and shared equally across the population" (Di Muzio and Dow 2019: p. 561). (Neo)realism argues nation-states' foreign policies conceptualize energy (in this case oil) as a key strategic good for military power (Bromley 1991; Hancock and Vivoda 2014; Levy 1982; Yergin 1991). In particular, the United States' foreign policies have been primarily about maintaining or controlling the global supply of oil due to their dependency on foreign oil (Bichler and Nitzan 1995; Bromley 1991; Hancock and Vivoda 2014; Noreng 2007; Painter 1986; Stokes 2007; Stokes and Raphael 2010). But, due to the so-called 'anarchic realm' of international politics and the possibility of 'scarcities', this leads to what Michael Klare (2001; 2008; 2012; see also: Elhefnawy 2004; Homer-Dixon 1999); sees as periods of resource wars. Resource wars happen when nation-states compete with other nation-states to attain access to oil or other resources, especially in times of scarcity. If nation-states cannot obtain access through the global market or other 'commercial' or 'domestic' means, then nation-states will turn to military power

against other nation-states (Klare 2002). In other words, (neo)realist perspectives, in international political economy on energy, is primarily concerned about securitization, military strength and access to ‘energy.’

The tradition of (neo)liberalism, in international relations and international political economy, and, also known as neoidealism or transnationalism, attempts to fill the main blindspots in (neo)realist scholarship, which are the global market, non-state actors, and cooperation (Bromley 1991; Keohane and Nye (1977)2011; Nowell 1994; Ruggie 1982). (Neo)liberalism maintains the neorealist ontological-starting point of world order as anarchic but critiques (neo)realism, insofar, that nation-states can and will engage in international cooperation. Their other critique is straightforward - that world order is not just a collection of nation-states but also non-state actors (including individuals) and cooperation is the best mechanism to maintain global security, as seen in Robert O. Keohane and Joseph S. Nye’s (1977)[2011] seminal text *Power and Interdependence*. (Neo)liberalists argue that nation-states have a complex interdependent relationship between non-state/state actors. Complex interdependence has three main characteristics:

“1. Multiple channels connect societies, including: informal ties between governmental elites as well as formal foreign office arrangements; informal ties among nongovernmental elites (face-to-face and through telecommunications); and transnational organizations (such as multinational banks or corporations)...2. The agenda of interstate relationships consists of multiple issues that are not arranged in a clear or consistent hierarchy. This absence of hierarchy among issues means, among other things, that military security does not consistently dominate the agenda...3. Military force is not used by governments toward other governments within the region, or on the issues, when complex interdependence prevails...” (Keohane and Nye (1977)2011: p. 20-1).

More importantly, (neo)liberalism incorporates an actual economic theory in understanding international political economy, neoclassical economics, to which later on (neo)realism also subscribed (see also: Di Muzio 2015a; Gill and Law 1988; Mulligan 2010a, 2010b; Ruggie 1982). While (neo)realism suffers from methodological statism in conceptualizing the global political

economy; (neo)Liberalism is also inadequate due to their separation of the global market from the nation-state and placing them into two distinct social realms: economics and politics within the global political economy (Bichler and Nitzan 2015; Gill and Law 1988). Yet, similar to (neo)realism, their focus is on access (although through global market exchange) and scarcity which leads not to 'resource wars' per say but to rapid price increase through the law of supply and demand (Adelman 1972, 1972-1973; Bichler and Nitzan 1995; Di Muzio 2011; Keen 2011; Xenos 1987). Therefore, (neo)liberalism argues that world order is constructed by the global market and nation-states but energy, just like any other resource commodity, is determined by the capitalist price system and the global market manages this through the law of supply and demand (Bichler and Nitzan 1995; Hancock and Vivoda 2014; Keen 2011).

The (neo)Marxist international political economy literature continues to be fractured into multiple branches but their starting point remains the same: that global capitalism is the 'specter' that 'haunts' the world order (Marx and Engels (1848)2004). Capitalism is theorized as a global mode of production based on the extraction of surplus value (principally) from wage-labour exploitation (Baran and Sweezy 1966; Bichler and Nitzan 2009; Harvey 2017; Huber 2017; Lenin (1917)1996; Luxemburg (1913)2003; Malm 2016; Mandel 1968, (1972)1978; Marx (1867)1976; McNally 1988; Wood 2002). Classical Marxism slightly differs from classical realism when addressing international relations (Gill 2008). Whereas classical realism reduces this process to nation-states struggling for global hegemony (wealth and power), for national interest (Gilpin (1987)2001), classical Marxism focuses on how nation-states and 'national capitalists' compete under global capitalism in anarchic conditions (Bukharin (1917)2001; Lenin (1917)1996; Luxemburg (1913)2003); for a general exploration of this perspective, see Brewer [1980](1990). They generally conceptualize this 'competition' as inter-imperial rivalry (between industrial

capitalist states) or imperialism (over non-capitalist states). Some offer an alternative truce between these potentially warring national capital classes, as in the case of Karl Kautsky (1914), in the form of ultra-imperialism when they periodically manage to cooperate to divide and rule the rest of the world, whereas inter-imperial rivalry assumes that capitalist classes are nationalistic and that they compete with other ‘nationalist capitalists’ for global domination of production (Brewer (1980)1990; Callinicos 2009; Desai 2015; Kiely 2014; Labban 2008; Lacher 2006).

The term imperialism has a lot of different interpretations within the German Social Democrat and Marxist tradition (see Anievas 2015; Brewer (1980)1990; Day and Gaido 2012). Generally, though, imperialism is used to spatio-fix capitalism’s internal crises of overproduction or underconsumption (see Harvey 2003). In other words, imperialism is a concept that also describes how capitalist states dominate non-capitalist states and economies in order to spread or sustain global capitalism (Harvey 2003; Lenin (1917)1996; Luxemburg (1913)2003). For classical Marxists, imperialism is interconnected with foreign policies or militarism as a vehicle to implement capitalist property relations (Bukharin (1917)2001). Ironically, this is very similar to Samuel Huntington’s (1968) thesis in *Political Order in Changing Societies*. The critique of classical Marxism is that imperialism is premised on ‘linear models of development’ (modernization theory) and was understood as ‘progressive change’ towards non-capitalist states and economies (Anievas 2015).

Post-World War II, (neo)Marxism differentiates two different camps of theorization because the classical formulations of inter-imperial rivalry and imperialism start to unravel or are no longer empirically or theoretically valid (Bichler and Nitzan 2006; Cox 1987; Gill 2008; Gill and Law 1988; Robinson 1996). In the first camp are orthodox (neo)Marxists who still maintain that the classical assumptions of Marx, Luxemburg, and Lenin still hold (Callinicos 2009; Harvey

2003; Lacher 2006). Many Canadian-Marxists maintain this position (see Gordon 2010; Gordon and Weber 2016; Kellogg 1989, 2009). In the second camp are (neo) Marxists who develop their positions of understanding world order from the earlier formulations of Karl Kautsky (1914) on ultra-imperialism or super imperialism (Panitch and Gindin 2012). Others draw from Antonio Gramsci (1971) and argue that foreign policies and militarism are maintained by a new Western capitalist bloc led by the United States based historic bloc of interests and power (Cox 1987; Gill 1991). This school is known as neo-Gramscian, or more accurately, transnational historical materialists. They argue capitalists operate as a global or transnational class that is also anchored in domestic power structures (Carroll 2010; Cox 1987; Gill 1993, 1995; Robinson 1996; Sklair 2001; van der Pijl 1984, 1998). This new imperialist regime also has a mission to exploit or control the Global South's energy reserves (Bromley 1991; Stokes and Raphael 2010). The United States is the global imperial hegemonic state that reinforces, supports and protects global capitalism (Panitch and Gindin 2012; Wood 2003). Moreover, it is sometimes conceded that this imperial hegemony or supremacy is funded and supported by a transnational capitalist class and other states in the Global North (Gill 2005; Panitch and Gindin 2012). The importance of what (neo)Gramscians and certain (neo)Marxists demonstrate is that foreign policies are not rooted in national interests per se but rather in the class forces that seek to socially reproduce conditions for the global accumulation of capital.

Within the classical or (neo)Marxist canon, energy systems have been relatively taken for granted. In 1991, Debair et. al. declared that energy was a major blindspot in history and the (neo)Marxists' theorization of global capitalist economy (p. XII). (Neo)Marxists have focused solely on how the Global North controls the Global South's oil as an imperial mission for United States-centric global capitalism (Bromley 1991; Harvey 2003; Labban 2008; Stokes 2007; Stokes

and Raphael 2010). The reason for this is summed up by Michael Tanzer's (1969) argument that energy is the "fourth factor of production to the classic ones of land, labour, and capital. For just as capital without labour is useless, so too is sophisticated capital without energy" (p. 3). Tanzer states

[h]istorically, the whole course of industrialization, starting with the waterwheel and steam power, can be seen as a joint capital-energy substitution process; it involves using sophisticated capital, which magnifies human power through the mechanism of inanimate energy, to replace primitive capital, which combines directly with human power (1969: p. 3).

This was the case until the late 1990s, when another branch of (neo)Marxism articulated that the capitalist mode of production is fossil-fuel based (Altvater 1993, 2007; Angus 2016; Huber 2013; Malm 2013, 2016; O'Connor 1994; Zalik 2008). What I conceptualize as *Ecological Sensitive Marxism*⁴⁸ has made various contributions to the field of (neo)Marxism energy-based international political economy. Andreas Malm's (2013, 2016) research highlights that coal was a fundamental input into English capitalist industrialism through accelerating workers' exploitation in England (c.f. Foster 1979; Nef (1932)1966; Wrigley 2010) The other aspect of Ecological Sensitive Marxism critiques the resource curse development literature insofar it suffers from commodity fetishism as 'resources' themselves cannot determine a developmental trajectory (Auty 1993; Feldman et. al. 2011; McNeish and Logan 2012; Obi 2010 Watts 2008; Zalik 2008, 2015). Rather, nation-states and their economies are shaped and reshaped by the geopolitical terrain. For example, Anna Zalik (2008, 2015), in particular, highlights that countries which have an abundance of fossil fuels (from Nigeria to Canada) are not 'cursed' but rather are subordinate to the United States-centric global capitalist conditions.

⁴⁸ Although these (neo)Marxists scholars do differ, I refer to them as Ecological Sensitive Marxism as they understand capitalism as fossil fuel based – albeit in different ways.

By contrast, Elmar Altvater (2007), Matthew T. Huber (2011, 2013, 2017), and Jason W. Moore (2015) offer the most in-depth argumentation that global capitalism accelerated and is dependent on affordable, abundant and accessible fossil fuels. These scholars have also highlighted how the transition from coal to oil can be seen as an alternative to the so-called threat of ‘communist’ coal unions (Mitchell 2010; Podobnik 2006).⁴⁹ There is also emerging literature on eco-socialism where it is argued that only through socialism (workers’ emancipation), can one build an environmentally friendly development trajectory, as capitalism is based on the intensification and unlimited exploitation of nature and labour (Angus 2016; Debeir et. al. 1991; Foster 1999, 2009; O’Connor 1988, 1989; Schmidt (1962)2014; Smith 2010). While ‘green economists’ stress the importance of nature, and at times, energy in economics, eco-Socialism critiques this literature for not having a theory of value or exploitation (see Burkett 2009; O’Connor 1991). However, it still remains that the foundational problem with the Ecological Sensitive Marxist is their fetishization of Marx’s original tenets on capitalism, which include the labour theory of value and reducing energy systems to just a fundamental input into the capitalist mode of production that accelerates exploitation or subordinates workers. This removes the centrality of energy and energy systems from everyday life and social reproduction and how the accumulation of capital is impossible to divorce from the monetization of energy.

In conclusion, conventional international political economy theories have limited explanatory power over global energy systems or why the global political economy largely transitioned from coal to oil. (Neo)realist assumptions reduce energy or energy systems to strategic commodities for military consumption (Bromley 1991). Many other scholars demonstrate that both Britain and later the United States’ military industrial complexes were major influences in

⁴⁹ For an overview of oil and class struggle, see Nore and Turner (1980).

establishing the global petroleum world order (Bichler and Nitzan 1995; Podobnik 2006; Yergin 1991). (Neo)realism tells us nothing about global capitalism but talks of ‘national interests’ which is reflected in their methodological statism. As Chomsky warns:

[w]ithin the nation-state, the ‘national interest’ will be articulated by those who control the central economic and political institutions. There is no reason to suppose that the ‘national interest,’ so articulated will have any relation to such common interests as might be generally shared within a society (1989: p. 59).

In short, (neo)realism sheds some light onto the geopolitical dimensions of energy security and why energy systems are interconnected to modes of warfare. (Neo)liberalism, on the other hand, brings in many of the other non-state actors from the global market to the individual, offers a theory of capitalism, and articulates the importance of energy through the capitalist price system. That said, the (neo)liberal literature is still largely concerned with ‘access’ much like (neo)realism. The difference is that they suggest nation-states should pursue ‘natural resources’, by global market exchanges, not military intervention. Finally, (neo)Marxism, in particular Ecological Sensitive Marxists, focuses on global capitalism as being fossil fuel based but theorizes energy systems as auxiliary to the mode of production of capitalism. Fossil fuels are then used to ‘accelerate exploitation’ or ‘subordinate’ workers under the social relations of wage-labour and capital. So, why did the transition from coal to oil happen? In the section below, I will revisit the era of the Seven Sisters who dominated the global oil industry until the creation of OPEC. Both Canadian political economy and international political economy conventional scholarships focus solely on these transnational corporations as imperial vehicles for the British, Dutch or United States foreign policies to secure oil (Bromley 1991; Gilpin (1987)2001; Laxer 1976; Levy 1982; Nowell 1994; Podobnik 2006; Shaffer 1983a, 1983b; Yergin 1991).

Section III: The Seven Sisters Revisited

This section demonstrates that the primary objective of the Seven Sisters was to generate more profit by making the world more reliant on petroleum rather than coal, not to sustain or spread the global hegemony of the United States, the United Kingdom or the Netherlands.

The dominance of John D. Rockefeller's Standard Oil, and later of the Seven Sisters, is well documented (Adelman 1972; Black 2000; Fursenko 1989; Frank 2005; Gill and Law 1988; Gilpin (1987)2001; Josephson 1934; Levy 1982; O'Connor 1962; Sampson 1975; Shaffer 1983a, 1983b; Stork 1975; Strange 1988; Tanzer 1974; Tarbell 1904; Turner 1976; Wilkins 1975; Yergin 1991). But, generally these studies on the Seven Sisters have frequently been reduced to the following; 1) big business history 2) diplomatic history 3) 'competition' between these companies, and 4) how their host nation-states used these corporations, or how these corporations used their host nation-states (Nowell 1994: p. 1-3; see also: Bichler and Nitzan 1995). The story of the Seven Sisters starts with John D. Rockefeller's Standard Oil. Rockefeller is now championed in mainstream historical accounts as a new-wave of 'entrepreneur' during the Gilded Age (Black 2000; Shaffer 1983b; Yergin 1991). His so-called 'entrepreneurial spirit' was notorious and he used any means (legal or illegal) necessary to establish a monopoly position in the United States and even consistently attempted to forge one globally (Frank 2005; Nowell 1994; O'Connor 1962; Sampson 1975; Tarbel 1904). The most known tactics by Rockefeller's Standard Oil in the United States were: the manipulation of freight rates, industrial espionage, controlling access and the price of oil, bribes, and the establishment of inter-business-governmental alliances (Shaffer 1983b: p. 24; see also: Tarbell 1904; Yergin 1991). These tactics were not rooted in the ownership of oil

reserves, but in the refining and distribution process. For example, between 1891 and 1911, Standard Oil's net profit came mainly from transportation and marketing not extraction:

...amounted to \$1,280 million; of that, \$532 million came from transportation, \$307 million from marketing, \$259 million from refining, and only \$170 million from extraction. Even though Standard owned the great majority of the nation's pipelines and refining capacity, its share of crude production was relatively modest: From less than 16 percent in 1889 it rose to 33.5 percent in 1898, then declined to less than 14 percent in 1911 (Fursenko 1989: p. 454).

This allowed Rockefeller to strategically sabotage (restrict or control) the production of oil, access, and even eliminate (or postpone) the possibility of finding new oil reserves (Montague 1903; Veblen (1923)1967).⁵⁰

As a result, this made it tremendously easy for Standard Oil to have control over the price of oil (Montague 1903; Tarbell 1904). Journalist, Ida Tarbell (1904: n.p.) stated:

...it is generally conceded that the man or men who control over seventy percent of a commodity control its price within limits, very strict limits, too, such is the force of economic laws. In the case of the Standard Oil Company the control is so complete that the price of oil, both crude and refined, is actually issued from its headquarters.

By 1881, the Standard Oil Company was capitalized at US\$3,500,000 which was Rockefeller's main competitive advantage (Montague 1903: p. 298). He and his investors understood that the point of controlling industry was primarily about reducing any risk of overproduction or any other 'factor' that could potentially reduce the price of oil to take place, unless Rockefeller did it himself to undercut rivals (Sampson 1976; Stork 1976; Tarbell 1904). This strategic sabotage was also about eliminating competitors, by merging, acquiring or bankrupting them. Rockefeller famously stated: "[t]he dear people, if they had produced less oil than they wanted, would have got their full price; no combination in the world could have prevented that, if they had produced less oil than

⁵⁰ See Bichler and Nitzan 2017b and Di Muzio 2013: Glossary for a full history of the concept strategic sabotage.

the world required” (as cited by Sampson 1975: p. 25). Thus, controlling access and the price of oil

was Rockefeller's primary tool for both eliminating competitors and expanding his own firm's productive capacity. By 1880 Standard Oil controlled about 90 percent of U.S. refining capacity Standard predominated. By the beginning of the 1880s it owned 35,000 of the 40,000 miles of all U.S. pipelines. Standard also engaged in production of crude oil, but this was always a minor part of the enterprise (Furensko 1989: p. 454).

Rockefeller’s monopoly position was first attempted to be thwarted by the Sherman Anti-Trust Act, which was signed in 1890. He and his associates were able to contest this break up until May 1911 when the United States Supreme Court finally forced Standard Oil to break up into 38 ‘different companies’. However it was still owned ‘by the same oil men’ and Rockefeller had controlling shares in all of them at 25 percent (Sampson 1975: p. 32).⁵¹

The Seven Sisters followed Rockefeller’s Standard Oil tactics and their main objective of controlling the price and access to oil (through strategic sabotages) against their competitors on a global scale. These competitors ranged from non-Seven Sister oil companies, the global coal industry and entire nations (Galicia, Germany, Mexico, Venezuela, etc.) to the Soviet Union and later the Eastern Bloc. The Seven Sisters acted to create forms of globalized social reproduction dependent on oil (Frank 2005; Mejcher in Ferrier and Fursenko 1989; Klinghoffer 1977; Nowell 1994; Painter 1956; Sampson 1975; Tanzer 1969; Yergin 1991). Insofar that the Seven Sisters gained their oligarchy power not simply through the production of oil, but also, their political and legal capacities, through the institution of ownership, which implies exclusion of others from ownership and use of oil (Sampson 1975; Nowell 1994). This is why mergers and acquisitions,

⁵¹ Rockefeller’s new corporation called Standard Oil of New Jersey essentially became the primary banker (lender) to the 38 oil companies. It was run officially by John D. Archbold (former rival of Rockefeller) who had established a network of bribes (eventually uncovered by the Hearst Press) to Senators and Congressmen to safeguard the monopoly (Sampson 1976: p. 33 – 34).

within the global oil industry, has a long/ongoing history. Private ownership is fundamental to the process of capital accumulation (Marx (1867)1976; Gill and Law 1988; Bichler and Nitzan 1995, 2009: p. 338; Sampson 1975). The Seven Sisters' control over the global oil industry was so complete that they sold and bought oil from one subsidiary to another to increase profits and control (Sampson 1975: p. 6). As a result, these global oil investors and corporations aim not for 'profit maximization' (as that is always unknown) but accumulation of diversified ownership (or portfolios), which attempts to reduce 'risk' and capitalize on as many income or earnings streams, not just the production process (Bichler and Nitzan 2009; Veblen (1923)1967).

The Seven Sisters cemented their international oligopoly cartel in the aftermath of World War I. Yet, even

[b]efore World War I the oil business was the most 'advanced' form of enterprise in terms of production, capital concentration, and financial and industrial development. Oil became the largest multinational business, with a major role not only in the world economy but also in international relations (Fursenko 1989: p. 466-7).

As the 'winners' of World War I demonstrated, the outcomes of war were now dependent on the linkages between warfare, energy production and consumption. In other words, World War I accelerated the 'evolution' of nation-states towards a new mode of warfare known as 'industrialized total warfare', whereby, military power "rested upon three pillars — mass destruction, mass mobilization and mass production" (Latham 2002: p. 241). Needless to say, all three pillars were dependent on oil (Cox 1993; Di Muzio 2015a; Painter 1986; Podobnik 2006; Yergin 1991). (Neo)Realist scholars maintain this oligarchy was only formed because nation-states (mainly the United States and the United Kingdom) started to see that the future of warfare, militarism and security would be dependent on access to oil (Painter 1986: p. 4; see also: Levy 1982; Yergin 1991). For example, The British were already converting their navy fleet from coal to oil, pre-World War I (Podobnik 2006: p. 67). This sparked 'a genuine race' for oil fields well

before World War I (Debair et. al. 1991: p. 127). However, the Seven Sisters did not form this cartel under their influence or guidance (Debair et. al. 1994: p. 129; Nowell 1994; Penrose 1989; Sampson 1975). Instead, the Seven Sisters often dictated the foreign policies of many nation-states that were involved with oil (Bichler and Nitzan 2017: p. 7; see also: Bichler and Nitzan 2018; Nowell 1994; Sampson 1975). The oligarchy emerged because the big three (Royal Dutch Shell, Anglo-Iranian Oil Company, Standard Oil and all their subsidiaries) finally ended an intense 16-year ‘oil price war’ with each other (1897 – 1914) (Nowell 1994; Sampson 1975). Shell’s lead oilman, Henry Deterding, stated that “the cartel’s role was to implement a mutual agreement on ‘oil production, transport, and distribution at set prices...placed under a single, well-defined control...” (as cited by Debair et. al. 1991: p. 129). The reason for the establishment of this cartel was twofold: controlling world oil prices and transitioning the world from coal to oil. This alliance became an international agreement called Achnacarry or As-Is Agreement, which was signed on September 17 1928. The top three oil men who signed the agreement were “Deterding, Shell’s president, Teagle, Standard’s president, and Cadman for Anglo-Iranian. The cartel’s accords would later be accepted by four other companies: Gulf, Texaco, Standard Oil of California, and Socony-Mobil Oil” (Debair et. al. 1991: p. 129)

This agreement was focused solely on restricting global petroleum production, distribution, prices, etc. on a world scale, because new oil reserves were being ‘discovered’ globally (especially in the Middle East) and within the United States that could threaten their control over the price of oil (Sampson 1975). The Seven Sisters, the United States government, and British and French colony government and colonizers knew that the Middle East had oil well before this time (Mitchell 2011). This agreement allowed the Seven Sisters to sabotage, acquire, merge or bankrupt

non-Seven Sisters' oil companies by selling oil at lower prices without ever suffering a loss. They could sell lower than others because of the following:

1) low-cost of producing oil globally; 2) colonial, monopolistic mechanism of exploitation of cheap oil resources at the concessions, imposed by imperialism; 3) the monopolies of their vertical structure comprising the entire chain of operations, from prospecting to sale, with the control of the oil cartel over the main markets. The oil export prices came to be an intra-firm transfer, allowing for the accountancy of the incomes of the producing subsidiaries (Andreasjan 1989: p. 42-3).

The Seven Sisters were so entangled with each other they were able to reduce “output from any country with which they were in conflict, they could easily increase output elsewhere to supply their markets (Penrose 1989: p. 10). The other advantage of the Seven Sisters and the global oil industry writ large was their fusion with global banks. The most important bank-oil company was Standard Oil of New York, which is now ExxonMobil. We should recall that Rockefeller bought a controlling share of Chase Manhattan Bank and had family connections to First National City. This made Standard Oil “serve as its own financier and regarded all financial operations, domestic and foreign, as an ‘internal affair.’ More creditor than debtor, Standard Oil was the most independent of all-American oil companies” (Fursenko 1991: p. 445). By “the end of 1907, Standard Oil controlled fifty-five foreign enterprises with a capitalization of approximately \$37 million” (or roughly \$US942, 363, 838.38 in 2018 dollars) (Fursenko 1991: p. 450).⁵² The reason why Standard Oil had always the highest market capitalization was because of this fusion between ‘oilmen’ and ‘credit lenders’ (Montague 1903). This was indeed pointed out by classical Marxists Vladimir Lenin (1917)[1996] and Rudolf Hilferding (1910)[1981] who highlighted that the fusion of bankers, corporations, and government officials are a part of monopoly capitalism⁵³ but reduce this to the rise of finance capital (as fictitious) not capital accumulation or capitalism proper (Baran

⁵² I used the United States inflation calculator accessed here: <https://www.usinflationcalculator.com> (on 02/02/2018).

⁵³ The Seven Sisters and global banking were one of many targets in this theory by Lenin (Lenin [1913]2004; Fischer 1926).

and Sweezy 1966; Bichler and Nitzan 2009; Di Muzio and Dow 2017).⁵⁴ The Morgan Guaranty Bank provided most of the credit needed to the non-Standard Oil American Sisters and Royal Dutch-Shell corporation (Sampson 1975: p. 204). Standard Oil of New York and the Morgan Guaranty Bank's success encouraged most European countries to follow similar patterns. In most cases, banks and oil companies were inseparable, in countries like Germany, Belgium and France⁵⁵ because of the Rothschild Family. The Rothschild family was a very famous and wealthy Jewish family that started in the banking business in the 1760s in the Free City of Frankfurt of the Holy Roman Empire (Ferguson 1998). Between 1815 and 1914, their family multinational partnership was

easily the biggest bank in the world. Strictly in terms of their combined capital, the Rothschilds were in a league of their own until, at the earliest, the 1880s. The twentieth century has no equivalent: not even the biggest of today's international banking corporations enjoys the relative supremacy enjoyed by the Rothschilds in their heyday—just as no individual today owns as large a share of the world's wealth as Nathan and James as individuals owned in the period from the mid-1820s until the 1860s (Ferguson 1998: p. 2).

While, their main source of income in the nineteenth century was in public finance (lending to governments, speculating on government bonds, etc.), they also owned a good portion of Germany, France, Russia, and Belgium's oil industries (see Fischer 1926; Goldman 1975; Hassman 1953; Klinghoffer 1977). In short, with this fusion between militarism, banks, and oil, they were able to manipulate, control or dominate entire nations (Galicia, Germany, Mexico, Venezuela, the Middle East countries, etc.), and the Soviet Union.

⁵⁴ Most orthodox (neo)Marxists have a very narrow conception of capitalism, corporate and investor earnings which hinges on the production of commodities, known as productive or industrial capital, labelling all forms of earnings as fictitious or finance capital (Baran and Sweezy 1966; Bichler and Nitzan 2009; Durand 2017).

⁵⁵ Belgium, Germany and France's oil companies were actually bank-oil companies. “[I]n 1904, the Deutsche Bank, together with its allies, founded the Deutsche Petroleum Aktiengesellschaft with a share capital of 20 million marks” (Furensko 1991: p. 460). France's *Compagnie Française des Pétroles* and Petrofina, which was Belgium's later became Total S. A.

The popular myth of (neo)Staples' Canadian political economy approach is that Canada's oil industry was a global 'exception' of being subordinate and controlled by the Seven Sisters, this is erroneous. All countries, containing oil, were subjected to their control and dominance, even the Soviet Union which came into existence after five years of revolution (1917 – 1922). Russia, even before Canada, started to produce oil. By 1899, Russia was producing more than half the world's oil, and by 1902, surpassed the United States (Klinghoffer 1977: p. 38). Pre-revolution, the Russian oil industry was controlled by the Nobels and Rothschilds, and was later sold to Royal Dutch Shell and Standard Oil.⁵⁶ In 1918, one of the first acts of the Bolsheviks was to nationalize all the oil, although the Azerbaijan area "...was not effectively nationalized until 1920" (Klinghoffer 1977 p. 38). The Azerbaijan oil fields were not nationalized due to the Anglo-French coalition that funded counter-revolutionaries and a Turkish invasion (Klinghoffer 1977 p. 39; see also: Fischer 1926). After 1922, the nationalization process was completed. This sparked the Seven Sisters to block the Soviet Union's oil. The blockade was one of the central features of the Achnacarry Agreement which effectively stopped any non-Soviet owned refineries from refining their oil and halted the oil from ever leaving (Goldman 1975: p. 129-30). This was managed through the Seven Sisters who still owned and controlled all the distribution networks (railway, pipelines, and tankers) (Klinghoffer 1977; Nowell 1994). The only other way for the Soviet oil to pass was through the Dardanelles, which was occupied by Turkey, and essentially controlled by "...the capitalist Allies" (Nowell 1994: p. 146ff). In the end, the blockade failed due to the British Empire, Italy, Germany and France who were 'secretly' importing the Soviet Union's oil often deemed 'stolen' as not to upset the Seven Sisters (mainly Royal Dutch Shell and Standard Oil) (Fischer 1926: p. 111). The Seven Sisters then turned to their other arsenal, North American and European banks. When the

⁵⁶ For historical accounts of Russia's oil industry, see Fischer 1926; Goldman 1975; Hassman 1953 Klinghoffer 1977.

Bolsheviks eliminated the Russian royal family, they inherited their debt. In 1918, Great Britain and France were

the principal creditors of the defunct czarist regime and therefore had an interest in the earnings and marketable assets of the new Soviet government. Petrofina calculated total Russian debt to France alone was a staggering sum of 27.5 billion Francs [roughly equivalent of €178.75 billion Euros not calculated for inflation] (Nowell 1994: p. 157).

The Soviet government attempted to repudiate the debt in 1918 but failed leading French, British and American bankers to indefinitely suspend their ‘favoured nation status’ for credit (Nowell 1994: p. 154). The Soviets were desperate for foreign currency, technology, machinery and other commodities that would help them to industrialize. Yet, no one was willing to lend them the much-needed credit (Klinghoffer 1977; Nowell 1994), and what little Soviet government bonds that were available were still being purchased by the Seven Sisters (Fischer 1926: p. 89). The problem was how would the global creditors ‘foreclose on a national debt in default’ and still get their original investment plus interest? (Nowell 1992: p. 152). This resulted in a deal that was struck in 1922⁵⁷ and in 1931, whereby the “Soviet Union had to cooperate with the ‘As Is’ Agreement” (Nowell 1994: p. 196-7). In short, the government of the Soviet Union had little choice but to succumb to the power of the Seven Sisters and international bankers. They worked cooperatively with them accepting their global price, allowed them to be the main distributors and refiners of Soviet oil, and in return, would receive international credit and currencies.

The primary advantage of the Seven Sisters against the global coal industry was how interlocked they were with global banking and the rise of the new military industrial complexes that emerged during World War I. This only solidified in the post-World War II era making them inseparable from warfare-welfare nation-states. It is true that coal can be liquified into fuels and

⁵⁷ The Bolsheviks created the Private Property Sub-Commission in order to grant oil concessions to international oil companies in 1922 (Fischer 1926: p. 76).

chemicals, as seen in the United States, Canada and Germany; however, liquid coal never resonated on a global scale, like oil and gas (Mejcher 1989; Nowell 1994; Yergin 1991). This is due to the Seven Sisters strategically sabotaging this conversion process through patent rights combined with the fact that petroleum is superior to coal in many ways (e.g. easy to transport, cheap to refine and energy dense) (Nowell 1994). This assault was not about abolishing coal, but rather, constricting the global coal industry into specific sectors mainly for the generation of electricity and the production of steel (Smil 1994). This was also an objective of the As-Is Agreement which essentially "...thwarted the coal industry's support for synthetic oil from coal (Nowell 1994: p. 239). This war between fuels was essentially played out in Germany.⁵⁸ Standard Oil bought IG Farben, a German based chemical and refining company, dedicated to the hydrogenating of coal. Following this, Standard Oil, with the help of Royal Dutch-Shell, created the Hydro Patents Corporations which reinforced that all German refineries "erected by licenses were subject to complete review" in case of copyright infringements of IG Farben patents on coal hydrogenation (Nowell 1994: 238). This also enforced a "[p]ayment for patents royalty fee...around synthetic fuel" (Nowell 1994: p. 238). Standard Oil and Royal Dutch-Shell made it tremendously hard to create synthetic coal fuel and because of their patents on refining coal "took the crucial technology out of the hands" of Germany and the world's chemical and coal companies (Nowell 1994: p. 239).

Conclusion:

To conclude, both Canadian political economy and international political economy have generally held the common misconception that the Seven Sisters were just imperial instruments

⁵⁸ The reason is twofold: 1) the Seven Sisters systematically removed any 'German' presence from existing oil-fields and 2) Germany contains no oil (Mejcher 1989; Nowell 1994; Yergin 1991).

for their host-nations. This chapter has demonstrated that the Seven Sisters forged the transition to an oil-based global carbon capitalism, petro-market civilization, and the carbonization of everyday life (Di Muzio 2015a). For instance, "[t]he estimated consumption of refined fuel oils and crude oil used as fuel expanded from 6.4 million barrels in 1899, to more than 91 million barrels in 1909, and to more than 300 million barrels in 1920" (Nye 1999: p. 123). As well the Seven Sisters, banks, armament firms, and governments are interlocked with each other, which still exists to this day, under different corporate names (Bichler and Nitzan 1995, 2015, 2018; Di Muzio and Dow 2019). After World War II, the conventional Canadian and international political economy narrative is that the United States became the de facto controller of oil as it became a crucial strategic commodity for militarism and postwar economic growth (Bromley 1991; Painter 1986; Stokes and Raphael 2010). This is seen with the Marshall Plan, the Mutual Security Agency, the Economic Co-operation Administration, and the rise of so-called Fordism or Keynesian capitalism which is premised on the 'abundan[t], cheap and accessible' flow of petroleum (Aglietta [1979]2000; Cox 1987; Gill and Law 1988). Yet, even this analysis does not emphasize the centrality of energy as intertwined with our global civilization, premised on the belief in unlimited growth, war, the accumulation of capital, and the intensification of the 'carbonization of everyday life'. The fundamental critique of most Canadian political economy and international political economy is their limited ability to explain the importance of energy and the Seven Sisters in the constitution and reconstitution of world order. Conventional Canadian political economy literature attempts to follow the international political economy scholarship of (neo)Realist Robert Gilpin (1987), institutionalists Peter Hall and David Soskice (2001), and (neo)Marxist (David Coates ed. 2005) who argue that there are national varieties of capitalism. I argue that the conceptual lens of carbon capitalism, petro-market civilization and social reproduction are globalized civilizational orders

that demonstrate there are only varieties of social forces and state interventions not capitalism. Antonio Gramsci (1971), Robert W. Cox (1983), and Stephen Gill (2008) argue that the nation-state is a mixture of consent and coercion towards the general and global populace, with the exception of marginalized classes in the Global North and much of the Global South (Persaud 2016; Shilliam 2004). The Global South and Global North's marginalized classes have always underpinned this civilizational order through systematic oppression rooted in juridical law or violence. Moreover, this energized carbon-based path dependency has been largely neglected by conventional international political economy literature because they focus on the energy-transition from coal to oil as just a 'strategic commodity' for militarism and production, being 'abundant, cheap and accessible' (in terms of the capitalist price system) or containing class struggle (Bromley 1991; Hall and Klitgaard 2012; Mitchell 2011). Rather, the transition from coal to oil over the *longue durée* was a result of the Seven Sisters who were a corporate cartel of 'investors and dominant energy firms' that locked global society into a 'carbon-dependent pattern of social reproduction for the foreseeable future' (Di Muzio 2012: p. 383). Consequently, the next chapter will focus on how the global petroleum order further accelerated and solidified, as this carbon-based path dependency was based on the highest energy returned on energy invested (Di Muzio 2015a). For example, the consumption of oil and gas in the United States had a value of more than 1,000 to 1 or "the global fossil fuel-based economy has given each of us the equivalent of 60–80 'energy servants' and the more money you have, the more energy servants you can have (Hall and Klitgaard 2012: p. 86, 95-6). The intensification of the 'carbonization of everyday life' and 'petro-market civilization' is rooted in foundational commodities that are made from oil (pesticides, fertilizers, lubricants, chemicals, plastics, rubber etc.), and transforms human transportation through the combustion engine, which reinforces extreme-energy intensive mechanized warfare,

etc. (Albritton 2009; Black 2000; Dauvergne 2008; Di Muzio 2015a; Hall and Klitgaard 2012; Huber 2014; Latham 2002; Mitchell 2011; Montague 1903; Nikiforuk 2012; Nowell 1994; Smil 1994). I now turn to the OPEC energy crisis, which accelerated and intensified, a world order founded on fossil fuels with oil at the center.

Chapter Four: The Acceleration of Petro-Market Civilization

Nowadays people know the price of everything and the value of nothing.

– Oscar Wilde (1890)[1993]: p. 42
The Picture of Dorian Gray

In the 1973–74 oil crisis, the law of supply and demand was not a fiction, but a fabrication.

– Timothy Mitchell (2011: p. 174)
Carbon Democracy: Political Power in the Age of Oil

Introduction:

The aftermath of World War II, from 1950 until the present, has been rightfully conceptualized as the Great Acceleration. The Great Acceleration describes that global development and all socio-economic indicators were gradually increasing, and then, moved sharply upwards, after the 1950s (Hibbard et. al. 2006; Steffen et. al. 2015; see Appendix C). But most theorizations of the Great Acceleration focus on how oil is the essential factor of production to the acceleration of technology, industrialism, transportation, urbanization or suburbanization, trade, warfare, commodity production, and the green (food) revolution, etc. (Albritton 2009; Angus 2016; Appel et. al. 2015; Campbell 2005; Dauvergne 2008; Friedmann 1993; Gill and Law 1988; Huber 2013; Klare 2008; McMichael 2009; McNeish and Owen 2012; Mitchell 2011; Newell and Paterson 2006; Nikiforuk 2012; Nye 1999; Strauss et. al. 2013; Trommer and Di Muzio 2016; Urry 2011). In other words, oil ‘addiction’, in everyday life, is fundamentally important to contemporary research but there is a tendency to regard capitalism as progressive and productive which implies that capitalism can transition to a low-carbon based energy system (Bichler and Nitzan 2017a; Di Muzio 2012; Hawkin 1993; Hawken, Lovins, and Cohen 2000; Home-Dixon 2011; Huber 2013; Lovins and Cohen 2011; Malm 2016). The Great Acceleration insight does not address how this

fossil fuel-intensive global civilizational order is underpinned, by: 1) money; 2) debt, and 3) the foundational logic of unlimited growth and the magnitudes of differential capitalization. This logic makes the concept of carbon capitalism distinct from previous theorizations of global capitalism (Di Muzio 2015a; Di Muzio and Dow 2019). Moreover, the Great Acceleration was temporarily obstructed by: 1) the growing consensus of global environmental devastation, global warming (now climate change), and the “finiteness of the Earth’s supply of resources and pollution sinks” (Mulligan 2010a: p. 80-1; see also: Burkett [1999]2014; Carson 1962; Clark and York 2005; Dalby 2009; Meadows et. al. [1972]2004; O’Neil 2009; Oreskes and Conway 2010; Schumacher 1973; Speth 2005, 2008), 2) the ‘energy crises’ of 1973 and 1979, and its connection to 3) the larger crises in global capital accumulation that followed (Arrighi 1994; Debair et. al. 1991; Di Muzio 2015a; Duménil and Lévy 2004; Gill 2008; Hamilton 1983, 2009; Harvey 2005; Smith-Nonini 2016; Springer et. al 2016).

The study of oil, in international political economy, becomes reduced to a strategic commodity for a global ‘militarized-consumer landscape’ that emerges unevenly (Bromley 1991; Di Muzio and Dow 2019; Klare 2008; Korin and Luft 2009a, 2009b). This becomes a simple narrative: Western global capitalism, market civilization, and social reproduction are premised on the mass production and consumption of commodities which is globally path dependent on ‘cheap, accessible, and abundant’ oil as just a factor of production (Aglietta [1979]2000; Gill and Law 1988; Mitchell 2011; Moore 2015). The reality is far more complicated. This chapter offers a more comprehensive analysis of how energy, debt, and the logic of unlimited growth transformed and accelerated the global petro-market civilization in the 1970s, 1980s and onwards (Alam 2005; Di Muzio 2015a; Di Muzio and Ovadia 2016; Di Muzio and Robbins 2016; Georgescu-Roegen 1975, 1976; Gill and Law 1988; Hall and Klitgaard 2011; Hornborg 2013; Huber 2016; Smil 1994;

Smith-Nonini 2016). In order to demonstrate this argument, I critique the conventional international political economy interpretations of the ‘energy crises’ who generally frame this event as either the decline or intensification of United States’ hegemony in the world order (Krasner 1978; Bromley 1991; Cox 1996; Gill 1991; Gill and Law 1988; Gilpin 1987; Harvey 2003; Keohane and Nye [1977]2011; Krasner 1978; Lipschutz 1989; Panitch and Gindin 2012; Stokes and Raphael 2010). Instead, I argue that the ‘energy crises’ had a tremendous impact in reshaping the global political economy towards an accelerated and unsustainable petro-market civilization development trajectory. Therefore, I focus on two fundamental resolutions that came out of the energy crises that shed light onto how they and the larger crises of capital accumulation are connected. The first is conceptualized by Bichler and Nitzan’s (1995) argument that the energy crises and resolutions led to the creation of the Weapondollar-Petrodollar coalition. The Weapondollar-Petrodollar coalition is predicated on how the dominant international oil-weapon firms, OPEC, and the United States officials collaborated to not only increase the price of oil but interconnected the weaponization and carbonization of everyday life in order to maintain globalized social reproduction (Bichler and Nitzan 1995; Di Muzio 2015a; Mitchell 2011; Watt 2004). The second resolution was the birth of the global unconventional oil era. With the rapid decline of the dominant oil corporations’ reserves came the ‘global scramble’ to discover new oil reserves. This is seen in the development of Canada’s unconventional hydrocarbon industry, known as the tar sands (Pratt 1976). This chapter concludes by arguing that the growing awareness of an unsustainable developmental trajectory of carbon capitalism, petro-market civilization and energy-intensive social reproduction was over-shadowed by the larger crises of capital accumulation during the 1970s and 1980s (Debar et. al. 1991; Di Muzio 2015a; Huber 2016; Mitchell 2011; Smith-Nonini 2016).

Section I: International Political Economy and the Energy Crises

This section, first provides a very brief history of the creation of OPEC and the oil embargo that followed. Second, it demonstrates how the conventional international political economy approaches viewed this energy crisis as either the decreasing or increasing of the United States' hegemony over global political economy. Finally, it illustrates the limitations these international political approaches have had in theorizing the price increase of oil.

The Seven Sisters and the Middle East have a history far too long to address here (see: Mitchell 2011; Painter 1956; Stork 1975; Tanzer 1974; Vitalis 2007, 2015). That said, the Seven Sisters drafted accords such as:

Sykes-Picot (1916), San Remo (1920) and Cairo (1921) to Red Line (1928) and Achnacarry (1928) – carving and shaping the Middle East in line with their own interests. During that period, their main concern was the ‘free flow’ of oil – i.e., political stability, open access to oil at low prices and minimal royalties to the region’s rulers (Bichler and Nitzan 2017a: p. 7).

The Seven Sisters and Anglo-American governments consistently attempted to prevent any form of nationalization of oil industries in the Middle East “through assassinations, military coups and the support of human rights abusing autocratic rulers to protect ‘their’ assets” (Di Muzio 2015a: p. 164; see also: Blum 1986; Mitchell 2011). After World War II, the wave of decolonization and nationalization came to the Middle East. The ‘final straw’ between these two was when Exxon (Standard Oil of New Jersey) enforced a global price cut in 1959 that caused a tremendous upheaval in the Middle East (Stork 1975: p. 95; Tanzer 1974: p. 161). The birth of OPEC came months later - September 10 – 14 in 1960. The countries that first joined OPEC were Saudi Arabia, Kuwait, Iraq, Iran, and Venezuela as nationalization of their oil industry was the only effective way of limiting the power of the Seven Sisters (Stork 1975). At first, the Seven Sisters refused to acknowledge OPEC and instead told these governments that their “revenues should depend on the

mythical free market” (Stork 1975: p. 94). When this discussion between the Seven Sisters, Anglo-American governments, and Middle East governments came to an end, the global energy crises of 1973 emerged. Ostensibly, this was due to the Arab-Israeli wars of 1967 and 1973 which forced OPEC to implement an oil embargo to “...pressure the United States and its allies to force Israel to withdraw from Arab territories seized” (Mitchell 2011; Stork 1975: p. 210ff).⁵⁹ Underpinning this embargo, was the global context “...of the Third World struggle for national liberation...and...social revolution” against their former colonizers (Britain and France) and Western imperialism writ large (Stork 1975: p. 259).

Robert Vitalis’ (2015) *World Order, Black Power Politics: The Birth of American International Relations* demonstrates that the birth of international relations was not between nation-states per se but through race relations. Vitalis (2017) states:

[i]n the first decades of the 20th century in the United States, international relations, meant race relations...The problem of empire or imperialism, sometimes referred to as race subjection, was what preoccupied the first self-identified professors of international relations...biological racism and resource imperialism shaped the discipline...not coincidentally, the policies of successive United States’ administrations... (p. 1-5)

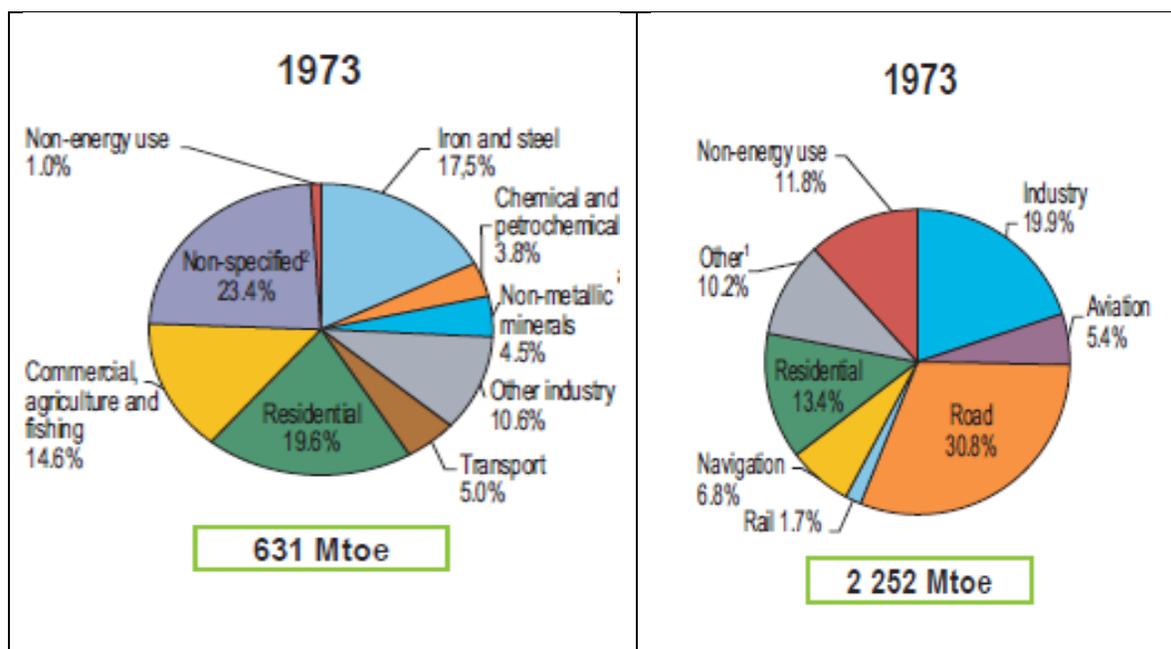
The history of international relations scholarship was to provide foreign policies to governments that would lead to better managing imperialism, colonial administrations and racialized populations (Vitalis 2015). In the post-World War II era, the international relations discipline was mainly concerned with maintaining “...a more peaceful and prosperous white hegemony while reducing the threat of the race war that preoccupied self-identified white elites in the United States and elsewhere in the 1890s, 1920s and again the 1950s” (Vitalis 2015: p. 8). (Neo)Realist and (neo)liberal intellectual scholars, government officials, and corporate leaders have had a long

⁵⁹ “Saudi Arabia then announced an embargo on the shipment of oil to the United States, which the other Arab states then joined, connecting the availability of oil to the unwillingness of the United States to support negotiations that would address the question of Palestine” (Mitchell 2010: p. 184).

history of intellectual partnership that is entirely based on reinforcing class, racialized and gendered world hierarchies (Bakker and Gill 2003; Federici 1998; Gill 1991, 2012; Mies 1986; Shilliam 2011; Vitalis 2015). Stephen Gill (2012) calls this process a global imperial common sense and this is clearly demonstrated by how the Seven Sisters, Anglo-American governments, and leading international relations intellectuals have "...shaped a hierarchical, [class], gendered and racialized world whose social reproduction increasingly came to rest on the extraction, production and consumption of non-renewable energy" (Di Muzio 2015a: p.163; see also Gill 2012; Mitchell 2011; Nore and Turner 1980; Stork 1975; Vitalis 2007, 2015). In other words, imperial common sense "assumes the maintenance of structures and practices of global inequality that permit the United States and its principal allies to consume the lion's share of global resources in ways that are often violent, unjust and unsustainable" (Gill 2012: p. 507). For example, "the Rockefeller Foundation sponsored most of international studies" during the years of 1939 to 1941 (Vitalis 2015: p. 117).

The energy crises, interpreted from the perspectives of (neo)realism and (neo)liberalism, was taken as proof that post-World War II United States hegemony was in decline. The reason for this is the United States hegemony is dependent on power (calculated in gross domestic product and militarism) and was now largely dependent on 'foreign oil' production and consumption, especially from the Middle East (Gilpin 1987; Hancock and Vivoda 2014; Keohane 1978; Krasner 1978). We should recall King Coal was not only replaced in the 1950s as the major source of the total primary energy supply but was limited to specific purposes such as the making of steel and electricity (see Figure 3; Debair et. al. 1991; Mitchell 2011; Nikiforuk 2012; Smil 1994).

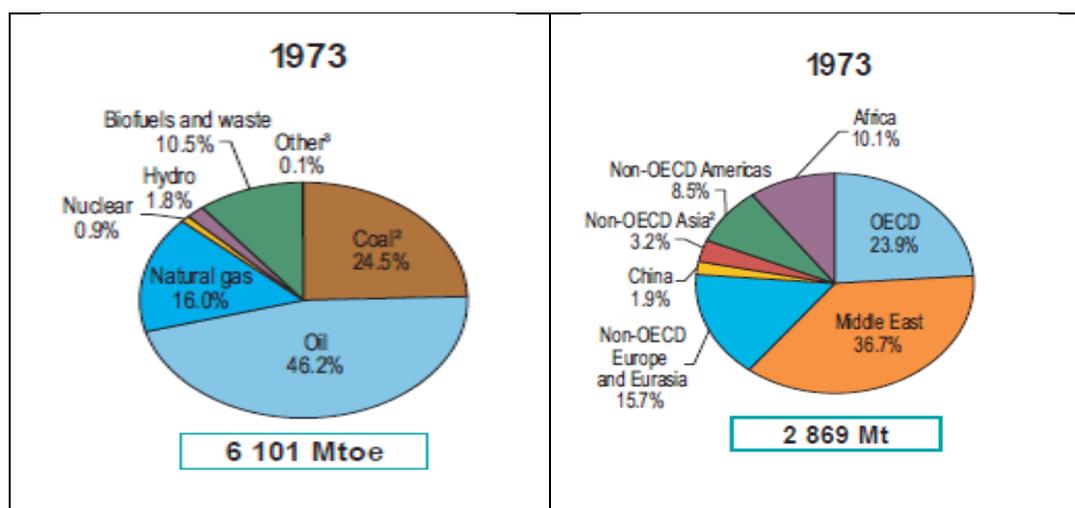
Figure 3: Shares of World Coal Consumption (Left) and Shares of World Oil Consumption (Right) in 1973⁶⁰



Source: Adapted from IEA. (2017). Key World Energy Statistics. (Paris: France): p. 39 and p. 40.

With this in mind, in 1973, oil was responsible for over 46.2% of the total primary energy supply with 36.7% of oil coming from the Middle East (See Figure 4).

Figure 4: Total Primary Energy Sources (Left) and Crude Oil Producing by Region (Right) in 1973

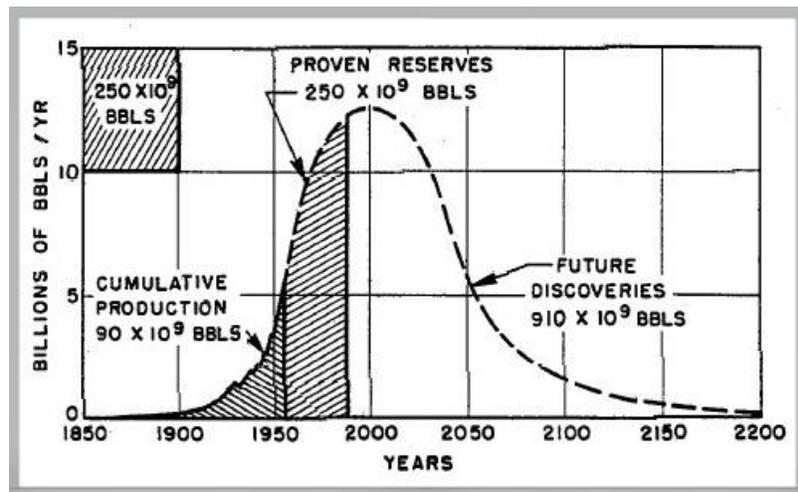


⁶⁰ MTOE stands for Million Tonnes of Oil Equivalent which is a way to measure energy consumption.

Source: Adapted from IEA. (2017). Key World Energy Statistics. (Paris: France): p. 6 and 12.

More importantly, Marion King Hubbert's (1956) seminal piece, *Nuclear Energy and the Fossil Fuels*, demonstrated that not only did the United States peak in their production of conventional oil in the 1950s (p. 37) but so would the world's around the year 2000 (See Figure 5).

Figure 5: King Hubbert's Prediction on Global Peak Oil Production



Source: Adapted from King M. Hubbert. (1956). Nuclear Energy and the Fossil Fuels. Presented at American Petroleum Institute. (San Antonio, Texas): p. 22. Retrieved from: <http://www.hubbertpeak.com/hubbert/1956/1956.pdf>.

The United States global hegemony was potentially threatened because of their foreign dependency on the strategic commodity of oil. The reason for this is that the Seven Sisters no longer had the power to manipulate the oil market for Western power interests (Levy 1974; Stobaugh 1975; Turner 1976; Yergin 1991). Therefore, the (neo)realist and (neo)liberal assumptions that nation-states work in self-interested ways would result in OPEC nations controlling the 'oil price' and could transform it into an oil weapon, as seen in the energy crises (Campbell 1977; Knorr 1975; Stork 1975).

In Western liberal states, public consensus, especially within the United States, was livid over the increase of the cost of living and gasoline scarcity due to high oil prices (Huber 2013,

2016; Richman 1979). This led Organization for Economic Co-operation and Development government officials to create the International Energy Agency (IEA), which was supposed to counter OPEC (Keohane 1978; Keohane and Nye [1977]2011). The IEA was established in November 1974⁶¹:

with a broad mandate on energy security and other questions of energy policy co-operation among Member countries. The main policy decisions and the Agency framework were firmly anchored in the IEA treaty called the ‘Agreement on an International Energy Program’, and the new Agency was to be hosted at the OECD in Paris. The Agency would become the focal point for energy co-operation on such issues as: security of supply, long-term policy, information ‘transparency’, energy and the environment, research and development and international energy relations (IEA 2018: History)

Therefore, from the (neo)realist and (neo)liberal standpoint, the energy crisis was an energy security dilemma. As a result, it was interpreted as threatening the hegemony of the United States and the Western liberal order more generally - especially since the United States was currently in the Vietnam War. Yet, both interpretations in understanding global hegemony remain silent on how capitalism, class struggle, white supremacy, patriarchy, debt, and other political factors are embedded in global power relations (Cox 1987; Di Muzio and Robbins 2016; Gill 1991; Shilliam 2011; Sylvester 1994; Tickner 2001; Vitalis 2015; Whitworth 1994).

There are various interpretations of hegemony by both (neo)Marxists and (neo)Gramscians (Arrighi 2005; Bromley 1991; Cox 1981, 1983, 2002: Chp. 1; Gill 1993, 2008; Harvey 2005; Lacher 2002; Morton and Bieler 2014; Panitch and Gindin 2012; Stokes and Raphael 2010; Wood 2003). Starting with (neo)Marxism, global hegemony is either conceptualized as the leading

⁶¹ The original founding members of the IEA in 1974 were Austria, Belgium, Canada, Denmark, Germany, Ireland, Italy, Japan, Luxembourg, The Netherlands, Norway (under a special Agreement), Spain, Sweden, Switzerland, Turkey, United Kingdom, and the United States. Joining in the following years were Greece (1976), New Zealand (1977), Australia (1979), Portugal (1981), Finland (1992), France (1992), Hungary (1997), Czech Republic (2001), Republic of Korea (2002), Slovak Republic (2007), Poland (2008), Estonia (2014), and more recently Mexico (2018) (IEA 2018: History).

nation-state in global production or in terms of financial and military power (Harvey 2003; Panitch and Gindin 2012). In this sense, the energy crises did not decrease the power of United States hegemony per se. Rather, United States foreign policies became much more concerned with the protection of the “general rules of capitalist production, distribution and exchange...[and] to defend the particular interests of either the United States economy or its transnational corporations” (Bromley 1991: p. 65; see also: Panitch and Gindin 2012; Stokes and Raphael 2010; Wood 2003). The United States also invited, or at times, forced other Western liberal capitalist democracies to join their ‘informal empire’ (Panitch and Gindin 2012). The (neo)Marxist conceptualization of United States hegemony is that the United States is the manager, promoter and protector of global capitalism for their national capitalist class interests. As a result, this was said to involve:

a) the management of a complex geopolitical relationship with the Soviet Union b) the maintenance of capitalist unity among the advanced economies, under the banner of Cold War liberalism, through the fostering of alliances, bilateral relations and the manipulation of the internal politics of allies’ and c) an opposition to European formal colonialism and anti-capitalist social and political change in the Third World (Bromley 1991: p. 78).

In order to maintain their leadership, oil became key to control because it is the essential factor for the military and for economic growth globally (Bromley 1991: p. 86; see also: Bromley 2005; Stokes 2007; Stokes and Raphael 2010). In the 1980s, with the larger crises in capitalist accumulation, for (neo)Marxism, it becomes debatable if the United States’ power declined or intensified (Harvey 2003; Panitch and Gindin 2012). According to David Harvey (2003), the United States power declined simply because the United States lost its superior position in production of commodities (p. 82-3). Whereas for Panitch and Gindin (2012) and Stokes and Raphael (2010), the United States power intensified because of the new wave of financialization and militarism centered in Wall Street and the Pentagon.

Therefore, all three interpretations of United States hegemony are very similar insofar as the only major difference is that (neo)Marxism argues that the United States works for their capitalist interests over the general interests of the United States population (long pointed out by Lenin in [1917]1996). The concept of global hegemony was redefined by Robert W. Cox's work (1981, 1983, 2002: Chp. 1 and 2). Cox's conception of world order (1981, 1983, 1987, 1996) critiques conventional international political economy interpretations on the grounds of methodological statism, economic reductionism, and determinism. His foundational contribution was about overcoming this neat division of 'in' and 'outside' of the nation-state by stating that global hegemony flows in and out of dominant social forces such as: nation-states, global dominant capitalist classes, global institutions, culture, global think tanks, etc. This differs from classical Marxism which views global hegemony as the leading nation-state of global capitalism (in commodity production) that spreads from inter-imperial rivalry between nation-states and capitalist classes, or a (neo)Marxist's viewpoint that suggests global capitalists can work together but there are varieties of capitalism which still anchors capitalists and capitalism in national territorial space (Callinicos 2009; Harvey 2003; Lacher 2002; Lenin [1917]1996; Luxembourg [1913]2003; Panitch and Gindin 2012). That said, a capitalist nationality or "the location of a firm's listing says nothing about its operations and owners" (Bichler and Nitzan 2009: p. 16). Cox, and later on (neo)Gramscian international political economy, argued that nation-states, global institutions, and global capitalist classes work together to transform the world order in their image through consent and coercion (Cox 1987; Gill 1993, 2008; Robinson 1996; Sklair 2001). (Neo)Gramscian international political economy argues that the United States hegemony did not decline or intensify but was rather transformed. This metamorphosis was not just in terms of military capabilities or economic relations. Rather, both the crises of energy and capital

accumulation led United States hegemony to alter into a new historic hegemonic bloc. This historic bloc was made up from various social forces recreating the world order towards a transnational capitalist liberal economic order through global hegemony (Cox 1987; Gill 1991; Murphy and Tooze 1991). This theorization of global hegemony helps us overcome the burdens of traditional international relations interpretations of hegemony that suffer from methodological statism, inter-imperial rivalry, or economic reductionism.

Moving from the international political economy's explanation of world hegemony, I now focus on their economic interpretations of the OPEC crisis and the increase of the price of oil. This is important as all social forces, within the global political economy, are shaped by their access to 'cheap, abundant and accessible' oil (Alam 2005; Di Muzio 2015a; Georgescu-Roegen 1976; Hall and Klitgaard 2011).

Both (neo)realism and (neo)liberalism interpret high oil prices as rooted in the neoclassical economic theory of supply and demand (Bichler and Nitzan 1995; Stoddard 2013; Xenos 1987). The energy crises, in most 'economic textbooks', became the hallmark example of their theory of supply and demand functioning (Mitchell 2011: 174ff). Simply put, 'the invisible hand' lifted the price of oil because of the scarcity caused by OPEC's embargo, and later, the risk to supplies due to the Iranian Revolution in 1979. The solutions to OPEC's embargo differ for these two perspectives. (neo)Realism saw the oil price shocks, as what is now coined, as a possible 'resource war' as a solution to OPEC's embargo (Blair 1976; Klare 2002; Krasner 1978; Lipschutz 1987). On the other hand, (neo)liberalism and neoclassical economics argued that OPEC would not last and the global market would eventually correct itself. Moreover, the IEA would become the de facto monitor or the key energy 'resource governance' institution (De Graaf 2012a; Keohane 1978). Meanwhile, much of (neo)Marxism believes that global capitalists always create artificial

scarcities, especially when it comes to oil, thereby increasing its price (Caffentzis 2013; Huber 2011a, 2011b; Labban 2008; Tanzer 1974). Another interpretation of the price increase from the (neo)Marxist camp suggests that the increase in the price of oil is related to the increase in the costs (factors) of production, mainly labour and rent (Bina 1988; Harvey 2003; Labban 2008; Mandel 1978; Zailk 2016). But, are these interpretations of OPEC's embargo and oil prices accurate?

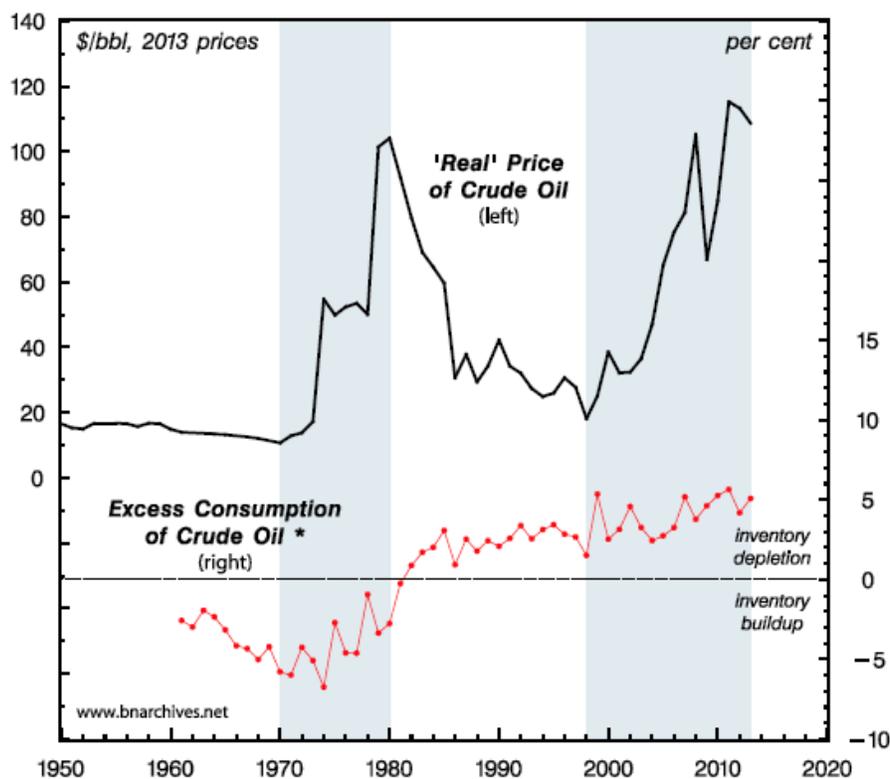
Shane Mulligan (2010a, 2010b) argues that the birth of international relations liberalism and neoclassical economics was born in an era of colonialism, violence and a strong belief in individualism among liberal elites. The largest threat to their doctrine was never global communism, but actually, scarcity. At the heart of liberalism is the notion of infinite progress and growth; one could say measured in happiness (capital or utils). Neoclassical economics was very silent during the age of the Seven Sisters but not towards OPEC, when the energy crises emerged. The reason for this is that neoclassical economics argues monopolies are the product of the state rather than something internal to capital accumulation itself and even if monopolization of an industry does occur, it actually has no impact on the global capitalist market or price system (Friedman 1962; see also: Van Horn 2009). For example, Milton Friedman (1962: p. 121) to argue “[t]he most important fact about enterprise monopoly is its relative unimportance from the point of view of the economy as a whole.” Friedman states further: [t]he small and insignificant amount of monopoly power that does exist is almost never due to the actions of capitalists. Any attempts on the part of private capitalists to secure monopoly power...are generally unstable and of brief duration unless they can call government to assistance...” (1962: p. 121ff). In short, neoclassical economics' faith in the global market is so strong that the 'natural law' of supply and demand cannot be affected by any state, global institution, corporation or an individual. This is why

neoclassical economics ignored the Seven Sisters' oligarchy, but deployed their theory of 'supply and demand' to blame OPEC for price increase in oil (Mitchell 2011: p. 174).

Economist M. A. Adelman states “[t]he world ‘energy crisis’ or ‘energy shortage is a fiction...*But belief in the fiction is a fact. It makes people accept higher oil prices as imposed by nature, when they are really fixed by collusion*” (1972 – 1973: p. 73; emphasis added). We should recall that the neoclassical economics’ theory of supply and demand has been debunked since the Cambridge Debates of the 1950s and 1960s (Bichler and Nitzan 2009; Hunt (1979)2002; Keen 2011). That said, neoclassical economics maintains that OPEC’s involvement in the creation of scarcity should be seen as market distortion. Generally speaking, ‘market distortion’ is when any governments ‘interfere’ in the global market, which is perpetually happening. As neoclassical economics argue for a laissez faire world order, which has never and cannot ever exist, without the state (Bichler and Nitzan 2009; Cox 1987; Di Muzio and Dow 2017; Gill and Law 1988; Marx [1867]1972; Panitch and Gindin 2012; Polanyi 1957). As Karl Polanyi (1957: p. 145ff) carefully reminds us “[t]here was nothing natural about laissez-faire; free markets could never have come into being merely by allowing things to take their course... laissez-faire itself was enforced by the state.” Furthermore, the laws of supply and demand cannot comprehend the price of oil or any commodity for that manner. As the whole purpose of “the Law of Demand is to explain how relative prices are set”, but their economic models are premised on just one commodity and one consumer, as a result, “there can be no relative prices” (Keen 2011: p. 55). In other words, the theory of the law of demand has no meaning as there cannot be any more than one commodity and one consumer at one time. The most important critique of neoclassical supply and demand theory is it cannot theorize the desires of buyers or sellers, abundance or scarcity (Bichler and Nitzan

2015a).⁶² In short, neoclassical theorizations that OPEC was the sole creator of ‘scarcity’ rings hollow. As there was no shortage of oil that caused the price increase (See Figure 6).

Figure 6: ‘Scarcity’ and the ‘Real’ Price of Oil



Source: Shimshon Bichler and Jonathan Nitzan. (2015a). Still about oil? Real-world economics review, No. 70: p. 52. Retrieved from: http://bnarchives.yorku.ca/432/2/20150200_bn_still_about_oil_rwer.pdf.

⁶² As Bichler and Nitzan explain at length: [a]ccording to standard economic theory, commodities are not ‘scarce’ or ‘abundant’ as such. They are scarce or abundant in relation to the ‘desires’ of sellers and buyers. When the desire to buy at a given price (i.e., the ‘quantity demanded’) exceeds the desire to sell at that price (‘quantity supplied’), economists denote the difference as ‘excess demand’. If the opposite situation prevails, they call it ‘excess supply’...Now, economists manipulate these magnitudes with great ease – but only conceptually. When it comes to empirical analysis, their hands are tied. And they are tied by the embarrassingly simple fact that they know nothing about the *actual* desires of sellers and buyers. Needless to say, this ignorance is fatal. It makes it impossible for economists to measure the levels of demand and supply, let alone which exceeds which and by how much. And as long as they don’t know whether the commodity – be it oil, automobiles, software or anything else – is in excess supply or excess demand, they have no clue as to whether it is scarce or abundant... (2015: p. 75ff)

Furthermore, this is seen when the United States and other nation-states were warned that if Egypt and Israel went to war, Saudi Arabia would ‘use the oil weapon’ (Bichler and Nitzan 1995; Blair 1976; Sampson 1975; Stork 1975). As a result, before this war happened:

...they raised production in the first three-quarters of the year and that fully compensated for the eventual drop in the last quarter. All in all, OPEC production for 1973 amounted to 11.0 billion barrels, which was in fact slightly higher than the 10.8 billion it should have been based on long-term projections! (Bichler and Nitzan 1995: p. 487 - 489)

In this case, (neo)Marxism seems correct that global capitalism created an artificial scarcity. So, what actually drove up oil prices? (Neo)Marxist Cyrus Bina (1988) argues that the price increased because of the increase in the cost of production. Cost or factors of production in oil, within the Marxist framework, are only related to the production process (labour, rent or royalties, machines) (Labban 2008). Recall from chapter 2 and 3, most (neo)Marxists only theorize capitalism as rooted in the production of commodities and highlight labour exploitation as the only generator of surplus value. The first and erroneous claim by Bina is that the energy crises signified that the “production and pricing of crude oil associated with the various oil producing regions of the world have since become part of a unified process through global competition” (1988: p. 329). As discussed in the previous chapter, the global oil industry was already operating transnationally.⁶³ Bina goes on to argue that the oil price increased because of the ageing or depleting oil fields and rising labour prices in the United States. Simply put, “...there was an increase in the labour value of United States crude petroleum, and since this coincided with the internationalization of the oil industry, it then led to a rise in the unified world price of crude oil...” (Bichler and Nitzan 1995: p. 480). Both of Bina’s assumptions on how oil is priced are incorrect.

⁶³ Moreover, “if the industry was governed by competitive forces (as portrayed in neo-classical manuals), production should have shifted from the high-cost to the low-cost fields, but since that is exactly the opposite of what happened after 1973, the competitive assumption must be rejected” (Bichler and Nitzan 1995: p. 480).

The oil industry did not become more globally competitive nor does the labour theory of value correlate with prices (Bichler and Nitzan 1995, 2009; Di Muzio 2015a). More importantly, no commodities are priced just by their cost of production. We know that all corporations producing commodities must sell them at a higher level than their cost, but this is only one aspect of pricing (Di Muzio and Noble 2017; Douglas 1931). This does not include all the factors outside of the narrow confines of the production process that also impact on corporate pricing and earnings (Bichler and Nitzan 2009; Di Muzio and Noble 2017).

To sum up this section, the traditional international political economy interpretations of the ‘energy crises’ have generally been conceived in terms of United States hegemony and foreign policy. Outside of foreign policy and ‘energy security’ dimensions, their interpretations of the increase in the price of oil are empirically invalid. The reason for this is that traditional international political economy is still narrowly fixated on methodological statism or the ‘economic assumption’ that concerned 18th and 19th century economic philosophers (Heilbroner[1953]1961). How oil is priced is probably one of the most difficult questions - long-time oil traders, economists, and oil insiders have tried, but still do not have a concrete answer (Dickers 2011; Moors 2011; Noreng 2006). What is interesting is what Bina (1988) calls the ‘conspiracy views on the oil crisis’ which is the “view based on the idea that the U.S. government, in collaboration with the international oil companies and OPEC, deliberately brought on the oil crisis of 1973-74” (p. 337; See also Panitch and Gindin 2012: fn. 99). The questions are why is this collaboration considered conspiratorial and what did the United States have to gain in helping to increase the price of oil?

Section II: Resolution I, The Weapondollar-Petrodollar Coalition

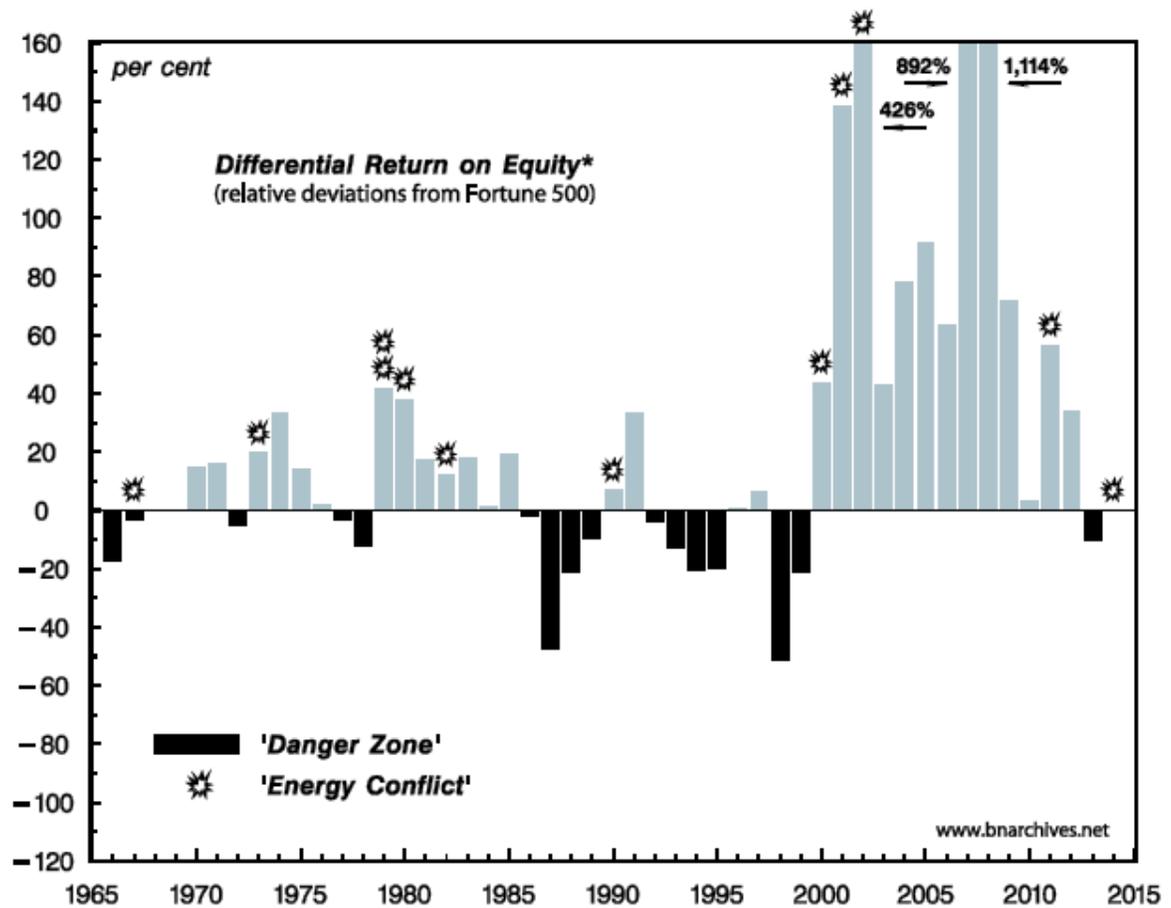
This section critiques the ‘official story’ told by William Simon (United States Secretary of the Treasury) and Henry Kissinger (United States Secretary of State) that the United States government wanted the price of oil to be brought down (Panitch and Gindin 2012). Yet, many conventional scholars have overlooked a report by V.H. Oppenheim (1976-7) titled *The Past We Pushed Them* (see also: Di Muzio 2015a: p. 171ff). Oppenheim asks the question why would the United States government collaborate with OPEC and the oil companies to promote the fabrication of supply difficulties thereby justifying the price increase? Many economists, especially M. A. Adelman (1972 – 1973: p. 79), argued that OPEC did not have any real power to influence oil prices without the United States’ military and government support. As the United States could have easily persuaded OPEC countries through a range of military, commercial, and public policies such as freezing bank accounts to the threat of military invasions (Di Muzio 2015a: p. 172; see also: Adelman 1972-3: p. 79; Mitchell 2011). In order to understand the energy crisis, we must shift our analysis from methodological statism or nationalism and see the world power politics as interlocked webs between “oil and armament firms and their owners, the United States government’s support for OPEC and the oil companies”, and in this way, this collaboration forced the price of oil to increase (Di Muzio 2015a p. 172). Therefore, this section argues that the underlying rationality of this collaboration can be seen in what is now conceptualized as the Weapondollar-Petrodollar Coalition (Bichler and Nitzan 1995, 2015; Di Muzio 2015a; Watts 2004). The analysis of the Weapondollar-Petrodollar Coalition provides explanatory power for how the ‘oil complex’ accelerates the monetization, weaponization and carbonization of everyday life for globalized social reproduction. As a result, I turn our attention to the three main actors in this fabricated crisis: 1) oil companies, 2) OPEC, and 3) the United States government. These social forces have different dependencies but benefit from high oil prices and a manufactured

energy crisis. Drawing from a (neo)Gramscian position and insights from Shimshon Bichler and Jonathan Nitzan's (1995, 2018) foundational research on their concept Weapondollar-Petrodollar Coalition, this collaboration does not seem at all that 'conspiratorial' in the sense of being implausible. Also, many critical scholars now largely accept that 'oil elite networks' exist and are intertwined with governments, weapon manufactures, mercenaries, and global financial institutions (Appel et. al. 2015; Bichler and Nitzan 1995; De Graaff 2012a, 2012b; Di Muzio 2015a; Di Muzio and Ovadia 2016a; Engdahl 2004; Watts 2004). Even in the 1970s, this was generally observed. Stork states "[t] is no coincidence that the head of Chase Manhattan is a Rockefeller, or that all of the major banks have energy divisions" (1976: p. 134). The largest banks and insurance companies

sit on the board of directors of the major energy companies and hold large quantities of those companies' stock, significant portions of their bond issues, and manage their trust funds. The same bastions of finance capital, under the rubric of 'institutional investors,' control more than 40 percent of the stock of the New York Stock Exchange (Stork 1976: p. 134-7).

Why did the transnational oil corporations eventually support OPEC? First, it should be noted that Exxon (Standard Oil of New Jersey) was the largest and most profitable international oil company and their 'capital stock' is "largely capitalized on the basis of their reserves and ability to find more oil and gas resources to book on their balance sheets (what is called the reserves replacement ratio)" (Di Muzio 2015a: p. 164). The waves of nationalization, in the global oil industry in the 'Third World', dropped the Seven Sisters' ownership of oil reserves from 89% in 1957 to just "...3 percent of global oil reserves" (Di Muzio 2015a: p. 164). Because of these nationalizations, international oil companies should have seen their market capitalization and investor confidence collapse, but the opposite happened. Instead, they far-out paced the Fortune 500 average (Bichler and Nitzan 2015: p. 64; See Figure 7).

Figure 7: Energy Conflicts and Differential Profits: The Petro-Core Vs. the Fortune 500



Source: Shimshon Bichler and Jonathan Nitzan. (2015a). Still about oil? Real-world economics review, No. 70: 49 – 79: p. 52 Retrieved from: http://bnarchives.yorku.ca/432/2/20150200_bn_still_about_oil_rwer.pdf.

In 1974, Exxon’s sales “exceeded US\$45 billion; total assets were US\$31 billion, and stockholders’ equity was at US\$15 billion. Exxon held more wealth “than any other country but the top 20” (Shaffer 1976: p. 1). There are other ways international oil companies can be capitalized. The first is by becoming a diversified ‘energy corporation’ (i.e. nuclear, coal, unconventional oil, geothermal, etc.) which did happen through mergers, acquisitions and the buying of controlling shares (Martin and Laxer 1976; Mitchell 2011; Stork 1975; Tanzer 1974). The two other avenues, outside of these scenarios, are to merge or acquire another oil firm so that corporate executives “can record the newly required reserves as assets on a single company’s

balance sheet” (Di Muzio 2015a: p. 164). For example, when the oil companies Exxon and Mobil merged together in the 1990s, Exxon and Mobil owned separate oil reserves that became singular under ExxonMobil. The final avenue is to “hope for or actively encourage conflict in the Middle East to boost the price of existing reserves” (Di Muzio 2015a: p. 164). In other words, when potential conflict or disruption takes place in the Middle East, the prices of oil usually escalates, which then inflates previous existing oil reserves globally. During the energy crises, “oil prices went from US\$10.64 in 1970 to US\$17 in 1973. By 1974, a barrel of oil cost US\$53.94 – a 407 percent increase from 1970” (Di Muzio 2015a: p. 172). In terms of profit, Exxon, Shell, Mobil, Gulf, Texaco, and British Petroleum stood at US\$9.15 billion in 1973 and US\$11.65 billion in 1974 (Pratt 1976: p. 82). From the perspective of the international oil companies, it made absolute sense to support OPEC’s price increase since this made the petroleum assets on their balance expand incredibly.

Outside of the simple desire for more profit generated by price increase, another reason the international oil companies were supportive of OPEC is that their global positioning shifted due to nationalizations. Their primary role after nationalizations with OPEC was solely in transportation, technology, knowledge, and refinery (Bichler and Nitzan 1995; Huber 2013; Nowell 1994; Stork 1975). It should be noted that most refineries are still located in the United States (Huber 2012, 2013: Chp 3). More importantly, “managing the immense complexity of the oil arena requires an overall knowledge [and technology] which the OPEC countries lacked and which could be supplied only by the oil majors...” (Bichler and Nitzan 1995: p. 484; See also Adelman 1972-3; Turner 1983).⁶⁴ It is easily debatable that international oil corporations did not

⁶⁴ In 1969, Sheikh Yamani (the Saudi petroleum minister) stated “we do not want the majors to lose their power and be forced to abandon their role as a buffer element between the producers and the consumers. We want the present setup to continue as long as possible and at all costs to avoid any disastrous clash of interests which would shake the foundations of the whole oil industry” (Bichler and Nitzan 1995: p. 484).

want the price to jump to levels it did. But, their support for the price increase and alliance with OPEC cannot be debated given their new role after the nationalization drives (See Appendix D). A third reason why the companies and the United States government supported an increase in the price of oil was that the increase in revenue helped the majors finance the exploration and development of new conventional and unconventional oil reserves, not to mention, service their debts to the banks (Di Muzio 2015a). As seen in the next section, this led to the birth of Canada's Tar Sands.

OPEC was created through the rise of 'Third World' nationalism and decolonization. This led both the Middle Eastern and United States elite to be very wary of the exaggerated global threat of the specter of communism (Mitchell 2011; Nitzan and Bicher 2002; Stavrianos 1981). The United States, with the Western Bloc, supported royal and dictatorial regimes in the Middle East as a lesser 'evil' than the possibility of either democratic or communist regimes. This support and alliance to these human rights abusing autocratic rulers still largely remains intact to the present (Engdahl 2004; Mitchell 2011; Stokes and Raphael 2010; Watts 2005). This also stopped the Soviet Union from entering into OPEC or having allies in the Middle East, with the exception of Syria and, at times, Egypt (Goldman 1980; Klinghoffer 1977; Mitchell 2011). The Soviet oil industry, with the exception of their nuclear bombs, was seen as the biggest threat to the Western Bloc (Stork 1975; Tanzer 1974). Traditionally, the exportation of weapons was primarily a foreign policy instrument in both the United States and Western Bloc countries. Yet, arms were becoming increasingly globalized and commercialized, especially for the United States. Since the Vietnam War was coming to an end, United States weapon contractors had excess capacity and were searching for new sources of profit (Bichler and Nitzan 1995: p. 501ff).⁶⁵ OPEC countries made

⁶⁵ The Department of Defense internal documents demonstrated that foreign arms sales were 2.5 times more profitable than domestic sales (Bichler and Nitzan 2002: p. 214; see also Di Muzio 2015a).

US\$95 billion in 1974; money that could be used to import arms and invest in overseas assets (Di Muzio 2015a: p. 173; see also Mitchell 2011: p. 157). Michael Watts (2005) notes:

[i]n 1963, the Middle East accounted for 9.9% of global arms imports; in the decade following 1974, the figure was 36% (roughly \$45 billion per year). Almost half was provided by U.S. suppliers. For every 1% change in oil revenues, there was, three years later, a 3.3% increase in arms imports. The energy conflicts across the region were both cause and consequence of oil-fueled militarization (p. 376).

As a result, OPEC's surplus and their consumption "...of expensive weaponry provided a unique apparatus for recycling those dollars – one that could expand without any normal commercial constraint" (Mitchell 2011: p. 157).⁶⁶ Therefore, the selling of weapons became one aspect of why the United States government could have collaborated with the price increase and the energy crisis. As weapon purchases attempted to "...maintain the balance of payments and the viability of the international financial system...Arms were particularly suited to this task of financial recycling..." (Mitchell 2011: p. 155).

In order to understand the deeper dilemma of the energy crisis and the United States government involvement, we need to look backward to the creation of the Bretton Woods system, which was established post-World War II. Bretton Woods led to the creation of the International Bank for Reconstruction and Development (now part of the World Bank Group), the General Agreement on Tariffs and Trade (now the World Trade Organization) and the International Monetary Fund (IMF). The United States proposed its currency as a world currency and pegged gold at US\$ 35 an ounce, for nation-states who were involved in Bretton Woods. "In this scheme, countries earning United States dollars could exchange dollar bills for gold" (Di Muzio 2015a: p. 169). It is interesting to note that there was a currency war between the United Kingdom and

⁶⁶ "Certain weapons, such as the US fighter aircraft, were becoming so technically complex by the 1960s that a single item might cost over \$10 million, offering a particularly compact vehicle for recycling dollars" (Mitchell 2011: p. 157).

United States governments in how oil should be bought and sold globally pre-World War II. The United States became the de facto winner post-World War II, through the Marshall Plan and Bretton Woods (Engdahl 2004: p. 36ff; Painter 1984: p. 361ff; Smith-Nonini 2016: p. 61). In a way, Bretton Woods came into existence through the sale of oil and weapons registered in US dollars during World War II. As a result,

...since US dollars were needed to purchase oil and other goods denominated in dollars, as long as the United States maintained a trade surplus with the rest of the world, there would be a strong demand for dollars. This system lasted only a short while when the private market for gold shot above US\$35 dollars and US military spending escalated to finance its slaughter in Indochina and Johnson's 'Great Society' program at home (Di Muzio 2015a: p. 169).

Timothy Mitchell (2011: p. 171) shows that as early as 1967, the Chase Manhattan Bank, controlled by the Rockefellers, tried to convince the United States government to abandon the gold standard, which was met with resistance from United States banking and the Treasury.⁶⁷ But, by the early 1970s, there was a global consensus and awareness that due to the intensified United States military and social spending, there was the potential that the United States could no longer back its outstanding foreign dollars with gold. This mainly sparked European banks to request "payment for their dollars in gold" (Mitchell 2011: p. 171). The Nixon administration was told the outcome of this request would deplete their gold reserves at an exponential rate due to the American dollars⁶⁸ outstanding in foreign reserve accounts (Di Muzio 2015a; Gowan 1999). As a result, in August 1971, the Nixon administration unilaterally removed their gold standard and ushered "the world economy onto a pure dollar standard" (Gowan 1999: p. 19 - 20).

⁶⁷ "Questioning the automatic convertibility of dollars into gold was considered a threat to the stability of the postwar international monetary system and to America's political and financial authority...Eight months later, however, Eugene Birnbaum, senior economist at Standard Oil, published a report entitled *Changing the United States Commitment to Gold*. The report called for the US to end the Bretton Woods system unilaterally by rejecting the obligation to convert dollars into gold. Birnbaum's arguments were critical to making the idea of abandoning Bretton Woods acceptable" (Mitchell 2011: p. 171).

⁶⁸ I will be using American and US dollars interchangeably to mean United States currency.

The fall of the United States gold standard was reconfigured by the flow of petrodollars and this set up a new monetary order which continued to be centered on the American dollar, now arguably backed by oil and the strength of its domestic economy and Wall Street finance (Clark 2005; Di Muzio 2015a; Gowan 1999; Mitchell 2011; Shipley 2007; Smith-Nonini 2016; Spiro 1999). The United States international oil corporations and diplomats were able to convince Saudi Arabia, by de facto OPEC, to agree “that the world’s largest reserves of oil would be sold in US dollars” (Di Muzio 2015a: p 170; See also: Spiro 1999). As Di Muzio notes:

...any country that wants to industrialize or develop more energy-intensive forms of social reproduction must purchase oil if they do not have it within their own territory...this creates a significant demand for US dollars and one of the principal reasons why the United States dollar remains the most significant reserve currency in world. Given that the United States exhausted the first half of its supplies in war and automobility and the fact that the vast majority of oil lays outside the United States, there is no natural or even economic reason why oil should be priced only in dollars (2015a: p. 170; See also: Clark 2005).

The importance of petrodollars illuminates why the United States could have definitely collaborated in the energy crisis and high prices. Due to high oil prices, OPEC recycled nearly \$500 billion dollars (the value combined in American, European and British dollars) from 1973 to 1980s (Spiro 1999: p. 1). By 1980, OPEC nations “could not possibly increase imports as fast as their export revenues rose (in 1978, alone, they received \$133.5 billion for oil exports), and no oil-consuming government wanted them to decrease oil exports...” (Spiro 1999: p. 1). No amount of consumption by the OPEC countries could have absorbed their surpluses.

In 1973, Henry Kissinger already orchestrated

a system for petrodollar recycling, which featured most prominently the agreement that oil would continue to be priced in Dollars. Major OPEC countries, especially Saudi Arabia, were also given incentives to continue extracting oil and selling it for Dollars, by providing investment opportunities for their petrodollars in Dollar-denominated assets and debt instruments such as federal bonds and FNMA (Fannie Mae) mortgage-backed securities (El-Gamal and Jaffe 2010: p. 10).

As a result, the American dollar, as a universal global currency, is no longer backed by gold but largely by oil consumption that is bought and sold in US dollars.⁶⁹ Coincidentally or not, this sparked two other events that followed the energy crisis and the price increase. The first is due to the fact that most petrodollars flowing into the United States, British and European banks allowed them to lend, at unprecedented levels, mainly to the ‘Third World’ (See Appendix E). The “recycling of petrodollars was the process by which the oil exporters' surplus financed deficits elsewhere in the world” (Spiro 1999: p. 1).⁷⁰ For example, L.S Stavrianos demonstrates that developing countries’ debt soared from “\$19 billion in 1960, to \$64 billion in 1970 and to \$376 billion in 1979” (1981: p. 448; see also: Bulow and Rogoff 1990; George 1988; See Table 2). Another overlooked explanation of possible United States involvement is the outcome of how the Soviet Union and Eastern Bloc, during this time-period, net hard-currency debt skyrocketed from “less than 6 billion in 1971 to more than 60 billion in 1979” (Hartland-Thunberg and Ebinger 1986: p. 5).

Table 2: Third World Debt Growth, 1970 to 1982 (in millions of dollars)

Countries	1970 Debt Interest	1970 Debt Principal	1982 Debt Interest	1982 Debt Principal
Argentina	88	1,494	1,167	15, 846
Brazil	81	2,224	5,373	50, 087
Chile	39	886	485	4,063
Mexico	156	2,047	5,754	44,683
Venezuela	20	362	1,6111	11,930

⁶⁹ “In testimony to the Senate Subcommittee of Financial markets, then Secretary of the Treasury William E. Simon (a former senior partner of Salomon Brothers – now absorbed into Citigroup) noted that OPEC countries made US\$95 billion in 1974 alone. They spent US\$35 billion of this money on consumption with most of the remaining US\$60 billion or 66 percent flowing into US banks and the Eurocurrency market as bank deposits, US and UK government securities and commercial paper. Only a small amount of equity and real estate purchases could be traced and Simon testified that 15 percent of where the money went ‘we simply know nothing about’” (United States Senate 1974: p. 5 as cited by Di Muzio 2015: p. 173)

⁷⁰ “Strategically, intended or not, it is highly unlikely that the Nixon administration was unaware that mounting oil prices would cause severe strife in the ‘Third World’ creating the need for new loans to finance petroleum imports among other things. After all, the Nixon administration did intend to allow the private banks to recycle petrodollars” (Di Muzio 2015a: p. 174). Also, United States “policy-makers actively sabotaged the IMF’s proposal for Saudi Arabia and Kuwait to recycle the dollars as low interest rate loans to the IMF” (Di Muzio 2015a: p. 175; see also: Spiro 1999).

Seventeen Heavily indebted Countries	512	10,228	17,971	174,296
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Source: Adapted from Jeremy Bulow and Kenneth Rogoff. (1990). Journal of Economic Perspectives, Vol. 4(1): p. 41.

This vast amount of borrowing would later create the global debt crisis in the ‘Third World’ as Paul Volker (former Federal Chairman of the Federal Reserve), in 1981, spiked interest rates (Bulow and Rogoff 1990; George 1988; Hartland-Thunberg and Ebinger 1986; McMichael 1996; Perkins 2004; Williamson 1990). The debt crisis transformed the Bretton Woods Institutions (World Bank, International Monetary Fund, General Agreements on Tariffs and Trades, now World Trade Organization) into a more assertive role in reinforcing national policy prescriptions, to combat their national debt, re-coined as the Washington Consensus, by John Williamson (1990: 5–20; See also Goodman 2005; Soederberg 2006; Stiglitz 2002). Finally, and perhaps more controversially, the high oil prices could have been a weapon used against the global population of oil consumers in order to weaken companies in Japan and Europe. Japan and European companies were starting to eat into the United States market shares and “[s]ince Japan and Europe were more dependent on Middle Eastern oil than the United States, a ramped-up oil price could damage their industrial growth” (Di Muzio 2015a: p. 174; Engdahl 2004; Gowan 1999; Mitchell 2011).

The Weapondollar-Petrodollar Coalition represents, intentionally or not, what former United States President Richard Nixon stated at the Washington Energy Conference of 1974, that “[s]ecurity and economic considerations are inevitably linked and energy cannot be separated from either” (as cited in Bromley 1991: p. xii). The Weapondollar-Petrodollar Coalition then represents the intensification of the monetization, weaponization and carbonization of globalized social

reproduction. Bichler and Nitzan argue the collusion between these social forces empirically suggests that their

...main purpose was to raise the price of oil to boost oil incomes on the one hand and augment military spending and arms exports into the region on the other. And that goal was best served by a divide-and-rule strategy that kept the Middle East embroiled in a never-ending string of managed energy conflicts, stoked the Cold War and the arms race and pushed the world into reoccurring stagflation crises (2015a: p. 8).

The outcome of the Weapondollar-Petrodollar Coalition was the ‘Third World’ debt crises of the 1970s and 1980s (Bulow and Rogoff 1990; Di Muzio 2015a; George 1988; McMichael 1996; Soederberg 2006; Williamson 1990). While in the Western Bloc, it led to broader and deeper crises of stagflation (Bichler and Nitzan 2015a).⁷¹ Finally, the dominant international oil corporations, using their record profits, gave birth to the unconventional era of oil, specifically in Canada.

Section III: Resolution II, The Birth of Unconventional Oil Era

This section explores the birth of Canada’s unconventional oil industry (also known as tar sands or bituminous sands) which has generally been conceived from the misconception that OPEC was the sole creator of the energy crisis and that United States hegemony was in decline (Laxer 1974; Nikiforuk 2010; Pratt 1976). The general consensus among (neo)Staples literature is that Canada became a ‘colony’ to President Nixon’s Project Energy Independence (Pratt 1976: p. 49ff). The conventional Canadian political economy literature focuses on, once again, the question of who owns and who benefits from Canada’s fossil fuel industries? In short, (neo)Staples argue that it is the United States government and their corporations who have primarily benefited from

⁷¹ “Contrary to conventional belief, stagflation is anything but an anomaly. In modern capitalism, it is, in fact, the rule rather than the exception. To see why this is so, note that capitalist societies always operate with greater or lesser slack (just think of Marx’s ‘reserve army of the unemployed’ or the monetarist/new-classical ‘natural rate of unemployment’). In other words, capitalist societies always stagnate relative to their full potential, so, technically speaking, inflation always appears in the midst of stagnation – i.e., as *stagflation*” (Bichler and Nitzan 2015a: p. 23; see also Bichler and Nitzan 2009: Ch 16).

Canadian oil industries, as in the 1970s, “...foreign ‘majors’ own[ed] 91 percent of the petroleum industry, make 95 percent of the profits, and control 99.9 percent of total petroleum refining” (Hurtig 1976: p. 53; see also: Laxer 1974; Martin and Laxer 1976; Pratt 1976). While, (neo)Marxist Paul Kellogg (2015b) argues that:

[t]hroughout the 1950s and 1960s, Canadian control was quite low—less than 40%, while US control at times approached 60% and for much of those decades stayed above 50%. Through the 1970s and 1980s, however, the situation changed markedly. By 1986, 60% of the industry was in Canadian hands, and US control had sunk below 30%... There is no evidence of overwhelming US control (Kellogg 2015b: p. 230).

To reiterate, my argument is that ownership, in terms of nationality (where the corporation is located), does not dictate how a corporation performs in global capitalist accumulation (Bichler and Nitzan 2006). Instead, I argue that the benefactors, of course, are Canadian settlers, the Albertan and federal governments of Canada, both domestic and foreign corporations and investors (Dow 2016; Preston 2012). In general terms, the only disproportionately non-benefactors are the First Nations populations that live and have legal rights to the land (Coulthard 2014a; Hern et. al. 2018; Pearson and Ray 2016; Preston 2012, 2017; Slowey 2008; Slowey and Stefanick 2015;). The unequal and uneven wealth distribution between these social forces from Canada’s oil industry should be obviously critiqued, questioned, and addressed. Therefore, this section focuses on how the Canadian state, on a provincial, territorial and national level, has always been tightly bound in the processes of the shaping and reshaping of the Canadian oil industries (Chastko 2004; Davidson and Gismondi 2011; Fossum 1997; Nikiforuk 2010; Pratt 1976, 1982; Sweeny 2010).

Since the late 1880s, the colonial-settler state of Canada has reported that the tar sands are “the most extensive petroleum field in America, if not the world’ and ‘among the chief assets

comprised in the Crown Domain of the Dominion” (as cited by Nikiforuk 2010: p. 7).⁷² The Canadian federal government has always openly pursued various investors, corporations, scientists, etc. to make ‘tar sands’ viable (Chastko 2004; Nikiforuk 2010; Pratt 1976; Sweeny 2010). For example, Wilfred Laurier’s government “brought in the Petroleum Bounty Act of 1904, paying one and a half cents for every gallon of oil produced in Canada, including petroleum produced from oil shales and sands. This subsidy ended in 1925” (Sweeny 2010: p. 49). After 1925, both Albertan and Canadian governments have actively pursued using different means (policies, institutions, taxation, etc.) to attract more investment nationally and globally (mainly British and American) (Chastko 2004; Pratt 1976, 1982; Sweeny 2010). Yet, both Canadian political economy frameworks have largely failed to address how the birth of the global unconventional oil era was a planetary project premised on the maintenance of the carbonization of everyday life for globalized (mainly Western) social reproduction. The unconventional and offshore deposits era was a global phenomenon that led to economic development in the United Kingdom, Canada, United States, etc. in the 1970s (Klare 2014). The important question to ask is why did the ‘global scramble’ by international oil corporations lead to the birth of the unconventional oil era?

As seen above, the dominant oil corporations lost most of their reserves because of the ‘Third World’ decolonizing and nationalizing of their oil reserves. Both private and nationalized oil corporations are motivated to inflate reserve figures because they are capitalized on their future earnings from these reserves (Heinberg 2005: p. 103; see also: Di Muzio 2012). In other words,

⁷² “In 1882, by Dr. Robert Bell, who became chief geologist and acting director of the Geological Survey of Canada. Bell was considered Canada’s leading field scientist, and his claims that beneath the sandy pitch and tar bands lay ‘pools of petroleum’, embellished with images of bitumen bursting from the river banks, stimulated the Canadian Senate in 1888 to commission a Committee Report to Parliament...Sydney Ells, considered by some ‘the father of Alberta bituminous sands research’...field survey of the bituminous sands along the Athabasca River, in summer 1913...” (Davidson and Gismondi 2011: p. 41 and 46).

oil corporations are capitalized by their ability to shape and reshape the terrains of global social reproduction, through the production of fossil fuels. The primary difference between the two is that nationalized oil corporations are key revenue sources for state spending and financing their nation-states' national debt (Heinberg 2011; see also: Di Muzio 2012, 2015a). The dominant oil corporations then used their record profits from price increases to finance the 'global scramble' in order to find non-OPEC and non-nationalized oil reserves. Di Muzio (2015) notes this led to financing "the North Sea development as well as Prudhoe Bay – both relatively inhospitable territories posing significant technical challenges for oil production" (p. 174). The question still remains why did the dominant oil corporations seek out more 'technical and costly challenges' in eventually finding mainly unconventional oil reserves?

The rationale is embedded in that there are actual limitations in the biosphere. The contradiction lies within the fact that finding new conventional oilfields was rare, and when they were found, they were relatively small as well as the fact that global development is premised on a non-renewable energy source (Di Muzio 2012; Heinberg 2011). While oil reserves can be artificially inflated – what cannot be inflated is oilfield discoveries. The world's largest oilfields were nearly all found "in the decades of the 1930s through the 1960s" and "about 80 percent of the oil produced today flows from fields that were found before 1973, and the great majority of them are declining" (Heinberg 2011: p. 103 and 208; see Table 3).

Table 3: The World's 20 Biggest Oilfields by Year of Discovery

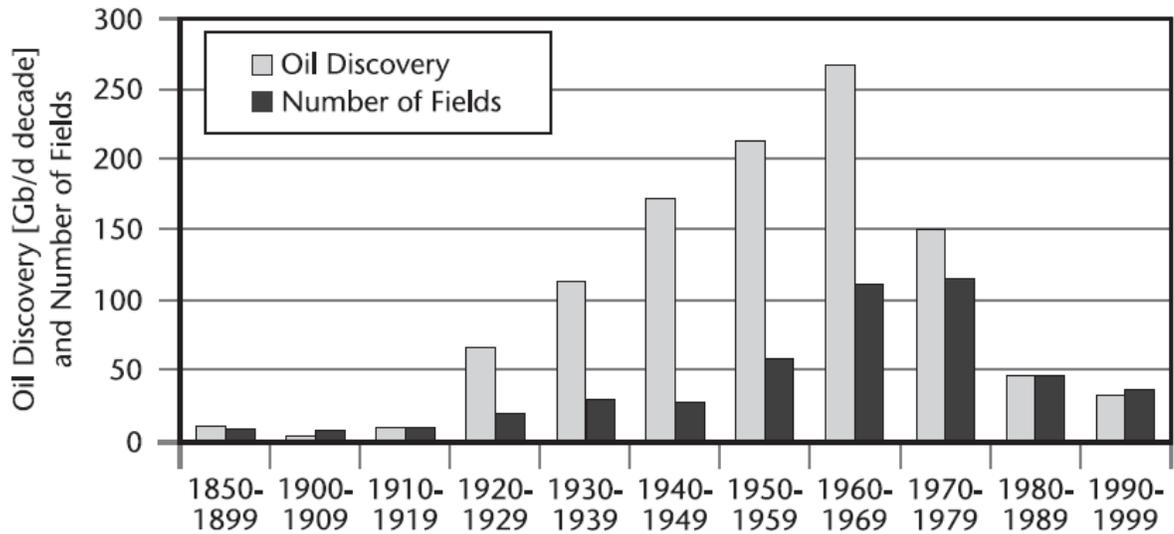
Field	Country	Location	Year of Discovery
Gachsaran	Iran	Onshore	1928
Greater Burgan	Kuwait	Onshore	1938
Qatif	Saudi Arabia	On/Off	1945
Ghawar	Saudi Arabia	Onshore	1948
Safaniyah	Saudi Arabia	On/Off	1951
Rumaila N & S	Iraq	Onshore	1953

Raudhatain	Kuwait	Onshore	1955
Ahwaz	Iran	Onshore	1958
Samotlor	Russia	Onshore	1960
Saertu (Daqing)	China	Onshore	1960
Samotlor (Main)	Russia	Onshore	1961
Fedorovo-Surguts	Russia	Onshore	1962
Bu Hasa	Abu Dhabi (UAE)	Onshore	1962
Marun	Iran	Onshore	1964
Zakum	Abu Dhabi (UAE)	Offshore	1964
Zuluf	Saudi Arabia	Offshore	1965
Shaybah	Saudi Arabia	Onshore	1968
Cantarell	Mexico	Offshore	1977
Priobskoye	Russia	Onshore	1982
Azeri-Chirag Guneshli	Azerbaijan	Onshore	1985

Source: Adapted from IEA. (2008). World Energy Outlook 2008. (Paris: France): p. 225

As conventional “global oil discoveries peaked in 1963”, this led the international oil companies to map a new petroleum world order (Heinberg 2005: p. 114; See Figure 8).

Figure 8: Giant oil field discoveries by decade



Source: Adapted from Richard Heinberg. (2003[2005]). The Party’s Over. (Gabriola Island: New Publishers Society): p. 124

Simply put, in finding all the possible global oil reserves, they concluded that “117 countries have no reserves whatsoever and a further 80 countries have less than 10 billion barrels of reserves” (Di Muzio 2015a: p. 164 p.; See Table 4).

Table 4: Conventional and non-Conventional⁷³ Oil Reserves by Country (over 10 Billion Barrels)

Country	Barrels (in billions)
Venezuela	300,900,000,000
Saudi Arabia	266,500,000,000
Canada	169,700,000,000
Iran	158,400,000,000
Iraq	142,500,000,000
Kuwait	101,500,000,000
United Arab Emirates	97,800,000,000
Russia	80,000,000,000
Libya	48,360,000,000
Nigeria	37,060,000,000
United States of America	36,520,000,000
Kazakhstan	30,000,000,000
China	25,620,000,000
Qatar	25,240,000,000
Brazil	13,000,000,000
Algeria	12,200,000,000

Source: Adapted from Central Intelligence Agency Factbook 2018; OPEC 2018; IEA 2017b. Retrieved from: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2244rank.html> and https://www.opec.org/opec_web/en/data_graphs/330.htm.

Therefore, although this figure includes ‘unconventional oil reserves’ which generally are not included in the category of proven reserves in the 1970s because of their prohibitive cost, it still demonstrates that there are only six non-OPEC countries that have larger reserves of 10 billion barrels. These countries are Brazil, Canada, China, Kazakhstan, Russia, and the United States of

⁷³ Central Agency of Intelligence (2018) states “[c]rude oil - proved reserves is the stock of proved reserves of crude oil, in barrels (bbl). Proved reserves are those quantities of petroleum which, by analysis of geological and engineering data, can be estimated with a high degree of confidence to be commercially recoverable from a given date forward, from known reservoirs and under current economic conditions.” Access here: <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2244rank.html> (on 01/01/2018).

America. These six countries, though, only account for roughly 363 billion barrels. Most of the roughly 1.2 trillion barrels of proven reserves “are owned and controlled by state-run oil and gas firms, mostly of the Middle East at 851 billion barrels of oil for the region” (Di Muzio 2015a: p. 165). Furthermore, in the 1970s, the Soviet Union controlled Kazakhstan, and China was also communist. This provides a much clearer picture as to why dominant oil corporations gave birth to the global unconventional oil era.

The development of the unconventional oil era, then, cannot be simply reduced to ‘high oil prices,’ ‘scarcity,’ or even the decline of United States hegemony in Canada (Pratt 1976). Instead, the development of the globe’s unconventional oil era should be conceptualized as the embedded logic of the unsustainable nature of global petro-market civilization, carbon capitalism, and energy-intensive social reproduction. This planetary ordering is predicated on unlimited growth and thereby the accumulation of evermore money, debt, and commodities, which need increasingly more energy. As economist E. F. Schumacher (1973, emphasis added) notes

[t]here is no substitute for energy. The whole edifice of modern society is built upon it. It is not ‘just another commodity’ but the precondition of all commodities, a basic factor equal with air, water and earth.

There is a tendency in conventional Canadian political economy literature to focus solely on high oil prices as the only factor that leads to unconventional oil development in Canada (Adkin 2016a; Clarke et. al. 2013; Haley 2011; Laxer 1974; Pratt 1976; Shrivastava and Stefanick 2015a). However, the problem with this thought process is that the global capitalist market ‘price’ system becomes ‘naturalized’ and ignores all social relations of power embedded in pricing, production and consumption of fossil fuels. Furthermore, conventional Canadian political economy articulates that the first attempt at developing Canada’s unconventional oil was a failed project because it dissipated, when oil prices and the Middle East ‘stabilized,’ in the 1980s and 1990s (Nikiforuk

2010; Pratt 1976; Sweeny 2010).⁷⁴ The importance of this political project, though, is it provided a profound solution to the world's growing energy needs that reemerges in the late 1990s (Klare 2014). It is not coincidental that the development of the tar sands returns in 1997 because carbon capitalism, being a future-oriented system, attempts to 'shape' or 'limit' the possibilities of the future of social reproduction (Chastko 2004; Di Muzio 2015a). Therefore, the unconventional oil era represents a more vicious carbon energy-intensive path dependency for all social forces involved in the global political economy and in Canada (Debair et. al 1991; Di Muzio 2015a; Di Muzio and Ovadia 2016a).

Since confederation, the colonial-settler state of Canada has always been seeking close connections with both British and American social forces in creating an 'Anglo-Saxon' centric world order (Anderson 1981; Arenson 2007; Bannerji 2000; Kramer 2002). The Canadian state has always sought to attract both foreign and domestic investment in the development of resources, starting first with wheat, timber, coal, then gold, and since World War 1, oil (Arenson 2007; Chastko 2004; Clarke 2008; de Mille 1969; Innis 1956; Sweeny 2010; Watkin 1963). This is seen in Chapter 3 which demonstrates that the Seven Sisters have always had a foothold in Canada, especially Imperial Oil (a Standard Oil of New Jersey subsidiary).⁷⁵ The development of the tar sands has always been dependent on the Canadian federal government. In 1905, Alberta and Saskatchewan became provinces from the Northwest Territories but were withheld giving titles "to the mineral rights and natural resources to the new provinces..." (Sweeny 2010: p. 49). "The

⁷⁴ "In 1985, the Saudis and other OPEC nations opened their taps, starting a price war that swamped world oil markets and pounded down prices by 60 percent in the late months of that year and in early 1986. In July 1986, world oil prices bottomed out at \$7.20 per barrel...[This] dealt a devastating blow to the Suncor and Syncrude projects. Losing \$5 to \$10 on every barrel of synthetic crude they produced, the companies had to make savage staff cuts and beg the Alberta government to re-jig their royalty rate to avoid a complete shutdown" (Sweeny 2010: p. 123).

⁷⁵ In the 1960s and 1970s, the "[f]our large companies - Imperial Oil, Gulf Oil Canada, Shell Canada, and Texaco Canada, all subsidiaries of the major international oil companies, the 'Seven Sisters' - were the largest players in the critically important petroleum sector" (Fossum 1997: p. 27).

Crown retained the mineral rights for approximately 95% of the province, including control over the Athabasca deposit” and the “federal jurisdiction over natural resources was officially transferred to the provinces in the 1930s, although the Federal government-maintained ownership of a leasehold and small tar sands mine...” (Chastko 2004: p. 3 and Gismondi and Davidson 2012: p. 53). The British were the first to be interested in Canada’s massive potential Athabasca deposit, in hopes of transitioning their Navy fleet from coal to Canadian oil (Chastko 2004; Sweeny 2010). The aftermath of World War I and World War II led to closer Canadian-American relations over the future of the Athabasca deposit⁷⁶ because both the Albertan and Canadian federal government have consistently created “an investment climate where American multinationals were encouraged to expand their operations in Western Canada” (Chastko 2004: p. 10 and 59).

There have been ‘three problems’ consistently throughout the history of attempting to develop the tar sands. The first is that the tar sands are not conventional oil deposits. Scientifically, the oil deposits are called ‘bitumen’ because they are a tar-like substance that exists within soil, clay, water and sand (Davidson and Gismondi 2011; Laxer 2015; Pratt 1976). The long historical ‘science experiment’ of separating bitumen from other substances was federally funded since the 1920s (Davidson and Gismondi 2011: p 49ff).⁷⁷ As a result, bitumen oil not only costs more to produce but requires specialized scientific and technological advancement in the process of separating the heavy crude from the sands and refineries to upgrade it to synthetic oil. The second

⁷⁶ Sweeny (2010: p. 62) notes “[i]n 1915, Shell had proposed it take control over the northern half of Alberta to secure petroleum for Royal Navy warships. Winston Churchill turned them down flat, because Shell was not a British-based company and had German connections. He turned the job over to the Anglo-Persian Oil Company and Burmah Oil...Imperial Oil, another major investor in the Sands...from 1917 to 1919, the Northwest Company Ltd., an Imperial Oil subsidiary, drilled for oil in Township 85 in the Athabasca region.”

⁷⁷ “Dr. Karl Clark, a University of Alberta scientist and employee of the provincially supported Research Council of Alberta (founded in 1921 with the initial purpose of pursuing industrialization of the Athabasca tar). Clark is credited with developing a hot water separation method in 1926. Clark’s separation research was protracted and messy. Over many years, he moved his research back and forth from university laboratory to wilderness workshop” (Davidson and Gismondi 2011: p. 49).

‘problem’ is due to its geographical location (Athabasca, Peace River, and Cold Lake) which is surrounded by the boreal forest (see Figure 9) and covers a landmass of roughly 140,200 km² (Parson and Ray 2016; Preston 2012; Sweeny 2010).

Figure 9: Alberta’s Unconventional Oil Deposits Location



Source: Adapted from Canadian Association of Petroleum Producers. (2018) “Oil Sands”. Accessed at: <https://www.capp.ca/canadian-oil-and-natural-gas/oil-sands> (01/01/2016).

Finally, although never mentioned in conventional Canadian history, is the so-called ‘third problem,’ which is the ongoing contestation of who owns the land between First Nations people vis-à-vis Alberta and the federal Canadian government (Clarke 2008; Nikiforuk 2010; Parson and Ray 2016; Preston 2012, 2017; Slowey 2008).

In 1941, Abasand Oil was the first successful plant to separate bitumen from substances which was used as a paving material not as an alternative fuel source (Chastko 2004: p. 15). The plant produced nearly 400 barrels of oil per day but burnt down within a year of operation (Davidson and Gismondi 2011: p. 56).⁷⁸ In 1967, Great Canadian Oil Sands Limited, which was

⁷⁸ The next attempt was “the Alberta government funded the building of Bitumount, a new experimental separation plant in 1946 and 1947 beginning in the summer of 1948...[Karl] Clark’s hot water method...only produced 500

owned by a United States firm called Sun Oil, now called Suncor, was the first to commercialize bitumen, after purchasing Abasand Oil's lease in 1958 (Chastko 2004; Davidson and Gismondi 2011; Pratt 1976; Preston 2017). From 1963 to 1970, Sun Oil had invested more than CAN\$250 million dollars before profits started to happen (Chastko 2004: p. 138).⁷⁹ Even in the early beginnings, the tar sands were almost entirely written off when Prudhoe Bay was 'discovered' in 1968 and were sabotaged through lobbying (Chastko 2004: p 133). The Canadian conventional oil industry was able to lobby Alberta's Premier Ernest Manning in order to protect their industry from competition (Davidson and Gismondi 2011). Premier Manning capped the

...tar sands output at no more than five percent of Alberta's annual conventional oil production, a goal his Government adopted in 1962. Manning's ceiling thus restricted the scale of the entire tar sands industry to less than 30,000 barrels. It also included plans for stiff lease and royalty payments of '8 percent on crude production up to 900,000 barrels and 20 percent' thereafter, as well as 16.66% on by-products (Davidson and Gismondi 2011: p. 59-60)

Interestingly enough, Sun Oil's President J. Howard Pew was well aware that global oil demand would increase. He was also aware of Hubbert's peak oil theory in the United States and saw the tar sands as fundamental to meeting future energy needs (Chastko 2004: p. 138).⁸⁰ Yet, for the first time in both Alberta and Canada's federal governmental history, they did not seem interested in developing the tar sands. As a result, President Pew had to convince both Alberta and Canada's government to support tar sands development.⁸¹ By 1968, President Pew was able to convince both

barrels of bitumen a day, but 'proved viability of the separation process and bitumen production'" (Davidson and Gismondi 2011: p. 58).

⁷⁹ Economist Sydney Blair argued that "any future commercial plant would need to be larger than 20,000 barrels/day to be profitable" (Davidson and Gismondi 2011: p. 58)

⁸⁰ "In order to guarantee a market for [bitumen oil], Sun pre-purchased 75% of the output at a contracted price, at a time when prices were expected to rise, as projected US and Canadian conventional oil production appeared to exceed projected demand" (Davidson and Gismondi 2011: p. 59-60).

⁸¹ Preston notes "[a]s the private sector strategically pressured Alberta's provincial government into increasing production quotas and opening the bitumen market up to the major oil and gas competitors, the province (through the Conservation Board) sought to protect the profitability of the small crude oil market while developing but safeguarding the bitumen market for the future; after all, crude oil brought in more provincial revenues from lease bonus payments, fees, rentals and royalties, as compared with bitumen" (2017: p. 12; see also Chastko 2007: p. 124).

Alberta and the federal government of Canada to produce 45,000 barrels of bitumen to be extracted per day in Sarnia, Ontario (Preston 2017: p. 12-4). However, global interest in the tar sands was sparked when the so-called OPEC embargo of 1973-4 happened. Then, with the price spike in oil that followed, there was no longer any form of debate that the unconventional oil era was to be born in Canada.

The first interest was by the dominant oil corporations operating in Canada, especially those in and around Cold Lake, Athabasca, and the Peace River area (mainly the Seven Sisters). These corporations responded to the near monopoly position that Great Canadian Oil Sands Limited had and Alberta's government limiting 'heavy oil' production by threatening to start developing United States shale oil (Chastko 2004; Preston 2017). The limits on 'heavy oil' were eventually eroded by newly elected Progressive Conservative Peter Lougheed (in 1971) who defeated the long-time ruling Alberta Social Credit Party (36 years) (Harrison 2015; Pratt 1982).⁸² One of Premier Lougheed's election promises was that he would give Albertans thousands of jobs through heavy crude oil production (Pratt 1976: p. 19). This ultimately led to the creation of Syncrude in 1975. Syncrude was comprised of "Imperial Oil (31.75% shares), Cities Services (22% shares), Gulf (16.75% shares) the Canadian Federal Government (15% shares), Alberta (10% shares), and Ontario (5% shares)" (Chatsko 2004: p. 158). Syncrude became the new prototype for public-private partnership energy ventures in Canada (Pratt 1976: p. 9). The other two major unconventional oil fields were developed by Shell Canada and Imperial Oil near Cold Lake in August 1978 (Chastko 2004). Syncrude, Shell Canada, and Imperial Oil were capable of producing

⁸² "Ironically, Social Credit's resource management policies and its discretionary spending of oil and gas rents in such areas as secondary education and the growth of municipalities helped to undermine the party's own social and political base: the rural, small-town, petite bourgeoisie" (Pratt 1982: p. 144).

an estimated 50,000 unconventional oil barrels a day, roughly 18.2 million a year (Alberta Oil Sands Technology and Research Authority 1977: p. 15; Davidson and Girmondi 2011; Pearson and Ray 2016). It should be noted that the vast amount of subsidization of Syncrude led Pratt (1976: p. 85) to argue that Syncrude's "heaviest costs and risks are being underwritten by the Canadian and Albertan governments, but this model of free enterprise in action is not exceptional. Oil, quite simply, is the biggest and most profitable welfare case on Earth". Yet, this was just the start of the unconventional oil era in Canada.

The development of the tar sands, within Canadian political economy, has been generally overshadowed by Canadian debates about federalism (Fossum 1997). Moreover, the fighting between Alberta and the federal government of Canada, especially over policies such as regulations, rent, royalties, fees, control, funding, etc., in the Canadian and Alberta's fossil fuel industries, has been long-standing (Bousfield 2016; Chastko 2004; Fossum 1997; Pratt 1982; Stevenson 1981; Sweeny 2010). This is extremely important research as it impacts the fossil fuel industry's development, oil corporations, investors, First Nations, Alberta and Canada's governments, and populations. Larry Pratt (1976) rightfully argues that it is primarily about the Western capitalist economies fetishization of 'economic growth' and consistently being pro-growth no matter the repercussions (e.g. the degradation of the environment and First Nations communities) (p. 104 and 111; see also: Adkin 2016a; Clarke et. al. 2013; Haley 2011; Nikiforuk 2010; Shrivastava and Stefanick 2015a). The other rationalization is over maintaining the terrains of fossil fuel dependency for global/national social reproduction.

The Liberal minority government (under Pierre Trudeau) passed legislation by the New Democratic Party (NDP) (official opposition) as a concession and started a nationally owned oil company. This was largely in response to the growing national consensus that foreign dominant

oil corporations had too much power. However, while controversial, this legislation also silenced more radical ideas and debates, such as the federal government nationalizing entire industries (Chastko 2004: p. 170; Fossum 1997). As a result, Petro-Canada was established in 1973 but did not begin to operate until 1976 (Fossum 1997: p. 33). In creating Petro-Canada, and later on, the National Energy Program (1980), Trudeau's government was a part of promoting so-called 'Canadian capital' development (Fossum 1997; Pratt 1982). The National Energy Program intended to

(a) promote exploration and development, while preventing windfall gains by the industry; (b) ensure a fair distribution of excess industry profits between the two levels of government; (c) confine exports; (d) encourage substitution of imported fuels with abundant indigenous sources of energy, and increase Canadianization...The principles guiding Ottawa's price regulation strategy were as follows: (a) domestic oil prices must be stable; (b) they must be high enough to encourage conservation; (c) they should reflect Canadian costs of production and not be linked to what was seen as arbitrary international oil prices; (d) gas prices should stay well below oil prices so as to encourage substitution away from oil; and (e) there should be a uniform price of oil for all of Canada (Fossum 1997: p. 129 - 130)

What is often ignored in this pursuit of 'Canadian capital', which was targeted at eliminating Canada's dependency on OPEC's oil and 'foreign ownership' of Canada's oil, is that the Canadian federal government was locking Canada into an unsustainable carbon energy future.

Petro-Canada became one of the largest social forces in developing the tar sands as the primary function of Petro-Canada was in exploration and drilling. Fossum argues the power of Petro-Canada was:

...acquiring vast areas and becoming the main landowner on the Canada Lands. Petro-Canada was also granted a number of rights or privileges in areas already under permit in 1976. As part of the so-called 'challenge system,' Petro-Canada could move in to drill exploratory wells that the holder of the rights to a prospect had refused to drill (1997: p. 59).

Petro-Canada also had CAN\$1.5 billion in spending power and held a 15 percent share in Syncrude, with 45 percent interest in Pan-arctic Oils (Sweeny 2010: p. 116). They operated very similarly to the dominant oil corporations insofar that they acquired over a 10 year-period: Atlantic Richfield Canada, Pacific Petroleum, Petrofina Canada, British Petroleum Canada (refineries and retail stations), Gulf Canada (retail stations). More importantly, they controlled roughly “11 million undeveloped exploration acres, and some oil sands leases on another 1.2 million acres” (Sweeny 2010: 9. 116). They also invested in:

several East Coast offshore programs using its funding to pick up the pace of exploration. In 1978, it bought a stake in the Hibernia oil discovery off Newfoundland and major gas finds off Nova Scotia, and in 1980, drilled its first offshore wells as operator of an exploration program off Labrador (Sweeny 2010: p. 116-7).

As a result, Petro-Canada quickly became the “second-largest integrated oil company in Canada, measured in terms of proven reserves of oil (conventional and synthetic); and the fifth-largest producer of conventional and synthetic oil in the country. It was the second-largest company in gas reserves, and the fourth-largest gas producer” by 1983 (Fossum 1997: p. 153-4). In short, Petro-Canada became an instrument of federal policy to reduce Canada’s dependence on OPEC’s oil and ‘challenged’ ‘American-based’ oil corporations (Fossum 1997: p. 31).

The conclusion of the 1970s unconventional oil rush provided the Albertan government with over 3 billion a year in oil revenue and increased Fort McMurray’s “population of 2,000 in 1964 when Great Canadian Oil Sands (Suncor) began work, to 9,542 people by 1974. By 1976, the Syncrude workforce grew to 10,000 and by 1978 the population had reached 35,000 (Foster 1979: p. 254; Davidson and Gismordi 2011: p. 78). Premier Lougheed “established the Alberta Heritage Savings Trust Fund, (\$1.5 billion initial deposit and a promise to put away another 30%

of future oil and gas royalties annually)” (Davidson and Gismordi 2011: p. 76). Moreover, Syncrude

paid an average of approximately \$1,600,000 per day to the people of Edmonton for wages, goods and services. This is an average of 3 dollars per day for every man, woman, and child in the metropolitan area... Dozens of engineering firms, pre-assembly and fabrication shops and literally hundreds of goods and services companies were active ... between 10 and 11 thousand people directly employed on the Syncrude site (Davidson and Gismordi 2011: p. 76).

In the first half of 1979, the Canadian “markets outperformed those of every other major country” (Foster 1979: p. 243). Finally, we should note that the so-called ‘economic gains’ were unevenly and unequally distributed amongst Albertan settlers, especially through a racialized and gendered lens (Dorow 2015; Fraser et. al. 2015; Nikiforuk 2010; O’Shayughnessy and Doğu 2016; Stefanick in Shrivastava 2015).

This all changed when Trudeau’s government established the National Energy Board and granted Petro-Canada a more competitive advantage across Canada in the 1980s (Fossum 1997). Global and national investors responded to both Petro-Canada and the National Energy Board (which regulated Canadian oil prices)⁸³ through massive investment or capital (money) strikes (Chastko 2004; Gill and Law 2008; Sweeny 2010). Stephen Gill and David Law (2008: p. 107ff) argue that an investment strike is a concrete example of the structural power of capitalist classes abilities to discipline the nation-state indirectly when ruling political parties no longer create a favourable investment climate.⁸⁴ For example, the Toronto Stock Exchange, in the oil and gas

⁸³ “In 1980, with the price of oil again on the rise, Liberal Prime Minister Pierre Trudeau announced the National Energy Program (NEP). Intended to secure prices of oil and gas for Canadians, the program heightened political tensions between Ottawa and Alberta. The problems worsened when Ottawa refused Syncrude and other oil companies the right to sell at world oil prices. Widely perceived as a financial rip-off by Albertans at the time, researchers estimate the NEP siphoned between \$50 to \$100 billion from Alberta’s coffers” (Davidson and Girmondi 2011: p. 79).

⁸⁴ Gill and Law (1988: p. 106) further state “[i]n so far as many of the top financiers have access to the government leaders, this indirect power may be supplemented by direct use of power, for example lobbying, and ‘gentlemanly’ arm-twisting. However, such pressure is secondary to what can be termed as the power of markets, notably the financial markets. This power constrains the participants in the market, including the government when it needs to raise finance.”

index, dropped by 800 points (CAN\$2.3 billion or 16 percent of the index's total value) (Chastko 2004: p. 184). Moreover, the Royal Bank of Canada warned that the 'Canadian energy industry needs roughly 350 billion to operate' per year and yet because of National Energy Board, 2 billion left daily (as cited by Chastko 2004: p. 186). Moreover, OPEC dropped the world oil prices in the 1980s and again in 1985-6, to \$7.20 per barrel. In short, "[m]ore than 25 percent of geophysical activity came to an abrupt halt, and the industry had to shut down or move south, 227 drilling and 107 service rigs valued at over \$1 billion, 40 percent of the drilling rigs in Alberta. It was the largest capital outflow in Canadian history" (Sweeny 2010: p. 122). These events are not only examples but reflect the larger historical global transformations of the structural power of capitalist classes (see Gill and Law 2008 for more examples and the differences between structural and relational power of capital).

Finally, we should also note that during the 1970s, both Canadian and American investors and corporations were funneling money not only into lobbying Albertan and Canadian governments to subsidize Canada's unconventional oil but powering Canadian think tanks (Acuña 2015; Gutstein 2009; Nikiforuk 2010; Pratt 1976).⁸⁵ The most notorious are the austerity and anti-government intervention driven think tanks the Fraser Institute (1974), the pro-Canadian oil lobbying group being the Canadian Petroleum Association (1957) and the establishment of Canada's business elite council - Business Council of National Issues (1976), re-branded as Canadian Council of Chief Executives (2002), and now Business Council of Canada (2016) (Brenner 2013; Clarke et. al. 2013; Gustein 2009; Pratt 1976). Pratt (1976: p. 9) warned 'Canadians' long ago that "[i]f power is defined as the ability to realize one's will and to achieve one's objectives, then the oil lobby necessarily must be reckoned as one of Canada's fundamental

⁸⁵ See Gill and law (2008) on the difference between structural and relational power of capital

power blocs” (for contemporary research on these think tanks: see Adkin 2016a; Clarke et. al. 2013; Gutstein 2009; Shrivastava and Stefanick 2015). The increasing awareness of both Western nation-states rising stagflation, the global ‘Third World’ debt crisis and the decline of Canada’s oil industries resulted in the Liberal Party not being re-elected. Canada, under the guise of think tanks’ propaganda, following Britain (under Margret Thatcher 1979 –1990) and the United States (under Ronald Regan 1981 – 1989), moved to follow the Progressive Conservative Party’s reign under Brian Mulroney (1984 – 1988) and what would become the early beginnings of the neoliberal era in Canada.

Many conventional Canadian historians are fixated on Canada and Alberta’s unconventional oil ‘economic gains’ (Chastko 2004; Foster 1979; Sweeny 2010), but the environmental damage was and still is substantial (Clarke 2008; Davidson and Gismordi 2011; Husemen and Short 2012; Nikiforuk 2010; Paskey et. al. 2013). For example, “[e]missions from the oil sands plants were identified in a 1979 government document as...predominantly sulphur dioxide and carbon monoxide with smaller quantities of nitrous oxides, particulates with metal oxides and water vapour” (Paskey et. al. 2013). Pratt (1976: p. 14) sums it up further that Fort McMurray and the landscapes that surrounded Cold Lake, Athabasca, and Peace River became ‘a biological barren landscape.’ The mass production of bitumen not only required open pit mines but also the removal of the boreal forest that was impeding development (Davidson and Gismordi 2011). According to Pratt, this process was done by:

...[s]crapers, bulldozers, heavy trucks and other weaponry of forced growth [which] are everywhere, gouging out new ‘industrial parks’ and mobile home parks to hold the overflow of unhoused workers and their families. Tent cities and trailer parks sprawl around the fringes of the town; McMurray is literally bursting at the seams (1976: p. 14)

As a result, the Albertan and the Canadian federal government became so obsessed with the idea of unlimited growth that there was no form of environmental or housing planning that kept up with the haphazard development of the region.

The other environmental impact was on the tailings ponds, which are still controversial today (Husemen and Short 2012; Nikiforuk 2010; Paskey et. al. 2013). In the words of Paskey et. al., tailings ponds are:

...a necessary step in the process that separates oil from the sand in which it is embedded. This process, usually referred to as upgrading bitumen, results in large amounts of waste water that holds sand, suspended minerals and unextracted bitumen. A study of tailings ponds conducted in the 1970s ‘showed the presence of organic acids, phenolic compounds, sulphur compounds, nitrogen compounds, hydrocarbons and several other classes of organic compounds in amounts totaling as much as 84 ppm in a single mining effluent. A number of these compounds are believed to be toxic to aquatic organisms. Since it can take years to reduce the toxicity through natural bioremediation processes after the deposition of tailings ceases, and since the solids take decades if not more to settle so they can be reclaimed, tailings ponds have long been considered the most dangerous environmental impact associated with mineable oil sands development (2013: p. 39).

In 1973, the Albertan government came out with a report entitled *An Environmental Study of the Athabasca Tar Sands* which stated that “[t]he disposal of tailings from the hot water extraction process represents the most imminent environmental constraint to the future...” (as cited in Paskey et. al. 2013: p. 39).⁸⁶ Interestingly enough, since the 1960s, tailings ponds leaked, especially near Aboriginal reserves (Clarke 2008; Huseman and Short 2012; Nikiforuk 2008). Yet, Paskey et. al. (2013) conducted a search into the media about the convergence of both oil sands and tailings ponds and found, during the 1970s and 1980s, there was not much discussion, except for this:

...[t]he perceived dangers of tailings ponds were reflected in two of the rare news stories from this era. An article in the *Globe and Mail* described the mechanical

⁸⁶ The report concludes to say “[t]he magnitude and significance of the tailings problem could deter the future development of the tar sands industry. As a short-term constraint, it is imperative that exterior tailings ponds be restricted in their size, location and duration of use. The ultimate resolution of the problem will require intensive and coordinated research by qualified agencies to eliminate the continuous accumulation of liquid tailings” (as cited by Paskey et. al. 2013: p. 39).

scarecrows with shotgun sounds that Syncrude was using to deter birds from landing on the ponds. A 1987 Globe and Mail article referred to tailings ponds as “tar lakes” Paskley et. al. 2014: p. 39ff.

The Treaty 8 First Nations populations were also tremendously impacted by the birth of the unconventional oil era but not in any ‘economic sense.’ For example, Pratt states that:

...[i]n McMurray the several thousand people of native extraction, and these descendants of the original inhabitants of the Athabasca country are being ignored in the frenetic pace of development. The native people of this region, like their brothers and sisters all over the country, are seeing only the underside of white Canada’s cornucopia (1976: p. 14).

Larry Pratt (1976) concludes that the “native population, living in shocking conditions relative to the standards of white Canadians” (p. 98). Since the 1960s, Huseman and Short (2012) have termed the tar sands development as ‘a slow industrial genocide’ towards the Aboriginal communities in the area. The reasons for this are the tremendous amount of environmental mass destruction, toxic water, and First Nations dispossession (and violation or ignoring of land treaty disputes) that comes with the development of the bituminous sands for capital accumulation and social reproduction. The Treaty 8 populations and their contested land become ‘sacrificial zones’ for the globalized unsustainable petro-market civilization that is foundational for both Canadian capitalists and settler social reproduction (Alfred 2009; Black et. al 2014; Coulthard 2014a; Dow 2016; Pasternak 2016; Preston 2017). This is seen consistently in how both Alberta and the federal government of Canada prioritize affluent social reproduction (Syncrude, Petro-Canada, etc.) that is dependent on reinforcing sacrificial zones that produce the evermore accumulation of power (registered in money) and fossil fuels across Canada. This liberal colonial governmentality produces a very violent and contradictory discourse of either elimination or assimilation towards Métis, Aboriginal and First Nations’ populations (Pasternak 2016). This governmentality becomes the everyday formulation of biopower and biopolitics that is perpetually reproduced across settler colonial

Canada (Alfred 2009; Brown 2014; Coulthard 2014a; Neu 2000; Stanley 2015). In other words, the biopolitics and biopower that is embedded in liberal colonial governmentality is driven by efforts “not to destroy but to produce life, as in methods to amalgamate Indigenous peoples, cultures and lands into the body of the settler nation” (Morgensen 2011: p. 68ff; see also Pasternak 2016). Since the 1857 Gradual Civilization Act, Aboriginal populations were subjected to ‘elimination’ through assimilation and tactics of structural violence for the uneven distributional effects of colonial and settler social reproduction (Alfred 2009; Coulthard 2014a). With the rise of Canada’s unconventional hydrocarbon industries, it should be of no surprise that Prime Minister Pierre Trudeau’s proposed White Paper (1969), which was later withdrawn, was primarily about undermining Aboriginal sovereignty and all land disputes by ‘transforming’ Canada’s assimilation process of Aboriginal, Métis, and First Nations under the rule of the Canadian state (Alfred 2009; Coulthard 2014a; Pasternak 2015, 2016).⁸⁷ To conclude, the Métis, Aboriginal and First Nations’ population have interconnected histories and struggles with ongoing global and national carbon capitalism, petro-market civilization and social reproduction which is predicated on the idea of unlimited growth and thereby the evermore monetization of fossil fuels.

The birth of the unconventional oil era is not just an industrial scar on Canada’s landscape or ‘a slow genocide’ on the First Nation, Métis, and Aboriginal population in the surrounding area (Brenner 2014 in Bernner et. al. 2014; Davidson and Gismordi 2011; Husemen and Short 2012; Pratt 1976). Rather, it highlights the fundamental contradiction embedded in carbon capitalism, petro-market civilization and carbon energy-intensive social reproduction the need to maintain the global path dependency of endless growth which rests on the production and consumption of

⁸⁷ The 1969 White Paper is officially called the ‘Statement of the Government of Canada on Indian Policy, 1969’. It was the federal government of Canada’s attempt to abolish previous legal documents pertaining to Indigenous peoples in Canada, including the Indian Act and treaties, and assimilate all Indian’ peoples under the Canadian state (Indigenous Foundations 2018; See http://indigenousfoundations.arts.ubc.ca/the_white_paper_1969).

evermore fossil fuels. The tar sands are not only the ‘true cost of oil’ but rather a planetary investment by global and national governments, corporations, investors (capitalists) and settlers that are willing to sacrifice future generations in order to reproduce and intensify the unsustainable world order.

Conclusion:

In conclusion, conventional international political economy frameworks have attempted to narrowly focus on the energy crisis in terms of the ‘energy security’ dilemma and the ‘decline’ of United States hegemony. Instead, I have argued that the energy crisis was a form of global sabotage. This global sabotage, intentionally or not, triggered “the unravelling of Keynesian economics” and helped to create a bedrock for neoliberal ideas (Mitchell 2011: p. 199; see also Debair et. al 1991; Di Muzio 2015a; Huber 2016; Smith-Nonini 2016). This is seen in three ways: 1) there was no ‘scarcity of oil’; 2) the ‘Third World’ debt crisis was created from petro-dollars lending and the Volker shocks; and 3) the stagflation crisis in the countries of the Global North was largely due to the price increase in oil (IMF 1974; Hamilton 1983; Bichler and Nitzan 1995, 2015a). Di Muzio (2015a: p. 177) notes the reason why this can be seen as global sabotage since:

...the over 400% increase in the price of oil was the overwhelming cause of high price inflation and it seems indisputable that forces inside and outside the government were behind encouraging the increase of oil prices. In this light, it was obvious how to stop inflation – quit generating instability in the Middle East by militarizing the region, quit stalling on the Palestinian question, quit promoting coups and last, quit tolerating OPEC price increases. But halting these processes was never Washington’s intention; it seems its intention was to see its oil companies prosper from price increases under the cover of OPEC while its major banks in the United States and the City of London recycled the windfall petro-dollars.

Di Muzio (2015a) demonstrates that the ‘Third World’ debt crisis was indeed triggered by the Volker interest rates shock that led to the Washington Consensus reinforcing neoliberal policy prescriptions called structural adjustment programmes by the World Bank and International

Monetary Fund (see also: George 1988; Goldman 2005; McMichael 1996; Williamson 1990). Meanwhile, in the Global North, think tanks, non-governmental organizations, political parties, corporations, institutions, commissions, etc. started to prescribe neoliberal policies to combat stagflation (Mitchell 2011). In other words, these so-called energy crises were about locking-in the global developmental trajectory onto a more carbon-based energy-intensive path dependency to combat debt, stagflation, and the larger crises of capital accumulation. This was another form of sabotage which ignored the growing consensus of climate change and, instead, redirected the global political economy towards a more intensified petro-market civilization.

The early beginnings of the global environmental movement of the 1960s and 1970s were largely ignored by both critical and conventional scholarship (Carson 1962; Dalby 2009; Heinberg 2011; Meadows [1972]2004; Mulligan 2010a, 2010b;([1999]2014); Nowell and Paterson 2010; O’Neil 2009; Oreskes and Conway 2010; Schumacher 1973; Speth 2005, 2008). The environmental movements were largely disregarded for multiple reasons. In other words, critical and conventional scholarship focused on: 1) larger crises of capital accumulation, 2) which would eventually lead to a new period of capitalism, known as neoliberalism, and 3) both tend to ignore the actual biophysical limitations of unlimited ‘economic growth’ and resources extractions in different ways (Clark and York 2005; Debair et. al 1991; Di Muzio 2015a; Duménil and Lévy 2004; Foster 1999; Gill 1995; Hamilton 1983; Harvey 2005; Smith-Nonini 2016; Springer et. al 2016). The ideological roots of neoliberalism are deeply connected to energy crises, as seen in Canada and the United States insofar that the

...increase in the price of oil assisted this process in a more direct way. As oil companies prospered in the boom, a handful of families in the United States turned their fortunes from oil into windfall funds for the neoliberal movement. Richard Mellon Scaife, heir to the Gulf Oil fortune of the Mellon family, used these funds to become the country’s largest benefactor of neoliberal free-market political organisations, giving at least \$340 million over four decades to such organisations

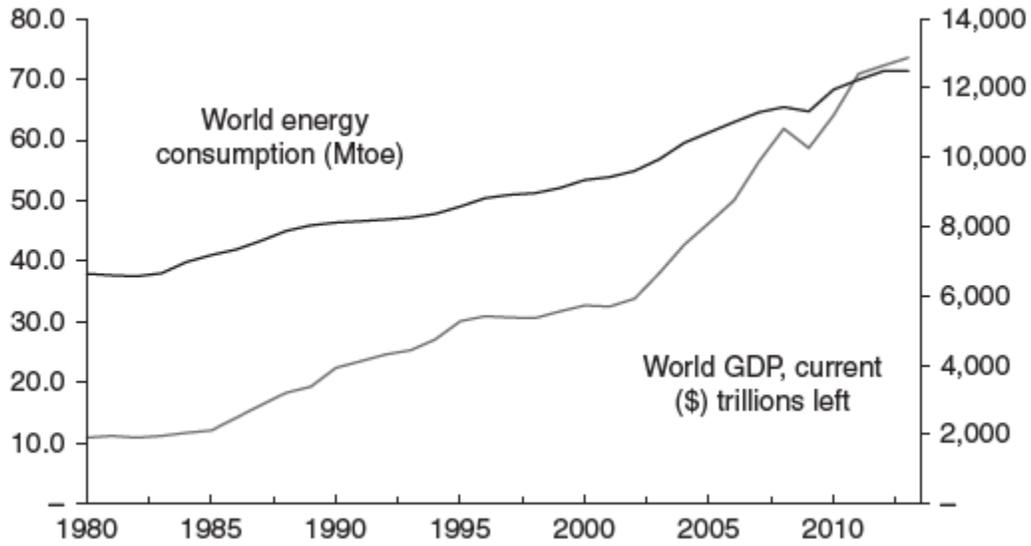
as the Heritage Foundation, the American Enterprise Institute, the Hoover Institution, the Manhattan Institute and the Center for Strategic and International Studies. Charles and David Koch, whose company Koch Industries was the largest privately held oil company in the US, played a similar role, and Charles Koch co-founded the Cato Institute in 1977 (Mitchell 2011: p. 197- 198).

Following the neo-Gramscian international relations perspective, the new global and national hegemonic consensus was about shifting the global developmental trajectory away from so-called ‘Keynesian economics’ towards ‘neoliberal economics’ (Gill 1991, 2008; Harvey 2005). Moreover, this funding helped think tanks, corporations, and other social forces to not only deny but hide actual climate change data and science that supported the claim that climate change was the outcome of human interactions through the current developmental trajectory of carbon capitalism, petro-market civilization, and Western social reproduction (Oreskes and Conway 2013; Supran and Oreskes 2017). Also, these think tanks and dominant oil corporations funded not only climate denialism research but viciously discredited any form of environmental scientists’ research (Oreskes and Conway 2013). The latest example of this is the material proof that Exxon (now ExxonMobil) knew that climate change was caused by human social reproduction being dependent on the production and consumption of fossil fuels since the 1970s. Yet, they not only ignored their own research but hid the findings from the global and American public and funded false oppositional research and advertisements (climate denialism) (Banerjee et. al. 2015; Jerving et. al. 2015; Supran and Oreskes 2017).⁸⁸

Finally, the unsustainable nature of carbon capitalism, petro-market civilization, and social reproduction only intensifies after these crises (see Figure 10, Figure 11; Appendix F).

⁸⁸ “We found that, from as early as the 1970s, Exxon Mobil (and its predecessors Exxon and Mobil) not only knew about emerging climate science, but also contributed research to it. Scientific reports and articles written or cowritten by Exxon Mobil employees acknowledged that global warming was a real and serious threat...Even while Exxon Mobil scientists were contributing to climate science and writing reports that explained it to their bosses, the company was paying for advertisements that told a very different tale.” (Supran and Oreskes 2017).

Figure 10: World Gross Domestic Product current (\$) and energy consumption (Mtoe)

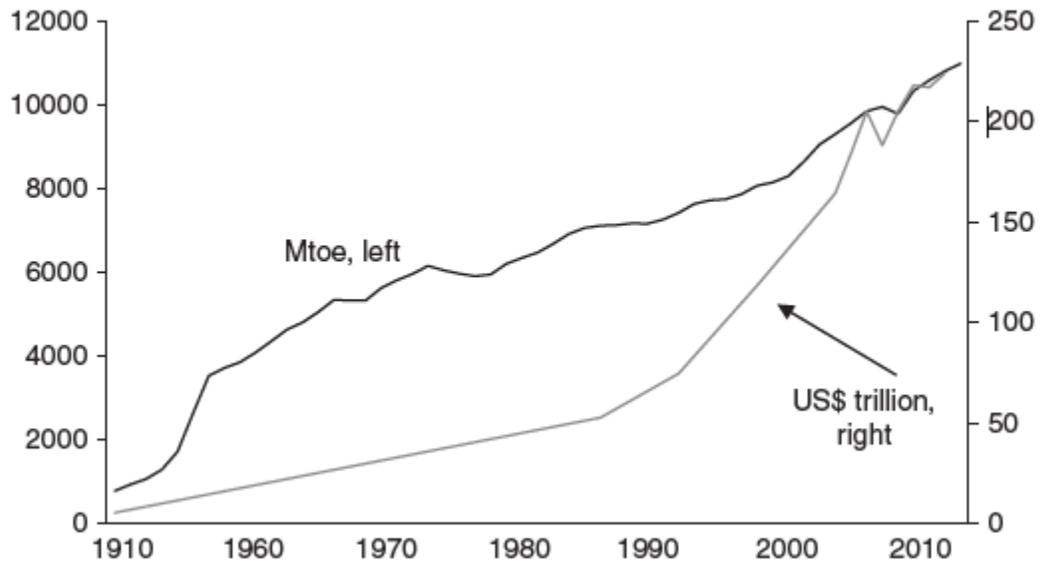


Source: Adapted from Tim Di Muzio and Jesse Salah Ovadia. (2016b). International Political Economy and the Unfashionable Problematic of Capital and Energy. In Tim Di Muzio and Jesse Salah Ovadia (eds.), Energy, Capitalism and World Order: Toward a New Agenda in International Political Economy. (New York: Palgrave Macmillan): p. 8.

As Figure 11 shows world energy consumption and gross domestic product are closely connected.

This is also the case of energy consumption and market capitalization, as Figure 11 illustrates below.

Figure 11: World Total Consumption of fossil fuels and Global Capitalization



Source: Adapted from Tim Di Muzio. (2016a). International Political Economy and the Unfashionable Problematic of Capital and Energy. In Tim Di Muzio and Jesse Salah Ovadia (eds.), Energy, Capitalism and World Order: Toward a New Agenda in International Political Economy. (New York: Palgrave Macmillan): p. 34.

What this reiterates is that fossil fuels, in particular oil, becomes the de facto ‘backbone’ of constituting and reconstituting the terrains of globalized social reproduction through the evermore accumulation of capital, commodities, debt, and the dramatic expansions and transformations in the global political economy. The unconventional oil era may have faded to the backdrop for a time during the 1980s, but it has reemerged once again in the 1990s and remains to this day, which will be explored in the following chapter.

Chapter Five: Canada's New Constitutionalism: Unlimited Growth Vs. Limited Democracy

Thus systems of surveillance as well as legal mechanisms associated with the regulation of trade and investment, money and finance, are premised, as the World Bank put it in its World Development Report of 1997, on 'locking in' the rights of capital and thereby 'locking out' democratic control over key aspects of the political economy.

– Stephen Gill's (2008: p. 221-22)
Power and Resistance in the New World Order

Introduction:

What are the new conditions of the 1990s that contribute to the acceleration of the global carbonization of social reproduction and tar sands development in Canada? The answer lies in the concept often labelled as neoliberalism. The concept of neoliberalism seems to be the contemporary global specter that haunts all realms of critical and social justice scholarship insofar as there has been an increasing amount of scholarship dedicated to the critique of this global political project. This scholarship is multifarious and addresses broad themes such as: 1) intellectual origins; 2) labour discipline; 3) austerity politics; 4) re-intensification of marketization/commodification of everyday life; 5) capital mobility or financialization; 6) urban gentrification, and 7) the intensification of inequality all across the intersectionality (race, gender, and class) spectrum (Bakker 2007, 2014; Bakker and Brodie 2008; Bakker and Gill 2003; Bezanson and Luxton 2006; Birch 2017; Brenner et. al. 2010; Cahill et. al. 2018; Cahill and Konings 2017; Eagleton-Pierce 2019; Gill 2015; Giroux 2008; Hall 2011; Harvey 2005; Katz 2001; Lee and McBride 2007; Lévy and Duménil 2011; McBride 2005; Panitch and Gindin 2012; Peck 2010; Roberts and Mahtani 2010; Saad-Filho and Johnston 2005; Soederberg et. al. 2005; Springer et. al. 2016). Due to the tremendous volume of research on neoliberalism, there have been many

interpretations on the concept of neoliberalism and what makes it distinct from previous world orders. I want to address what neoliberalism is as clearly as possible.

The origins of neoliberalism are still disputed but many contribute it to neoclassical economics scholars such as: Friedrich Von Hayek (Austrian Economic School), Milton Friedman, James Buchanan (Chicago School of Economics)⁸⁹, and the vast amount of global think tanks and political-corporate elitist organizations (Trilateral Commission, Business Council of National Issues, Mont Pelerin Society, Davos, etc.) that consistently argue for a so-called ‘global free market’ civilizational order (Cahill 2013, 2014; Gill 2008; Harmes 2006; Mirowski and Plehwe 2009). My theorization of neoliberalism is that it cannot be just reduced to the social forces and ideologies above but rather a debt-growth-restructuring nexus (Cahill 2013; Di Muzio and Robbins 2016). I argue that neoliberalism, as a series of applied political policies, originates in the debt crises of the ‘Third World’ as well as the non-democratic elected policy prescriptions that were created and then imposed by the Washington Consensus (George 1987; Soederberg 2004; Williamson 1990). These policy prescriptions would later be adopted in the late-1980s and 1990s by countries of the Global North through democratic elections to allegedly combat stagflation and government debt (Di Muzio and Robbins 2016). Neoliberalism, as a transnational debt-growth-restructuring logic, is underpinned by an ideology, rationality or governmentality that attempts to build the impossible ‘individualistic free market world order.’ Neoliberalism is distinct from previous world orders because it is often labeled as there is no alternative or the end of history because the neoliberal world order grew out of three global events: 1) the ‘Third World’ debt crisis, 2) Western stagflation (collapse of the Welfare state or Keynesian political economy), and 3) the collapse of the Soviet Union (collapse of the central planned economy) in 1991 (Fukuyama 1992;

⁸⁹ For differences of Austrian and Chicago Economic Schools, see Hunt [1979]2002 and Mirowski and Plehwe 2009.

McNally 2002). As a result, neoliberalism became a de facto new common-sense global path dependency. What makes neoliberalism distinct from previous global civilizational orders is how planetary life is re-ordered for the supremacy of capital accumulation. The neoliberal world order unevenly prioritizes and normalizes the patterns of Global North's affluent social reproduction and the acceleration of wealth and power of the so-called global 1% at the expense of planetary life by locking-in the world's developmental trajectory through debt, the quest for unlimited growth, and thereby a carbon-intensive energy future (Angus 2016; Bakker and Gill 2003; Brenner et. al. 2014; Di Muzio 2015a, 2015b; Gill 1995, 2008; Moore 2015).

This chapter specifically focuses on how Canada has become increasingly locked-in by what Stephen Gill (1995; 2008, 2014) has called disciplinary neoliberalism and the new constitutionalism – which are reforms, policies and laws that entrench capitalist social reproduction and make it more difficult to alter capitalist patterns of energy-intensive development (Gill and Cutler 2014; Gill 2015). In other words, carbon capitalism, as a mode of development, demonstrates that global investors and giant oil and gas firms are capitalized by their ability to lock-in the global political economy into a carbon dependent future. This provides a significant perspective that can be traced to developments in Canada since companies can be given greater access to those resources under conditions of disciplinary neoliberalism and new constitutionalism (Gill and Cutler 2014). Therefore, I argue Canada's new constitutionalism is about locking-in carbon capitalism and petro-market civilization for social reproduction while locking-out future possibilities of democratic intervention within Canada's political economy. In order to demonstrate the argument above, I provide an interconnected historical account of how the politics of energy led to the birth of free trade era in Canada (Adkin 2016; Brennan 2014; McBride 2005; Shrivastava and Stefanick 2015; Slowey 2008). Following this, the concepts of new

constitutionalism and disciplinary neoliberalism will be defined and I will explain how and why Canada has been locked-in to the supremacy of capital accumulation by examining the North American Free Trade Agreement (NAFTA) and the joining of the World Trade Organization (WTO) (Bousfield 2013, 2016; Harmes 2006, 2007, 2012; McBride 2003, 2005, 2006; Sinclair 2014). Finally, I will demonstrate that neoliberalism, as a debt-growth restructuring nexus, highlights Di Muzio and Robbins' (2016) argument that debt should be understood as a technology of power which provides a fundamental explanation to why Canada's governmental regimes are obsessed with growth (measured in gross domestic product) and are largely accepting of new constitutionalism and disciplinary neoliberalism policies. Therefore, I argue that the conceptual lens of new constitutionalism and disciplinary neoliberalism and the theoretical standpoint of debt as power provide great insight for why the tar sands were re-born in the late 1990s and continues to be under production and development.

Section I: From Energy Crises to Free Trade Era in Canada

This section is not about regurgitating the history of neoliberalism in Canada (see Klassen 2014; McBride 2005). Most Canadian political economy scholars attribute the birth of neoliberalism in Canada in the 1980s or 1990s to the federal governments of Brian Mulroney, Jean Chrétien, or Paul Martin where it then intensifies, especially under former Prime Minister Stephen Harper (McBride 2005; see also: Brodie 2008, 2014; Klassen 2014; Shrivastava and Stefanick 2015). Instead, my focus is on how the 'energy crises' of the 1970s and 1980s led to the so-called 'free trade' policies era in Canada. As discussed in Chapter 4, most of the countries of the Global North's stagflation was not because of increased government spending but rather due to the increase in the price of oil (Bichler and Nitzan 2015a; Di Muzio 2015a; Hamilton 1987). As this increased the price of all factors of production and social reproduction because oil (energy) is

essential (or intertwined) to these processes (Debair et. al. 1991; Di Muzio 2015a; Hall and Klitgaard 2012; Nikiforuk 2012). Unfortunately, (neo)Staples and (neo)Marxists return to their classic debate format – the ‘clash’ between who is more dominant ‘indigenous’ or ‘foreign’ capitalist classes in the reshaping of Canada’s ‘economic’ landscape towards neoliberal continental integration (Carroll 1986, 1989; Levitt 1970; Kellogg 2014; Klassen 2014; McBride 2005). In short, the debate around ‘free trade’ is predicated around the issue that “[e]ither indigenous capital had become thoroughly subservient to transnational corporations, or it had become strong enough, at least in certain sectors, to define its interests in terms of the continental rather than the national economy” (McBride 2005: p. 61; see also: Carroll 1986, 1989; Kellogg 2015a; Klassen 2014). As a result, this section will highlight that the emergence of the so-called ‘free trade era’ in Canada cannot be reduced to either ‘indigenous or foreign’ capitalist driven narratives but to the internationalization of the Canadian state and global capitalist classes (Cox 1986, 1992; Klassen 2014; Sinclair 2014). *Internationalization of the state* refers to the Canadian state as “converted into an agency for adjusting national economic policies and practices to the perceived exigencies of the global economy” (Cox 1992: p. 253–65).

The trade and investment liberalization theories are as “...old as the discipline of political economy itself, stretching as far back as the Scottish Enlightenment” (Brennan 2014: p. 59). However, since the conception of the colonial state of Canada in 1867, the federal Canadian government has favoured a National Policy that generally involves tariff protection (McBride 2005: Chp. 1; Naylor [1975]2006). The rise of the free trade era has a close connection between the pro-free market ideological social forces and business elite councils that emerged during the 1970s with the windfall of petrodollars and corporate oil money in the United States and Canada (Mitchell 2011; see also Acuña 2015; Adkin 2016; Brennan 2014; Carroll and Shaw 2001; Gill

1991; Gutstein 2009; Huber 2017). Interestingly, the Canadian federal government attempted to abandon the Keynesian approach shortly after the OPEC crisis in 1973-4. The reason for this paradigm shift, Stephen McBride (2005: p. 63) argues, is the “resurgence of interest in export-led and market-driven economic growth—in sharp contrast to the Keynesian tilt towards economic growth based on domestic economic management by the state.” At first, this paradigm shift from Keynesianism to Neoliberalism was contested and incomplete and actually seemed to be reversing by the late-1970s and early-1980s, as seen in the creation of Petro-Canada and National Energy Program (Fossum 1997; McBride 2005). However, this contestation between the shift of developmental paradigms in Canada was short-lived, for the following reasons; Canada’s economy was increasingly suffering from stagflation (largely because of the high oil prices) and the collapse of Canada’s oil industries was generally blamed on governmental intervention. This is seen in the case of the investment and capital strikes against Petro-Canada and the National Energy Program. As a result, Dan Bousfield (2016: p. 113) states “[t]he failure of the Canadian version of market-preserving federalism in dealing effectively with the 1970’s oil crises, increased the relative power of American visions of market-based solutions to energy problems.” As a result, what will be seen in the following section is how the Canadian state adopted the American-idea of market-preserving federalism (Harmes 2007).

Leo Panitch’s (1977) polemic edited volume *The Canadian State* has long demonstrated that there has been a tight relationship between Canadian businesses and Canadian governments (see also Porter 1965). In the 1980s, the terrains of this relationship were being vastly reshaped primarily by the creation of the Business Council of National Issues.⁹⁰ The Business Council of National Issues was established to create hegemonic consensus among the ‘Canadian’ business

⁹⁰ Re-branded as Canadian Council of Chief Executives (2002), and now Business Council of Canada (2016).

community⁹¹ (see Table 5) and became quickly unified on the idea of free trade (McBride 2005: p. 68).

Table 5: Business Council of National Issues Membership in 1989

Members	Numbers
17 Dominant Enterprises	27
Other Canadian Non-Financials	40
Foreign-controlled non-Financials	41
Government-controlled non-financials	2
Total non-Financial	110
Big Banks and their Subsidiaries	11
Other Canadian Financials	11
Foreign-controlled financials	8
Total Financial	30
Law, Accounting and Consulting Firms	7
Trade Associations	3
Total BCNI Members	150

Source: Adapted from Stephen McBride. (2005). Paradigm Shift: Globalization and the Canadian State. Halifax: Fernwood Publishing: p. 67.

This Canadian capitalist bloc had enormous structural power insofar that it:

...employed 1.5 million people and controlled assets of \$750 billion, or more than seven times the book value of the federal government's own assets. The top one hundred enterprises alone accounted for 'roughly 55 per cent of the total Canadian non-financial assets and profits' (Richardson 1992: p. 343, as cited by McBride 2005: p. 68).

This intensified the interlocking of governmental and corporate elitist networks as Noam Chomsky and Edward Herman (1988) long ago called the revolving door of politics or C. Wright Mills theorized as the power elite (Mills 1956; see also: Carroll 1989, 2010; Klassen and Carroll 2010; Porter 1965). The Business Council of National Issues "executive was divided into small task force committees that served as a 'shadow cabinet' monitoring various government ministries" (McBride 2005: p. 69). Their main objective was to help create a liberal-integrated-continentalism through the hegemonic consensus bloc of lobbying the United States government and reforming

⁹¹ There were also Transnational corporate elites in the Business Council of National Issues (See McBride 2001: p. 68ff).

'Canadians' to widely accept the free flow of commodities, finance, services and people between the United States and Canada. Stephen McBride (2001) states that it was more of a Canadian elite domestic push than international pull when it came to the creation of the free trade agreement era (my emphasis: p. 15 - 6). This political elite movement started in 1983 even though Brian Mulroney originally ran on a campaign against trade and investment liberalization, which was short-lived after being elected, as seen below (Brennan 2014: p. 63).

In 1984, Mulroney won the election in the same year he met Ronald Reagan at the Shamrock Summit in Quebec City (Brennan 2014). While no free trade deal was struck, it would take the Royal Commission on the Economic Union and Development Prospects for Canada (known as the MacDonald Commission) to recommend "...that Canada should pursue a free trade agreement with the United States, a move the report referred to as a 'leap of faith'" (Brennan 2014: endnote 2). As a result, both Canadian capitalist class and pro-free market ideological social forces pursued the United States for a 'free trade' agreement called the 'Canada-United States Free Trade Agreement' (CUFTA) which was signed in 1989 (Brennan 2014; McBride 2005) This first 'free trade agreement' between Canada and the United States, was not just about finance or trade but building a continental fossil fuel energy bloc (Chastko 2004: p. 200). Mulroney attempted to 'save' Canada's oil industry when he:

...travelled to New York to announce the end of the National Energy Program [NEP], declaring that 'Canada is open for business.' The new Conservative government dismantled the NEP in a series of accords reached with the oil-producing provinces and regions - accords that essentially abandoned most of the Trudeau government's NEP policies, more or less turning them upside down (Fossum 1997: p. 199).

Moreover, he began the slow process of privatizing Petro-Canada starting in 1991.⁹² Both of these steps were aimed at attracting global investors back to the tar sands. The “collapse of the National Energy Program, a weakened OPEC, and a more continentalist Canadian energy policy, strengthened the role and power of the provinces and the oil industry” (Fossum 1997: p. 229). The most important element, in terms of energy, in the free trade agreement, was regulation by the General Agreement on Tariffs and Trade (GATT) provisions (Fossum 1997: p. 231). In other words, it would hypothetically stop the Canadian government from attempting governmental interventions in the oil industries, as seen in the late-1970s and early 1980s. Finally, Mulroney provided over CAN\$7 billion dollars for the dominant oil corporations to develop ‘new energy projects’ across Canada, for example, Newfoundland’s Hibernia offshore project (which sank, see Klare 2014: p. 56), Alberta-Saskatchewan (heavy oil upgrader), natural gas pipeline to Vancouver Island, and created the Other Six Lease Operators project aimed at further developing the tar sands (Chastko 2004: p. 203). As Paul Chastko (2004: p. 204) states OSLO was a joint venture by six of the eight partners in the Syncrude consortium (Imperial Oil, Petro-Canada, PanCanadian Petroleum, Canadian Occidental, Gulf Canada, and the Province of Alberta); this joint venture collapsed in 1986 due to OPEC’s price drop.

As a result, this ‘leap of faith’ was primarily about creating what is now called ‘neoliberal continentalism’ (Klassen 2014). Conventional Canadian political economy approaches of both (neo)Marxists and (neo)Staples attempt to invoke their grand narratives of what this early free trade agreement meant in terms of Canadian capitalism. Whereas the (neo)Staples tradition argues that Canada’s nation-state and capitalist classes were becoming more subordinate to transnational

⁹² Petro-Canada was finally privatized in 2009 when Suncor Energy bought a 60% controlling share (worth CAN\$15 billion). With this acquisition, the Suncor Energy market’s capitalization jumped to CAN\$43 billion dollars (Austen 2009).

firms, (neo)Marxists argue that the early free trade agreement was about spreading and reinforcing Canadian firms continentally. The result, as seen in the next section, was primarily more concerned with creating a world order for global investors to lock-in nation-states for the supremacy of capital accumulation and locking-out ‘democracy,’ as the free trade era was not cemented in Canada until 1993. Jean Chrétien, the Liberal Prime Minister stated, “[p]rotection is not left wing or right wing; it is simply passé. Liberalization is not a right-wing or left-wing issue; it is simply a fact of life” (cited from Brennan 2014: p. 64). The North American Free Trade Agreement (NAFTA) was signed in 1994 by Canada, the United States, and Mexico⁹³ under the rationale that the ‘free trade’ agreement was a necessary condition of the so-called ‘new globalization era’ or neoliberal global capitalism (Brennan 2014; McBride 2005; see also Panitch and Gindin 2010). The second rationale was that NAFTA would create prosperity for all three national populations and increase: 1) gross domestic product growth; 2) labour productivity and 3) competition and innovation (Brennan 2014). The reason why this deepened and broadened form of trade and investment liberalization seemed so ‘promising’ was that Canada had intense recessions in the early 1990s (McCormack 2014). Brennan’s (2014) research, drawing from the capital as power perspective⁹⁴, demonstrates that NAFTA, under the ‘neoclassical economics’ benchmark performance standards, actually created the opposite conditions of what was forecast (See Table 6).

Table 6: Canada’s Basic Performative Political Economy Indicators from 1950 to 2000s

Measure	1950s	1960s	1970s	1980s	1990s	2000s
‘Real’ Gross Domestic Product	4.8	5.1	4.1	3.0	2.4	2.1
‘Real’ Wages	3.30	2.35	2.78	-0.02	0.63	-0.49
Labour Productivity	N/A	3.8	2.5	1.3	1.6	1.0

⁹³ At the time of writing, current United States President Donald Trump is waging ‘trade wars’ against Canada and Mexico and could be possibly pulling out of NAFTA (Sinclair 2018).

⁹⁴ For an overview of the capital as power perspective, see Bichler and Nitzan 2009 and Di Muzio 2013.

(Business Sector)						
Labour Productivity (Manufacturing)	3.9	4.4	3.4	2.2	3.3	1.0
Unemployment Rate	4.2	5.1	6.8	9.4	9.6	7.0

Source: Adapted from Jordan Brennan. (2014). NAFTA, Investiture and Redistribution. In Tim Di Muzio (ed.), The Capitalist Mode of Power: Critical Engagements with the Power Theory of Value. (London: Routledge): p. 64.

As seen above, all benchmark standards decreased or had relatively small improvements. So, what did NAFTA actually accomplish? The main achievement of Canada's trade and investment liberalization era, starting with CUFTA and intensifying under NAFTA, was the acceleration and concentration of market capitalization for dominant capital (the top 60 firms listed on the Toronto Stock Exchange). For example, Brennan notes:

...[i]n 1960 an average firm within dominant capital was five times as large (by market capitalization) as an average firm listed on the Toronto Stock Exchange. Thirty years later that ratio had risen from five to six. So the pre-trade and investment liberalization era saw very little movement in relative firm size. Most of the growth in the corporate sector was either evenly distributed between large and small firms or favoured the small (generating negative differential accumulation). Since the inception of a trade and investment liberalization regime, that ratio has risen from 6 to 23. Dominant capital, then, has effectively delinked from the rest of the corporate universe in the trade and investment liberalization era, suggesting that something dramatic happened precisely when the trade and investment liberalization regime was instituted (2014: p. 71).

We should recall that market capitalization is the primary indicator for global investors to locate a firm's strength in their ability to shape and reshape the future of global-national social reproduction. Brennan argues what sparked this massive concentration in dominant capital in Canada, under the trade and investment liberalization regime, was the following: 1) decreased competition amongst dominant firms, 2) de-unionization (through labour discipline) and 3) NAFTA became a de facto bill of rights for global investors and capital accumulation (2014: p. 65ff). As a result, I turn to Gill's concept of new constitutionalism and disciplinary neoliberalism

in order to demonstrate that NAFTA was much more than just a ‘free trade’ agreement, rather it was a part of a larger historical and global phenomenon.

Section II: Canada’s New Constitutionalism and Disciplinary Neoliberalism

The section provides a brief history of liberalism and neoliberalism as a reactionary political order against more radical or egalitarian forms of democracy. As a result, this section then engages with Stephen Gill’s concepts of new constitutionalism and disciplinary neoliberalism in order to demonstrate the global phenomenon of how the global social forces and political economy have juridically and structurally locked into the supremacy of capital accumulation that further restricts or constrains more radical alternative forms of social reproduction and democracy. This section also critiques the prevailing Canadian political economy approaches that both underestimate the structural power by social forces who shape or constrain the future, through new constitutionalism and disciplinary neoliberalism mechanisms. This should not be confused with the idea of the Canadian state or political economy as having become subservient to the United States.

We should recall that liberalism, as a global political order, has had a *longue durée* of eliminating (through colonialism and imperialism) or limiting (through constitutional structures) democracy (Barkawi and Laffey 1999; Losurdo 2011; Wood 1995; see also: Gill and Cutler 2014; Di Muzio 2014, 2015a; McKay 2000, 2010; Perelman 2000; Pilon 2017, 2018; Vitalis 2015). The concept of democracy as well as its origins in Canada are disputed because of the tendency in Canadian political science to conflate the terms of democracy, liberalism, and capitalism (Macpherson 1965; McKay 2000, 2010; Pilon 2017, 2018; Wood 1995). In Canada, Dennis Pilon (2018: p. 8-9) reminds us that “[t]he melding of liberalism with democracy in contemporary debate evinces a serious historical amnesia about the actual uses of liberal ideas in the nineteenth century,

and the consistent opposition of nineteenth century liberals to democracy.” This is seen in how both classical liberal philosophers and later liberal constitutional builders drafted national constitutional orders of society in Britain, Canada, the United States, and elsewhere. Although these were different, they were always from the standpoint of defending the ruling elite classes’ wealth and private property, especially against the threats of the masses and democracy (Di Muzio 2014; Losurdo 2011; McKay 2010; Perelman 2000; Pilon 2018; Wood 1995). The history of ‘actual existing democracy’ in Western liberal capitalist countries emerged during the crises of global liberal governance in the early 20th century (Pilon 2018; Therborn 1977). The aftermath of World War I led Western liberal capitalist nation-states to grant concessions of political rights and extend democracy to most formerly excluded social groups in these countries (Pilon 2018; Therborn 1977). That said, the global liberal capitalist political order was once again in chaos because of the energy and larger capitalist accumulation crises of the 1970s and 1980s (see Chapter 4). This crisis led to a different transition insofar that the governing Global North’s ‘common sense’ shifted from “the social liberalism of the Keynesian period towards a more neo-liberal sensibility” (Bakker 2014: p. 219-220; see also: Brodie 2007, 2014; Brown 2003, 2015). Since the 1970s, this neo-liberal sensibility has been the central geopolitical goal of both the United States and the other group of seven (G7) nations (Canada, France, Germany, Italy, France, and the United Kingdom) in developing a global constitutional order for the supremacy of capital accumulation and limiting democracy (Gill 1995, 2008; Gill and Cutler 2014).

This outlook cannot be reduced to the Trilateral Commission, a non-governmental organization that was founded by David Rockefeller, in July 1973. Yet, the Trilateral Commission was created as a private forum for ‘closer business cooperation’ amongst North American, Western

European, and Japanese business elites.⁹⁵ The Trilateral Commission published a book called “The Crisis of Democracy” in 1975 by Jōji Watanuki, Michel Crozier, and Samuel P. Huntington. Its thesis deserves reflection. Watanuki et. al. (1975) argued that Western liberal capitalist states had a crisis of governance because of an ‘excess of democracy’. Simply put, these nation-states were intervening on behalf of ‘democratic pressures’ in the terrains of both global market and social reproduction far too much (Chomsky 1981). This led to high government expenditures and therefore national debt and ‘inflation’. The authors’ solution was that the government should return to the realms of ‘politics proper’ (institutional authority) and leave social reproduction to the so-called apolitical market (Watanuki et. al. 1975). This political project was about reversing the victories by various social struggles to limit market forces in everyday life. It was replaced by limited democratic decision-making (state intervention) in Global North countries, known as the Welfare or Keynesian state. To reiterate, neoliberal sensibility is about reversing the limited democratic oversight with global market rationality over the terrains of globalized social reproduction (Bakker and Gill 2003). Neoliberalism, as a political project, is “reconfiguring the human being as homo oeconomicus” (Bakker 2014: p. 219) by ensuring that “all dimensions of human life are cast in terms of a market rationality” (Brown 2003: p. 40; Brown 2015; see also Bakker 2007, 2014). To conclude, neoliberalism, like neoclassical economics, perpetuates the social myth that the global market is an apolitical sphere and thereby removes any form of social power or discrimination that exists within it (Clark [1899]1908; Friedman 1962; Hayek 1948; (1941)[2009]; Samuelson 1962). The global capitalist market largely comprises and is controlled by global dominant owners of capital, also known as the global plutocratic class (Bichler and Nitzan 2009; Di Muzio 2015a, 2015b).

⁹⁵ For an excellent study of the Trilateral Commission, see Gill 1991.

Neoliberalism, as a new global constitutional order, is "...the political project of attempting to make transnational liberalism, and if possible liberal democratic capitalism, the sole model for future development" (Gill 2008: p. 139). This is seen in the World Bank's (1997) policy prescriptions that all nation-states should 'lock-in' to a neoliberal framework of capital accumulation as the only developmental trajectory (Gill and Cutler 2014: p. 4). Gill's conceptual lens of new constitutionalism and disciplinary neoliberalism describe different social forces and mechanisms embedded in the global neoliberal political project that are predicated on extending and deepening the power of capital and market civilization in the terrains of social reproduction (Gill and Cutler 2014: p. 6; see Gill 1995) The concept of disciplinary neoliberalism highlights how nation-states are disciplined and embedded in the process of "...intensifying and deepening the scope of market disciplines associated with the increasing power of capital in organizing social and world orders, and in so doing shaping the limits of the possible in people's everyday lives." (Gill and Cutler 2014: p. 6) Disciplinary neoliberalism has four global governance discipline measures embedded within the neoliberal world order. The first is the concept of new constitutionalism which represents the political-judicial counterpart to disciplinary neoliberalism. New constitutionalism is a mode of law or legal regulation that "...secure[s] uncontested and extended protection for private property rights and investor freedoms on a world scale, locked in by basic laws, constitutions and treaties such that these rights are likely to stretch well into the future..." (Gill 2014: p. 37). From the viewpoint of dominant owners of capital, new constitutionalism "imposes what are theoretically binding constraints on states' macroeconomic, trade, investment and industrial policies. New constitutionalism has sought to compel states to

operate under greater market discipline” (Gill 2014: p. 37-8).⁹⁶ In other words, this new form of global governance locks-in the global plutocratic class’s preferred patterns of social reproduction through constituting and enlarging world market rationality into everyday life. This also allows them the freedom to acquire, exchange or move their assets with very little democratic obstructions.

Therefore, dominant owners of global capital do not seek to limit the traditional authoritative roles of the nation-states to provide rule of law, authority, discipline, or violence but constrain the democratic process (state intervention into the political economy) that emerged in the Keynesian era (Bakker 2014; Brodie 2007; Brown 2003, 2015). New constitutionalism provides global capitalist-investor classes political rights to assure they will have confidence that their investments and assets are safe based on the “...credibility that governments will consistently assure political conditions to guarantee full security...” to the rights of not only private physical or intellectual properties but other capitalized income streams (Gill 2014: p. 39; See also Gill 1998b; World Bank 1997). This phase of neoliberal world order is the transitioning from Keynesian liberal democracy towards ‘market democracy’ through juridical-political laws whereby the supremacy of capital accumulation limits “actually existing democratic processes” (Gill 2014; Harmes 2001; Pilon 2018). The second disciplinary neoliberalism governance principle is self-discipline in the structures of everyday life by individuals, social classes or groups, allowing them in that process, to become increasingly subordinate to processes of capital accumulation. Most of humanity’s social reproduction is predicated on selling their ‘labour’ to strangers (the so-called capitalist market) to reproduce their livelihoods, this is becoming increasingly precarious

⁹⁶ “The aim of new constitutionalism is to allow dominant economic forces to be increasingly insulated from democratic rule and popular accountability. Indeed, in neo-liberal discourse ... private forms of power and authority are only fully stabilized when questions of economic rule ... are removed from politics” (Gill 1998: p. 23).

(Bakker and Gill 2003; Standing 2011). Whereas capital (money) and factors of productions can become transnationalized ‘spontaneously’ — the same cannot be said for actual human beings. This gives more power to global investors or dominant capital in structuring globalized social reproduction because of their ability to ‘invest’ or ‘remove’ their financial portfolios or factors of production from any national territorial space (structural power of capital). The third is the growing power of surveillance or panopticism by global institutions such as: the World Trade Organization (WTO), the International Monetary Fund (IMF), the World Bank, Bank for International Settlements (BIS), private bond-rating agencies such as Fitch, Moody’s and Standards and Poor, and the global banking industries since the Mexican financial crisis of 1994 - 5 (Gill 2008: p. 139). This global panopticism is primarily about disciplining all nation-states to comply with the supremacy of neoliberal capital accumulation or face consequences such as: downgrading bonds, capital or investment strikes, relocation of jobs, etc.

Finally, Gill argues disciplinary neoliberalism is underpinned by American geopolitical power as an ultimate guarantor, especially towards the Global South (Gill and Cutler 2014: p. 4). Since the late-1990s, this economic sanction-based or militarized-based form of disciplinary neoliberalism has accelerated since the United States military agenda has pursued full spectrum dominance whereby the United States has militarized supremacy over land, water, space and air (US Space Command 1997). The United States military budget has skyrocketed from roughly US\$400 billion in the late-1990s to over US\$600 billion (SIPRI 2018). For example, in 2016, global military spending was US\$1.69 trillion, the United States alone spent US\$611 billion, “nearly 3 times as much as China’s military spending, which was US\$215 billion” (SIPRI 2018). This monumental military spending began in World War I and World War II, increased during the confrontation with the Union of Soviet Socialist Republics, and later escalated even further during

the War on Terror. We should note that the War on Terror was underpinned by imperialism whereby the United States and North Atlantic Treaty Organization (NATO) militaries were used in militarized disciplinary neoliberal grand global strategy. This form of global militarism is now focused on spreading ‘globalization’ (global capitalism) to countries that have historically been ‘disconnected’ from this mode of development thereby securing the Global North’s affluent lifestyles (Barnett 2003; Di Muzio 2007; Dow 2010; Gill 2003, 2005; Harvey 2003; Klassen 2014; Klassen and Albo 2013).

Canada, unlike the Global South, has eagerly engineered, pursued and largely accepted particular global governance features of new constitutionalism and disciplinary neoliberalism as seen in the case of NAFTA and the World Trade Organization (WTO) (joined January 1st 1995) (Bousfield 2013, 2016; Clarkson 1993, 2002; Gill and Cutler 2014; Gill 1995, 2008; Grinspun and Krekewich 1994; Harnes 2006, 2007, 2012; McBride 2003, 2005, 2006; Schneiderman 2000, 2005; Sinclair 2014, 2018). The two conventional Canadian political economy interpretations on Canada signing NAFTA and joining the WTO is polar opposite. From the (neo)Staples perspective, NAFTA and the WTO are generally framed as United States-driven and, disproportionately benefit the United States’ government, United States-based investors or corporations (Laxer 2015: Chp. 4; See also Nikiforuk 2008; Sinclair 2018; Stanford 2008, Stanford et. al. 2014). In their opinion, the WTO and the NAFTA agreements attempt to limit Canada’s sovereignty over particular aspects of the political economy for foreign capitalists and corporations (Laxer 2015; McBride 2005). We should recall this was an internal-driven political objective by Canada’s revolving door of politics between business and governmental elites. Therefore, Canada’s so-called limited sovereignty was by invitation, not by global pressures or intervention (McBride 2005). On the other hand, Canadian-Marxists articulate this as a form of ‘neoliberal

continental integration’ not about how Canada has become a ‘colony’ to the United States (Kellogg 2014; Klassen 2014). Instead, Canadian-Marxists have a tendency to narrowly understand NAFTA and the WTO as just disciplining ‘unionized wage-workers’ and still relatively within the framework of the classical Marxism image of world order as inter-imperial rivalry, for global domination over the production of commodities. This is seen in how Canadian-Marxists generally theorize capitalists as just the owners of ‘productive’ means of production (mines, factories, etc.) (Gordon 2009; Gordon and Webber 2017; Kellogg 2014; Klassen 2014). Rather, I argue that the Canadian state and political economy joining the WTO and signing NAFTA represents how the global structural power of dominant owners of capital and investors lock-in the supremacy of capital accumulation to constrain both Canadian liberal democracy and alternative forms of social reproduction. The concepts of disciplinary neoliberalism and new constitutionalism provide important insight into understanding NAFTA and the WTO in three different ways that help overcome stagnation within the conventional Canadian political economy approaches. The first is that there is no separation between ‘economics’ and ‘politics’ as the Canadian nation-state is deeply involved in shaping the terrains of globalized social reproduction for dominant capital owners. The capital as power perspective conceptual lens of global dominant capital helps highlight there is always inherently a combination of dominant capitalists (or investors) and nation-states in restructuring globalized social reproduction, for capital accumulation (registered in money and rising capitalization) (Bichler and Nitzan 2009; Di Muzio 2013, 2015b). The second is that intellectual or physical private property is a form of sabotage as the power embedded to exclude others from use of or access to that ‘property’. Private property rights are at the heart of capitalist order. Forms of private property were historically protected by the nation-state (juridically or through monopoly of violence), but under the conditions of disciplinary

neoliberalism and new constitutionalism are now protected globally, partly through global institutions, like the WTO, and international treaties and agreements, like NAFTA, which are constitutionally binding on their signatories (Gill 2008). Finally, conventional Canadian political economy has had a tendency to ignore global capitalism, in terms of finance (as capital) and the power of global investors, not just in ownership of the so-called ‘means of production’ but the commodification of everyday life for differential capitalization. In other words, (neo)Staples and Canadian-Marxists scholarship have been short-sighted on addressing the power of global institutional investors in the reproduction of neoliberalism, especially in terms that global finance is neither fictitious or non-productive (Harmes 1998: p. 93).

Therefore, I argue, Canada like most nation-states, has locked-in to the logics of global carbon capitalism which appears to help accelerate the wealth and power of the global plutocratic class (Di Muzio 2015b). Canada has voluntarily committed to the supremacy of capital accumulation and has consistently had limited democratic interventions in terms of Canadian social reproduction. The difference between Canada’s domestic constitution and new constitutionalism is that the former is very loosely based on ‘democracy’ and is primarily about limiting democratic state intervention, for national capital accumulation. Whereas, new constitutionalism, as a global phenomenon, serves to lock-out or limit democratic intervention in Canada, for global capital accumulation. This is seen in how the previous trading liberal order, through the General Agreement on Tariffs and Trade (GATT), which Canada was a member of since 1948, was designed for shallow integration between nation-states and was far more concerned with “reducing tariffs and other border measures affecting trade in goods” (Sinclair 2014: p. 180; (McBride 2003). The neoliberal trade regime is not just about the trading of

commodities between nation-states, but about the locking-in of nation-states to the supremacy of capital accumulation and locking-out democratic intervention, as seen below.

NAFTA is not just simply a trade agreement, nor is the WTO just a global regulatory institution for trade (Bousfield 2013, 2016; Gill and Cutler 2014; Harmes 2006; McBride 2003, 2005, 2006), as Scott Sinclair notes

[a]t first glance, these are simply trade agreements. On closer inspection, however, they clearly are broader governance agreements designed to both prescribe and to restrict the role of the state in regulating the activities of international corporations. These groundbreaking agreements created a new legal and conceptual framework that redefined services – which had previously fallen largely beyond the scope of international trade rules – in terms of their potential for commercial exploitation by global firms and capital...trade and investment agreements serve as external, quasi-constitutions that protect and privilege the interests of corporate capital and transnational investors...Much like domestic constitutions, they bind governments over long periods of time to legally enforceable disciplines that are difficult to change... (2014: p. 179-180).

For example, NAFTA was the first free trade agreement of its kind that had provisions that “combine investment protection guarantees with comprehensive rules on cross-border trade in services. Its investment and services rules included relative standards to ensure non-discriminatory treatment of foreign investors and service suppliers” (Sinclair 2014: p. 180). NAFTA, under Article 102, is not just about the ‘elimination of trade barriers’ but is more concerned with increasing investment opportunities, protecting intellectual property rights, and creating lawful binding dispute resolutions (McBride 2003: p. 108). NAFTA, under Article 1116, reinforces the long history of treating corporations as ‘citizens’ (Bakan 2003). But it also goes further where “investors can directly submit a claim without ‘their’ government acting as an intermediary...It established a precedent in international economic agreements by giving corporations, for certain purposes, equal status with states (McBride 2003: p. 109-110). What this means is that the investment chapter of NAFTA provides “absolute standards of protection, such as expropriation-

compensation provisions, minimum standards of treatment and performance requirements prohibitions” (Sinclair 2014: p. 181). In other words, Chapter 11 of NAFTA, allows foreign investors and corporations the ability to sue the Canadian government (Sinclair 2018). This NAFTA investor–state dispute settlement mechanism allows “foreign investors to challenge and constrain public policy measures. Rulings are enforced through monetary damage awards” (Sinclair 2014: p. 182; see also Clarkson 2002; McBride 2003).

Since NAFTA’s conception, the Canadian governments (including provinces) have been sued “41 times under the investment provisions in NAFTA...Canada has lost eight and won nine and has paid out more than \$219 million in damages and settlements. To this amount, we can now add \$95 million in unrecoverable legal costs (Sinclair 2018: p. 1). Sinclair argues that NAFTA’s Chapter 11 continues to expand whereby investors commit to lawsuits that challenge any Canadian state regulation that they deem discriminatory, unfair, or that frustrates their expectations of potential profit (2018: p. 2; see Table 7).

Table 7: Canada’s summary of Disputes Filed Under NAFTA CHAPTER 11 to Jan 1, 2018

Respondent Country	Number of claims filed	Claimants’ industries (top five)	Types of Measure Challenged (top five)	Total compensation awarded	Disposition of cases
Canada	41	12 Resources 7 Energy 4 Private Investor 3 Chemicals 3 Pharmaceuticals	13 Resource management 12 Environmental protection 4 Health care, pharmaceuticals 3 Financial regulation, taxation	\$CAN 219.4 million	5 decided against Canada. 3 settled, with damages. 2 settled, without damages. 7 dismissed. 7 withdrawn.

			2 Energy		9 inactive. 8 ongoing.
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Source: Adapted from Scott Sinclair. (2018). Canada's Track Record Under NAFTA Chapter 11: North American Investor-State Disputes to January 2018. Canadian Centre for Policy Alternatives: p. 46. Retrieved from: <https://www.policyalternatives.ca/nafta2018>.

The Canadian state and provinces have been sued for attempting to regulate:

...harmful chemicals or toxic waste exports, to second-guess routine bureaucratic and administrative decisions, to expand private property rights to encompass publicly owned water and timber, to compensate investors when governments refuse to approve contentious proposals, or to restrict the ability of governments to enforce local economic development requirements in return for an investor's access to resources (Sinclair 2018: p. 8).⁹⁷

Due to the rate of success of investor lawsuits against Canadian governments, Sinclair (2014: p. 8) notes that “foreign investors and their legal advisors are turning to NAFTA Chapter 11 with increasing frequency and aggressiveness.” This demonstrates one aspect of how Canada has voluntarily committed to the supremacy of capital accumulation which places limits on ‘actually existing democracy’.

The other aspect of new constitutionalism, in Canada, is found within their membership of the WTO, unlike GATT which attempted to liberalize global trade. GATT was inefficient as there was no concrete way to bind (reinforce) nation-states to follow trade liberalization (McBride 2005, 2003; Sinclair 2000). In 1995, GATT transformed into the WTO but operates very differently. The WTO's objective was to develop a global trading system without discrimination; this umbrella agreement under the WTO is known as General Agreement on Trade in Services. “This means no discrimination in a country between its own and foreign products, services or nationals, and all of whom are given ‘national treatment.’ Any benefit given to one is extended to all” (McBride 2005: p. 114; See also Gill and Cutler 2014; McBride 2004). What makes the WTO significantly different

⁹⁷ For a fantastic summary of these disputes, see Sinclair 2018: p. 15ff.

than GATT is the WTO binds nation-states through global juridical rule under their provisions (McBride 2005: p. 114; Sinclair 2014). As the “[d]ispute settlement under the GATT was essentially diplomatic...Under the WTO, dispute settlement is legally binding” and similar to NAFTA allows foreign investors, corporations or governments to be compensated (Sinclair 2014: p. 182). The WTO, which is comprised of 164 members and 23 observer governments, out of 195 countries (including Palestine and Holy See), must conform to the four agreements embedded in the WTO’s agreements (see Table 8).

Table 8: World Trade Organization Agreements with Canada

<p>Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) (1995 – 01 – 01)</p> <p>Agreement on Trade-related Investment Measures (TRIMS) (1995 – 01 – 01)</p> <p>General Agreement on Tariffs and Trade 1994 (GATT) (1995 – 01 – 01)</p> <p>General Agreement on Trade in Services (GATS) (1995 – 01 – 01)</p>
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Source: Federal Government of Canada. (2018a). Canada and the World Trade Organization Retrieved from: http://international.gc.ca/world-monde/international_relations-relations_internationales/wto-omc/index.aspx?lang=eng.

As a result, similar to NAFTA, the WTO enforces intellectual property rights which were never entrenched in trade law before. The WTO ruthlessly protects all forms of corporate copyrights, trademarks, and patents from both foreign and domestic social forces (Cutler 2014). Moreover, General Agreement on Trade in Services and Trade-Related Aspects of Intellectual Property Rights, and articles of NAFTA, “codify, in different ways, the deeply regressive concept that foreign commercial service exporters and investors must be ‘compensated’ when new public services are created or existing ones are expanded” (Sinclair 2014: p. 183). Furthermore, the WTO, can remove members who have ‘broken’ any agreement that they enforce (Sinclair 2014).

As Harnes has demonstrated, Canada’s federalism has drastically changed since the signing of NAFTA and the joining of the WTO, towards what is called market-preserving

federalism (2006, 2014). Canada's market-preserving federalism has regional and global implications as it is a "decentralized form of federalism, except on issues related to protecting property rights, enforcing contracts and maintaining markets" (Harmes 2014: p. 154-5; see also Bousfield 2013, 2016; Harmes 2006). Market-preserving federalism

impose[s] constraints on social democratic forms of government intervention through the creation of an exit option and inter-jurisdictional policy competition. This means that, at all levels, neo-liberals seek to have the private economy, in the form of free trade and capital mobility, operate at least one level above that of tax and regulatory capabilities related to wealth redistribution and the correction of market failures (Harmes 2014: p. 154-5).

In other words, if any form of Canadian government (local, provincial, federal) attempted to expand public service into new areas, they "face the prospect of investor-state claims for compensation from foreign investors whose economic interests are allegedly expropriated (Sinclair 2014: p. 184). For example,

"in a study for a Royal Commission examining the future of the Canadian health care system, one of the country's leading trade lawyers concluded that if the NAFTA's expropriation/compensation provisions and investor-state dispute settlement 'had existed in the 1960s, the public health care system in its present form would never have come into existence'. This observation could be similarly applied to a range of other public services, from a national postal system to municipal utilities (such as drinking water, waste management or public transit) that traditionally rely on public monopolies." (Sinclair 2014: p. 184).

This market-preserving federalism, through NAFTA and the WTO, was only the beginning. The Canadian federal government has increasingly sought out Foreign Investment Promotion and Protection Agreements and free trade agreements to lock both Canada and other nation-states into a neoliberal world order through new constitutionalism and disciplinary neoliberalism governance (see Appendix G). Since 1993, Canada has actively pursued and signed 41 foreign investment protection and free trade agreements (see Appendix G). The significance and magnitude of this is that the Canadian state, globally and domestically, on the behalf of dominant investors and

corporations, is reinforcing a neoliberal word order. As the countries that have accepted these agreements with Canada have become locked-into the supremacy of capital accumulation where financial investment and property rights are protected over domestic governance structures and institutions (Gill 2017). This is no surprise as the Canadian state is encompassed within a global imperial bloc (with the other G7 countries) and has a globally dominant capitalist class (Gill 2003, 2005; Gordon 2009; Gordon and Webber 2017; Klassen 2009, 2014; Klassen and Albo 2013). As highlighted by the Canadian International Development Platform (2018) that demonstrates Canada's foreign direct investment abroad far outpaces foreign direct investment inward (See also Klassen 2009, 2014). In 2014, foreign direct investment in Canada was roughly \$CAN782 billion (abroad) compared to \$CAN89 billion (inward) (CIDP 2018). In other words, Canada's dominant capital abroad is about locking-in other nation-states to the neoliberal world order for the supremacy of capital accumulation.

The question becomes why is Canada openly and globally reinforcing a neoliberal sensibility into globalized social reproduction? This question will be addressed below but is generally ignored by the conventional Canadian political economy approaches. Instead, both conventional Canadian political economy paradigms agree that Canada should leave both NAFTA and the WTO but for different reasons. (Neo)Staples have the tendency to believe that Canada is now subservient to the United States. For example, Gordon Laxer (2015) argues that the NAFTA energy proportional sharing clause requires "NAFTA members to make available the current share of energy exports to other members countries even when facing energy shortages at home" (p. 92-3). Under NAFTA, article 605, "exporters can't disrupt 'normal channels of supply' or 'normal proportions among specific energy' goods by, for example, substituting light crude for a heavier variety. Proportionality is based on total 'supply,' not 'production'" (p. 93). Therefore, under

NAFTA, the proportionality clause, supposedly favours the United States, as the United States is not fossil fuels (energy) sufficient. In other words, since OPEC nationalism or President Nixon's 'project energy independence,' the United States grand energy strategy, towards Canada, has been to lock-in and protect their global oil corporations' interests, property, and energy security over their closest ally (Laxer 2015; Nikiforuk 2008; Pratt 1976). On the other hand, (neo)Marxists theorize NAFTA and the WTO as symptoms of global neoliberal capitalism insofar as Canada is an imperialist country, which has a dominant capitalist class, yet is not subservient to the United States but has joined their informal empire (Gordon 2009; Klassen 2014; Panitch and Gindin 2012). Therefore, (neo)Marxists want out of NAFTA and the WTO because it promotes global capitalism, broadens and deepens worker exploitation, and their political objective is to 'renew socialism' nationally and abroad (Panitch 2001). Yet, there is a tendency by both conventional Canadian political science and political economy to strongly believe leaving the WTO or NAFTA will have no repercussions in Canada (Krikorian 2012; McBride 2005). McBride states:

...[t]he fact that Canada can withdraw with minimal formal difficulty from agreements like NAFTA and the WTO signifies that its international legal sovereignty remains intact. To the extent that the agreements alter the configuration of domestic authority, or restrict the scope for exercising such authority, they represent a negotiated, by-invitation infringement of other forms of other sovereignty (2005: p. 111).

The problem with this analysis is conventional Canadian Political Economy literature underestimates the structural power of global investors, debt managers, and banks in their ability to shape or constrain the future, especially under the guise of disciplinary neoliberalism (Di Muzio and Robbins 2016; Gill 1995). They ignore the power of debt and dependency of unlimited growth for the social reproduction of all capitalist states.

Section III: Unlimited Growth and Debt as Power

This section conceives the neoliberal world order, as a debt-growth-restructuring nexus, which involves the discursive and calculative frameworks of globalized society that are ruled by numbers (mathematical equations or modelling)⁹⁸, especially in terms of debt and so-called ‘economic growth’ (Altvater 2009; Di Muzio and Robbins 2016; Fioramonti 2013, 2014; Hamilton 2004). Unlike the famous neoclassical economist, Fredrick Von Hayek, who claimed “[w]e make constant use of formulas, symbols, and rules whose meaning we do not understand, [which] have in turn become the foundation of the civilization we have built up” (as cited by Fioramonti 2014: p. 1). Instead, I argue ‘economic growth’ and ‘debt’ are not ahistorical, powerless or value-free numbers but rather fundamental ways globalized society is organized.⁹⁹ This is demonstrated in how neoliberal sensibility is primarily about re-arranging social reproduction in terms of market rationality. Thus, it should be of no surprise that the strengthened technocracy in global, national, and local governance institutions have used ‘economic growth’ and ‘debt’ to justify neoliberal policy prescriptions that have always reinforced the logic of the global market and prices over global social reproduction. Therefore, this section will elaborate what ‘economic growth’ and debt are and why and how the debt-growth-restructuring is at the heart of the neoliberal world order (Di Muzio and Robbins 2016).

The history of measuring a country’s wealth and growth is rooted in British colonialism. The British economist William Petty attempted to measure the national wealth of Ireland after Oliver Cromwell’s ‘successful’ re-colonization campaign (1649 – 1659) (Fioramonti 2013: p. 10).

⁹⁸ “We measure and compare every day. We continually assess ourselves based on general (and generic) scales of beauty, intelligence, smartness and success. We quantify everything, from income to sexual performance, quality of life and happiness. Our life is surrounded by numbers. We are so accustomed to them that we do not realize their power anymore” (Fioramonti 2014: p. 2).

⁹⁹ To rephrase, Robert W. Cox’s (1982: p. 128) seminal statement, *statistics or numbers* (theories) *are always for someone and for some purpose*. As Fioramonti (2014) states “[s]tatistics are tools, used for particular purposes. Thinking critically about statistics requires understanding their place in society...Statistics are, by definition, static: ‘But real life isn’t still’” (p. 16 - 17).

He developed the first mathematical formulae to measure Ireland's property and labour value for the purposes of justifying colonialism and taxation for the British Crown (Fioramonti 2013: p. 10). The second British attempt was by Adam Smith who divided human society into two different categories in order to measure a country's wealth. This division was between the 'productive' or 'unproductive' labour of individuals. Productive labour is 'individuals' involved in the creation of commodities that would later be consumed (Fioramonti 2013: p. 11). This leads us to Marx. Marx maintained two of Smith's propositions, although differently, in understanding the wealth and growth of a nation. He divided the wealth of nations between 'productive' and 'non-productive' labourers. The primary difference between Marx and Smith is labour exploitation; for Marx, it is central to capitalists' 'economic growth.' Whereas Smith saw a country's wealth could emerge from spontaneous and voluntarily social relations between individuals in the production and consumption of commodities, Marx argues that all 'economic growth' is based on exploitative or unequal wealth distribution embedded in class structures of particular modes of production (Banaji 2010). The difference in 'economic growth', under capitalism, was that it was tied to increasing commodity production and consumption and, therefore, industrial capitalists exploiting industrial workers. Marx states:

...[c]apital, therefore, is not only the command over labour, as Adam Smith thought. It is essentially the command over unpaid labour. All surplus-value, whatever particular form (profit, interest or rent) it may subsequently crystallize into, is in substance the materialization of unpaid labour-time (Marx [1867]1976: p. 672).

Specifically, a country's wealth and growth are founded on industrial workers who produce most of the nation-state's wealth, through commodity production, not capitalists who "...have long ceased to work" (Marx [1867]1976: p. 872). Even though Marx highlights the nature of capitalism, 'economic growth' was based on political violence, exploitation and unequal distribution of wealth. He, however, like Petty and Smith, still theorized 'economic growth' as being synonymous

with progress and rooted in the production and consumption of commodities. In this way, classical European political economy under-theorizes how colonialism and slavery fit into ‘economic growth’ and a nation-state’s wealth (Bodley 2015; Di Muzio and Dow 2017; Fioramonti 2013; Wright 2004).

In 1934, the measurement used to calculate a nation’s wealth was reconfigured by United States neoclassical economist Simon Kuznets. He provided the first definition of gross national product that is used today to measure a country’s wealth (Fioramonti 2013: p. 11 – 12). That said, in the 1990s, gross national product was relabeled as gross domestic product. Gross domestic product, or GDP, as it will be referred to from this point forward, “measures the value of goods and services produced in a given time period, generally every three months. It measures production output in terms of market prices and can be represented by the following formula: $GDP = \text{consumption} + \text{investment} + \text{government spending} + \text{exports} - \text{imports}$ ” (Fioramonti 2013: p. 12 - 13).¹⁰⁰ While this has expanded the measurement of a country’s wealth from just land and labour and seems ‘objective’ (value-free) or ‘mathematically sound,’ we should recall that neoclassical economists measure capital goods (factors of production) and services in utils (happiness). In other words, GDP is usually portrayed as a ‘satisfaction index’ or a ‘progressive indicator’ as the foundational assumption of GDP growth is that human life is getting better (Fioramonti 2013: p. 10). This has cemented the belief that a country’s wealth and growth are still predicated on spontaneous and voluntarily individualized (consumers and producers) based patterns for the purpose of accumulating ‘happiness’ (utils). But is GDP this apolitical a number?

Gross domestic product is not a neutral number (or statistic) but rather one of the fundamental ways the global capitalist mode of development measures and organizes the terrains

¹⁰⁰ There are three ways to measure gross domestic product (GDP). See Fioramonti 2013: p. 12- 13.

of globalized social reproduction. The reason for this is that GDP is premised on infinite economic growth and thereby production and consumption must be endless. GDP growth has become a yardstick - measuring the success of both 'economies' and 'politicians' as it influences macroeconomic governmental policies and priorities insofar that government spending and debt is influenced by this growth rate (Fioramonti 2013: p. 14). All public goods (education, health care, military, etc.) are tied to GDP growth and if growth declines, so does social spending, unless the nation-state becomes more indebted or raises taxation. As a result, GDP has become the 'global definition of power' to the extent that countries are globally ranked by their GDP and allowed into inclusive global governance institutions based on their GDP performance (i.e. Group of Seven or Twenty¹⁰¹) (Fioramonti 2013: p. 10). Countries with the highest GDP or GDP performance have incredible power as planetary leaders in shaping the terrains of globalized social reproduction. That said, countries with sluggish GDP performance are forced "into a vicious circle of structural adjustments and macroeconomic reforms, mostly dictated by the World Bank and the International Monetary Fund, in partnership with international investors and financial markets" (Fioramonti 2013: p. 32ff). In short, the global developmental trajectory is now dependent on GDP growth, which broadens and deepens market supremacy (Fioramonti 2013: p. 95).

The reason why GDP growth reinforces market supremacy as the only developmental trajectory is the fundamental fact that underlying power relations are embedded in calculating and discounting the production and consumption of 'goods' and 'services' when measuring GDP. 'Economists' only measure (or count) a nation's wealth through the practices of production and consumption patterns that generate money. This excludes or discounts what is not 'monetized or

¹⁰¹ The group of twenty also known as the G20 encompasses the following countries: Argentina, Australia, Brazil, Canada, China, the European Union, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Spain (by invitation), the United Kingdom, and the United States.

directly monetizable' such as: the informal economy, household services, voluntary work, and self-production/self-consumption, etc. (Fioramonti 2013: p. 86). GDP growth then prioritizes and inherently hinges on "...nothing else than the sum of goods and services measured in terms of market prices" (Fioramonti 2014: p. 33). In other words, GDP is just the latest 'measurement' of echoing the long tradition of European political economy literature assumptions that there are two types of labour, 'productive' and 'non-productive,' which negatively excludes and under-values labour embedded in the biological (and caring) forms of social reproduction, predominately done by women and marginalized people, as critical feminists have continuously pointed out (Bakker 2003, 2007; Beneria 1979, 1999; Federici 2004; Himmelweit 1995; Mies 1999; Picchio 1992). This is one reason why women, who represent roughly a little over half the world's population, have been strategically silent from 'economic policies' in Canada and globally (Bakker 1994; Bakker and Brodie 2008). Finally, GDP discounts or externalizes all negative implications of this form of infinite 'economic growth'. For example, pollution, environmental destruction, natural disasters, social inequality, distress/violence or discrimination, etc., often 'magically disappear' from calculating GDP unless they are commodified or capitalized on. In other words, the cost of dealing with them is added to GDP. (Altvater 2009; Di Muzio and Robbins 2016; Fioramonti 2013, 2014; Hamilton 2004). Therefore, the underlying political objective of gross domestic product growth is to perpetuate the reordering of globalized social reproduction to become dependent on petro-market civilization, which predominately benefits, is owned, and controlled by the 0.01% (Altvater 2009; Di Muzio 2015a, 2015b).

As a result, with GDP based on the accumulation of money, we should probably know what money is (Fioramonti 2013, 2014). The actual comprehensive history of money is far too long to address here (Di Muzio and Robbins 2017; Graeber 2011; Ingham 2004; Koddenbrock

2017). But, relatively speaking, both conventional Canadian and international political economy theoretical perspectives draw from the 18th and 19th century philosophies of Smith and Marx. Smith and Marx viewed ‘real’ money as ‘commodity money’ based in gold and silver, which is distinct from their view of capital accumulation (Di Muzio and Dow 2017; Di Muzio and Noble 2017: p. 86). In order to expand the money supply, nation-states would have to find new areas of extraction from domestic mines, the mines of other nations (generally by war or colonialism), or through trade on the world market (Di Muzio and Noble 2017: p. 86; see also: Anievas and Nişancıoğlu 2015; Di Muzio 2015a; Di Muzio and Dow 2017; Patel and Moore 2017: Chp. 2). The problem with both accounts from Marx and Smith, was this ‘commodity money’ was theorized as just simply a ‘neutral veil’ to facilitate exchange in the global political economy (Di Muzio and Robbins 2017: p. 2). This still continues in conventional Canadian political economy. For example, (neo)Staples draw from Keynes or Schumpeter, who did investigate capitalism as a monetary-based system, but through a ‘metallists’ or ‘nominalists’ lens (Koddenbrock 2017: p. 3). In either case, money is still conceptualized as just a ‘natural commodity’ to enable exchange. There are lots of different interpretations from the (neo)Marxist perspective in understanding money (see Harvey 2018; Moseley 2004; Nelson 1999, 2016). Most (neo)Marxists still draw from Marx and maintain that “[m]oney as a measure of value is the necessary form of appearance of the measure of value which is immanent in commodities, namely labour-time” (Karl Marx as cited by Moseley 2004: p. 2). Orthodox (neo)Marxists, then more problematically, reduce money to an exchange value, measured in ‘labour-time.’

As seen in Chapter Two, I argue that, capital is a form of structural power, registered in money, and capitalists want to accumulate evermore money not factors of production (see also: Bichler and Nitzan 2009; Di Muzio 2015a; Gill and Law 2008). The reason why most traditional

political economy literature has ignored this claim is because of their outdated philosophical assumptions about what money is, how it is made, and how it exponentially grows. As traditionally defined, money “is that it is something that serves as a means of exchange, a store of value and a unit of account. Some would add a fourth function—a means of payment or standard of deferred payment” (Di Muzio and Robbins 2017: p. 22). In my opinion, money can also be a structural power relation, especially in capitalism, insofar that money allows capitalists and ‘individuals’ to make ownership claims on people, natural resources, stocks, or essentially any form of commodity, which is represented and measured in a unit of account (generally known as currency) (Di Muzio and Robbins 2017: p. 33). Put differently, the more money a capitalist or individual accumulates, the more structural power they are likely to have in owning and shaping local, national or global social reproduction. Therefore, Di Muzio and Robbins (2017: p. 33) argue that “[h]ow money is created, defined, distributed, used and controlled makes a huge difference in our society.” Since 1971, money is no longer based on precious metals (mainly gold), so how is money created and expanded?

There are various interpretations of how money is created and expanded such as: Credit Creation Theory (late-19th century to 1930s); the Fractional Reserve Theory (1930s to 1960s), and the Financial Intermediation Theory (1970s to Present) (Di Muzio and Robbins 2017: p. 54ff). According to Richard Werner (2014a, 2014b), the Financial Intermediation Theory is by far and wide the most popular theory taught in most economics courses in the Global North’s university system. Financial Intermediation Theory argues that banks have no special role in the global political economy but rather serve both savers and borrowers. In this theory, banks do not create new money but take money from their customers’ deposits and lend it to acceptable borrowers (Di Muzio and Robbins 2017: p. 54). According to N. Gregory Mankiw’s popular textbook,

Macroeconomics (2009), he states the money supply is expanded through the ‘money multiplier theory’. The ‘money multiplier’ theory is “...that banks are lending out existing deposits and that the banking system creates new money as money passes from bank to bank in the form of deposits and loans” (Di Muzio and Noble 2017: p. 88). However, Financial Intermediation Theory has been disproven empirically in both cases (see Di Muzio and Noble 2017, Werner 2014a, 2014b). The ‘money multiplier theory’ has recently been mathematically debunked on the grounds that the Financial Intermediation Theory model cannot explain the magnitude of money deposit, borrowing, and circulation in the global political economy (Di Muzio and Noble 2017). Meanwhile, Richard Werner (2014a) revealed that when he took out a €200,000 loan from a German bank, it was not garnered from someone’s deposit account or multiple accounts but was created with a few key strokes on a computer. He, with a British Broadcasting film crew, observed the bank’s balance sheet operation while the loan was being processed. He concluded that both the Fractional Reserve Theory as well as Financial Intermediation Theory, were wrong because there was no evidence to support that the money came from the bank’s reserves or someone’s deposits. In his seminal article he argued that:

...possibly in the 5000 years' history of banking - that it has been empirically demonstrated that each individual bank creates credit and money out of nothing, when it extends what is called a ‘bank loan’. The bank does not loan any existing money, but instead creates new money. The money supply is created as ‘fairy dust’ produced by the banks out of thin air (Werner 2014a: p. 16)

As a result, Werner (2014a) concluded that the only plausible theory that comes close to understanding how money is made and expanded is the Credit Creation Theory.

We should further recall that there are various governments that do not impose reserve requirement for banks, such as Australia, New Zealand, the United Kingdom, Sweden and Canada (Di Muzio and Noble 2017). What this means is that there is no “reserve constraint on lending and

banks never make loans to customers from their reserves...” (Di Muzio and Noble 2017: p. 99).

This is echoed by both the Bank of England and the Bank of Canada. The Bank of England report states that:

...[i]n the modern economy, most money takes the form of bank deposits. But how those bank deposits are created is often misunderstood: the principal way is through commercial banks making loans. Whenever a bank makes a loan, it simultaneously creates a matching deposit in the borrower’s bank account, thereby creating new money (McLeay, Radia, and Thomas 2014: p. 1 as cited by Di Muzio and Robbins 2017: p. 55).

The Bank of Canada report states:

[w]henver a bank makes a loan, it simultaneously creates a matching deposit in the borrower’s account, thereby creating new money. Most of the money in the economy is, in fact, created within the private banking system (Becklumb and Frigon 2015: p. 5; see Appendix H and Appendix I).

As a result, I turn to the Credit Creation Theory to understand debt as power, which provides a greater insight into why Canada has locked-in, through new constitutionalism and disciplinary neoliberalism, carbon capitalism and petro-market civilization, which is dependent on an unlimited growth developmental trajectory.

The Credit Creation Theory explains how money is created and expanded mostly by individual banks when they create new money by providing loans to creditworthy individuals, businesses or governments (Di Muzio and Robbins 2017: p. 52; see also: Werner 2014a: p. 3 – 4).

Differently put:

...when a government, corporation or individual is deemed creditworthy enough to pay off a loan and service the interest, a banker simply credits an account with the money as a deposit. This new deposit is a liability for the bank on one side of its balance sheet (it will pay out the deposit when you take the full value of the loan or a part of it) and an asset on the other side of its balance sheet (the loan contract and promise to repay the loan with interest). As banks continue to make loans to their customers, their balance sheets expand and new money enters the economy (Di Muzio and Robbins 2017: p. 52).

This is significantly different than Jim Stanford's (2015) endogenous money account.¹⁰²

Endogenous money is the:

...theory of money which recognizes that the total supply of money in the economy cannot be controlled (exogenously) by the central bank or government, but rather is determined within the economy (endogenously) by the decisions of lenders and borrowers to create new credit. In this approach, the interest rate is manipulated as a policy variable by the central bank, and this indirectly affects the total supply of money by affecting the pace of credit creation (Stanford 2015: Glossary).

Both accounts recognize that “most of the new money being created happens when commercial banks issue loans” (Di Muzio and Robbins 2017: p. 78). Yet, there are tremendous contradictions with Stanford's (2015) assumption that banks provide loans to promote ‘economic growth and job creation’ without even questioning the hierarchies and power relations embedded in debt relations. There are two other fundamental differences between endogenous money account and Credit Creation Theory. The first assumption of the endogenous money theory is the state is the de facto social force in the process of creating, circulating, and valuing of money. The second assumption is that governments should not fear deficits and cannot ‘technically go broke’ (Di Muzio and Robbins 2017: p. 80). These two assumptions are problematic in a few important ways. This is seen in how the heterodox approach has ignored the long tradition, starting in England, of bondholders capitalizing the state's power to shape the terrain of social reproduction (Di Muzio and Dow 2017).¹⁰³ As Karl Marx reflected long ago, the “[n]ational debts, i.e. the alienation of the state – whether despotic, constitutional or republican – marked with its stamp the capitalist

¹⁰² Generally speaking, ‘endogenous money’ accounts are usually from three different and distinct heterodox economic theories, known as: Modern Money Theory; Money Circuit Theory; or New Currency Theory, which are summarized in Di Muzio and Robbins (2017): Chapter 3.

¹⁰³ Interestingly, (neo)Marxist state theorists have always attempted to make a distinction between *economic exploitation* and *political oppression* whereby the state is somewhat relatively autonomous from capital accumulation. See the distinction in the (neo)Marxist state debate between Miliband and Poulantzas (Anderson 1980; Barrow 2002; Miliband 1969, 1970, 1973; Poulantzas 1969, 1973) and it continues to the present day (Barrow 2016; Jessop 1990, 2015; Maher 2016; Panitch and Gindin 2012).

era...Public credit becomes the credo of capital” (Marx [1867]1976: p. 919, emphasis added).¹⁰⁴ Nation-states are more debtors than creditors as both banks and nonbank actors purchase their debt (Di Muzio and Robbins 2017: p.79ff; see also Huber 2014). This is highlighted through the reality that roughly 90 percent of new money is created by commercial banks not governments (Di Muzio and Robbins 2017: p. 81).¹⁰⁵ Even before the era of neoliberalism, governments have defaulted on their debts. For example, throughout the 14th and 18th centuries, England, France and Spain all repeatedly defaulted (McKinsey 2015: p. 33). Many Global South (mainly Latin American) nation-states defaulted in the 1930s and later were also deemed ‘bankrupt’ or no longer ‘creditworthy’ and faced harsh ‘structural adjustments’ by the Washington Consensus throughout the 1980s (George 1987; Soederberg 2004; Williamson 1990). The latest example is Greece in 2012 (McKinsey 2015: p. 33). Therefore, I turn towards a new theory of understanding of debt from Di Muzio and Robbins (2016) where they theorize debt as a technology of power.

Global carbon capitalism, as a mode of development, is not a money-based political order but rather an energy–debt–capitalization nexus or a single debt-based economy that is dependent on carbon-energy intensive unlimited growth (Rowbotham 1998: p. 159; Di Muzio 2015a; Di Muzio and Robbins 2016). It is debt-based because most money, roughly over 90%, is “...not created by governments, as most people seem to think; it is created by private corporations, that is banks, by lending it out as interest-bearing debt” (Di Muzio and Robbins 2017: p. vi). Currently,

¹⁰⁴ Marx further states “The different momenta of primitive accumulation distribute themselves now, more or less in chronological order, particularly over Spain, Portugal, Holland, France, and England. In England at end of the 17th century, they arrive at a systematic combination, embracing *the colonies, the national debt, the modern mode of taxation, and the protectionist system*. These methods depend in part on brute force, e.g. the colonial system. *But they all employ the power of the State*, the concentrated and organized force of society, to hasten, hothouse fashion, the process of transformation of the feudal mode of production into the capitalist mode, and to shorten the transition. Force is the midwife of every old society pregnant with a new one. *It is itself economic power*. (Marx [1867]1976: p. 915-6).

¹⁰⁵ “...[T]he government cannot be called the sovereign over money if it is *structurally forced* to go into debt and thereby privatizes a portion of the public’s revenue to pay back creditors” (Di Muzio and Robbins 2017: p. 81).

all global economies have become indebted insofar that from 1991, global debt stood at \$US45 trillion dollars and in 2018, stands at over \$US237 trillion (Di Muzio and Robbins 2016: p. 16; see also McKinsey 2015; Tanzi 2018). Simply put, ‘debt instruments far outweigh equity instruments’ (Di Muzio and Robbins 2016: p. 7). Debt, as a technology of power, creates an additional division in globalized society through net creditors and net debtors. Di Muzio and Robbins (2016) note:

...[t]he difference between these two analytical categories is that some—the net creditors—receive more income from capital than they pay out, while others—the net debtors—pay out more in interest than they receive. By recognizing this division between net creditors and net debtors (as opposed to simply viewing it abstractly as “capital” or “return on capital”), we get a better sense of the extent to which the vast majority of the population must generate financial returns for a small minority (p. 14).

Therefore, the way that debt has become reorganized under carbon capitalism can be considered a technology of power. Such a view highlights the incredible power of how banks control, produce and distribute money, as interest bearing debt, not simply ‘out of nothing’ but based on the anticipated potential creditworthiness of their borrowers (Di Muzio and Robbins 2016, 2017). Furthermore, banks have the power to deem corporations, individuals, and governments creditworthy or non-creditworthy therefore subjecting these social forces to potential discipline.¹⁰⁶

Di Muzio and Noble (2017) have expanded the work of C. H. Douglas’ (1931) argument that banks provide the needed credit to ‘sustain’ the perpetual structural gap in global capitalism.

The perpetual structural gap is between:

...purchasing power and the price of goods outstanding on the market. Since all businesses price their goods and services in a similar manner (figure out costs then add a markup), the gap can never be overcome by the producers of goods and

¹⁰⁶ We should note that due to hierarchies and discriminations amongst global intersectional lines, this process exacerbates inequalities. For example, “[g]iven that loans are contingent on creditworthiness and past wealth accumulation, there is *always* a hierarchy of access to money with the already rich having far easier access to credit and thus far more advantages to accumulate wealth” (Di Muzio and Robbins 2016: p. 5) “What this means is that the already rich can borrow more money, leading to greater inequality. Those with higher incomes and good credit scores can also borrow more money to buy assets including stocks and real estate. They can typically do so at better interest rates than people with lower incomes that tend to rely on high interest rate loans out of necessity” (Di Muzio and Noble 2017: p 102).

services themselves should they want to remain successful in business by earning a profit. Increasing wages cannot get over this problem simply because labor is always a cost of production (p. 100).¹⁰⁷

Therefore, banks sustain globalized social reproduction by providing the vast majority of global populations with the necessary “credit/debt when incomes do not meet spending expectations or a desired lifestyle” (Di Muzio and Noble 2017: p. 101). In short, these and the reasons above provide great insight as to why the global banking industry has the highest total market capitalization of any industry at US\$4.8trillion (FT Global 500 2015).

Neoliberalism, as a debt-growth restructuring nexus while also understanding money as mainly interest-bearing debt, demonstrates how ‘economic growth’ must exponentially expand in order to repay or at least service the debt of individuals, businesses and governments since banks do not create the interest when they create new loans. Mathematically, this means there is always more debt in the system than there is the ability to repay, hence the pursuit of growth. The only way ‘economic growth’ can expand is more exploitation of labour, “destruction, despoliation, and commodification of the natural world of limited and finite resources” and other means of accumulation (Di Muzio and Robbins 2016: p. 11). Put differently, since growth is based on the global market and prices, the social forces in the global political economy must constantly accumulate and transform the biosphere into so-called ‘market goods’. Therefore, this creates the conditions that most economies must perpetually and exponentially grow through the use of energy, biospheric resources, labour, commodities, etc.; if this is not done, then the “debt based

¹⁰⁷ “This is why C.H. Douglas argued for a social credit to be dispersed to citizens by the government. Instead of listening to C.H. Douglas, what has happened in practice is that the gap has been partially filled by commercial bank credit and as Douglas recognized, the banks have a monopoly over it. In other words, to avoid severe recessions or depressions, credit and debt are structurally necessary in a capitalist economy that employs a cost-plus manner of pricing” (Di Muzio and Noble 2017: 100).

monetary system cannot be sustained” (Di Muzio and Robbins 2016: p. 88). Di Muzio and Robbins (2016: p. 98) note that:

...maintaining exponential growth, also, by remembering that capitalization is a claim on expected future earnings and that these earnings are contingent not only on the power of firms and certain government organs but also on the ability to commodify various aspects of the natural world. Furthermore, the transformation of the natural world into money and earnings requires energy, which is also beginning to approach limits and has severe consequences for the biosphere and human and natural life.

McKinsey Global Institute (2015: p. 33ff; see Appendix J) states that in order for heavily indebted countries of the Global North to even begin to pay back their national debt, they would have to create conditions for a rate of ‘economic growth’ that far surpasses what is currently most countries’ future averages. That said, in 2018, there is currently US\$64 trillion in public debt, which does not include global figures of: US\$59 trillion in financial debt, US\$70 in corporate debt, US\$45 trillion in household debt (see Appendix K). As a result, as the single debt-based global political economy exponentially expands, so does the need to accumulate more ‘economic growth’ measured in money.

By understanding ‘economic growth’, money, and debt, we are provided with greater insight as to why Canada has largely locked-in to accepting both new constitutionalism and disciplinary neoliberalism, as well as a fossil fuel energy-intensive world order. In 1970, Canada’s debt stood at CAN\$20.3 billion and by 1996, it skyrocketed to CAN\$609 billion (Di Matteo 2016). We should recall that all government debt is capitalized by holders of this debt (Di Muzio and Robbins 2016; Hager 2014; Marx [1867]1978). These holders are capitalizing on the government of Canada’s ability to: 1) maintain and reshape both national and globalized social reproduction and 2) generate earnings to service their debt instruments and interest payments. Canada’s current GDP stands at about US\$1.53 trillion dollars (World Bank 2016). That said, Canada is awash with

debt. During March 1997, Canada's gross public debt stood at \$641 billion (Department of Finance Canada 1997: p. 3). In Canada, public debt is comprised of two components: 'non-market debt' and 'market debt'. Non-market debt (\$167 billion) is "the government's internal debt which is, for the most part, federal public-sector pension liabilities, the government's current liabilities (such as accounts payable, accrued liabilities, interest and payment of matured debt), and bonds issued to the Canada Pension Plan" (Department of Finance Canada 1997: p. 3). By comparison, market debt (\$473 billion) "is the portion of debt that is funded in the public markets and includes marketable bonds, Treasury bills, retail debt (primarily Canada Savings Bonds) and foreign-currency denominated bonds and bills" (Department of Finance Canada 1997: p. 3). In March of 2017, Canada's public debt measured in marketable debt reached \$695.1 billion and including non-market debt is roughly \$1,097.2 billion (Department of Finance Canada 2017: p. 7).¹⁰⁸ The Federal Government of Canada currently spends CAN\$24.15 billion dollars in interest alone on its national public debt (Armstrong 2018; see Appendix L). We should note it was former Prime Minister Pierre Trudeau who changed how money was lent, transitioning from interest free to interest bearing, in 1974, in order to follow suit with rules and regulations of the Bank for International Settlement (BIS) (Dobbin 2015; Nelson 2015).¹⁰⁹ Also, Canada's public bond market is roughly controlled by Canadians (77.5%) in contrast to foreign ownership (22.5%) (Department of Finance Canada 2016: p. 11), which means that Canadian investors are capitalizing their own nation-state to shape the terrains of globalized social reproduction. In 2015, McKinsey Global Institute (2015: p. 11) states that Canada's household debt represents 92%, non-financial corporate

¹⁰⁸ "When financial and non-financial assets are subtracted from total liabilities, the federal debt or accumulated deficit of the Government of Canada was \$631.9 billion as at March 31, 2017" (Department of Finance Canada 2017: p. 7).

¹⁰⁹ Currently, there is a lawsuit against the Federal Canadian Government attempting to stop the Federal Government from lending money as interest bearing debt (See CBC 2015; Dobbin 2015; Nelson 2015; Whittington 2015).

60%, and financial institutions 25% as the percentage of Canada's GDP. Currently, Canada's household debt has skyrocketed to CAN\$1.8 trillion surpassing Canada's GDP (Ligaya 2018). Canada's political economy is a heavily indebted one and must exponentially and perpetually expand in order to eventually payback deficits, thus the need for unlimited fossil-fuel based growth.

Canada is frequently under the scrutiny of international private credit rating agencies¹¹⁰ or one of many social forces behind disciplinary neoliberalism (Gill 1995). Credit rating agencies, comprised mainly of Standard & Poor's, Moody's Investor Service and Fitch Ratings, are companies that:

...assess the debt instruments (bonds and other securities) issued by firms or governments and assigns 'credit ratings' to these instruments based on the likelihood that the debt will be repaid.' These organizations rate the creditworthiness of debt issuers and evaluate the risk – that is, the likelihood of default or repayment irregularities (Fioramonti 2014: 41).¹¹¹

These credit rating agencies evaluate most outstanding debt and future creditworthiness as “[c]orporations, banks, insurance companies and even sovereign states need ratings to operate” (Fioramonti 2014: 41). The reason for this is that credit rating agencies heavily influence global investors in where they should invest their money. The Department of Finance Canada demonstrates that they have high credit scores, for a good reason (Department of Finance Canada

¹¹⁰ International private credit rating agencies “are private firms with public purposes – ‘hence the term credit rating agencies, not credit rating firms’ – but they are fully private in terms of ownership, employees and revenues” (Fioramonti 2014: p. 42)

¹¹¹ The major 3 credit rating agencies “publish regular reports assigning bonds a set of grades, from AAA (prime grade) to D (in default), which provide comparable risk estimates in order to overcome problems of information in financial markets. As companies (that is, the borrowers) always possess better information about their own financial profile than any external investor (that is, the lender), rating agencies try to bridge this ‘asymmetry’ by looking at the nuts and bolts of a borrowing institution and producing an assessment of its financial credibility. The level of risk determines the interest rate for the investment and, consequently, the cost of debt and the debtor's access to new investments. Moreover, ratings determine the eligibility of debt for the portfolios of certain institutional investors, due to national regulations that restrict investment in speculative bonds. Likewise, regulators use credit ratings to ascertain the strength of the reserves held by insurance companies” (Fioramonti 2014: p. 41).

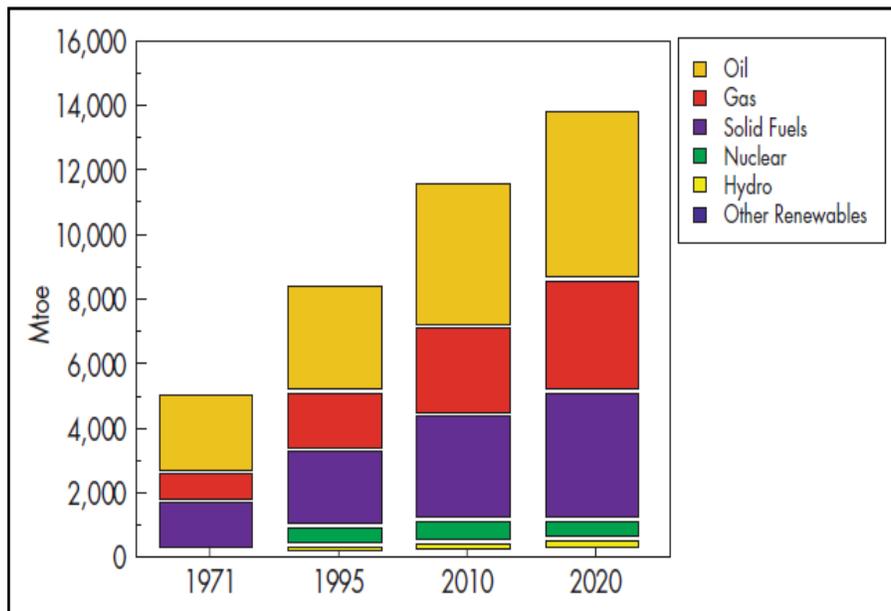
2016: p. 12). For example, even the United States government has fallen (although very temporarily) to the power of credit rating agencies. In 2011, Standard and Poor downgraded former President Barack Obama's government regime by "removing the United States government from its list of risk-free borrowers", which sent tumbling shockwaves throughout the United States market and economy (Fioramonti 2014: p. 56ff). The reason for this is that the downgrading of government bonds "...weakens the financial position of the state as issuer of debt obligations. Lower credit ratings are an official recognition that the state's debt has become riskier, which is compensated by an increase in rates of return for those obligations" Fioramonti 2014: p. 41). Therefore, the power of credit rating agencies to reinforce the logic of debt demonstrates one reason why Canada has largely accepted both new constitutionalism and disciplinary neoliberalism in order to cement the three C's of capital: credibility, confidence, and consistency (Gill 1995, 2014: p. 39). As Thomas Friedman once stated correctly that "...we live again in a two-superpower world. There is the U.S. and there is Moody's. The U.S. can destroy a country by leveling it with bombs; Moody's can destroy a country by downgrading its bonds..." (1995: n.p.).

With the global political economy becoming subordinate to the neoliberal debt-growth restructuring nexus, the centrality of growth based on fossil fuels, becomes ever more apparent. Put differently, it is not a coincidence that Canada's unconventional hydrocarbon industries were re-born in 1997 with neoliberalism and growing world energy demands (Chastko 2004: p. 7). The International Energy Agency (IEA) was already reporting, as early 1998 and 1999, that the:

...world primary energy demand and carbon emissions will grow steadily, by 65% and 70% respectively, between 1995 and 2020. Second, fossil fuels will account for more than 90% of total primary energy demand in 2020. Third, a structural shift in the shares of different regions will occur in world energy demand, with the OECD share declining in favour of non-OECD countries (1999: p. 21)

Interestingly, conventional global political economy perspectives were largely unconcerned with the politics of energy in the 1990s, most likely due to relatively low historical oil prices after the oil price shocks of the 1970s (Hugh and Lipsy 2013). Yet, in the 1990s, world energy production, consumption and demand continued to rise, specifically, in terms of fossil fuels dependence, and especially for the emerging Brazil, Russia, India China, South Korea (known as the BRICS) countries (Di Muzio 2015a; IEA 1998, 1999; Smil 2003). The IEA projected that oil will remain the dominant fossil fuel (40%) throughout the 2000s (see Figure 12).

Figure 12: World Primary Energy Demand



Source: Adapted from IEA. (1999). World Energy Outlook 1999. (Paris: France): p. 28

As a result, there is a deeply interconnected history between neoliberal governance and the re-birth of Canada’s bituminous sands in the age of growing world energy demands.

The former Albertan Premier Ralph Klein (1992 – 2006) sparked the re-birth of Canada’s tar sands through neoliberal governance. First, Premier Klein restructured Alberta’s Keynesian state under the guise that Alberta had a debt and deficit crisis, by cutting governmental services, lowering taxation and royalties, deregulation, etc. all in order to promote domestic and foreign

investment in the tar sands (Harrison 2015: p. 80; Shrivastava and Stefanick 2015: p. 6; Stefanick 2015: p. 121ff).¹¹² Second, Premier Klein created the tar sands into a corporatist brand under the concept of Alberta Advantage (Stefanick 2015). Since 1993, Klein and his government cabinet met with around thirty different oil companies and agencies with the objective to decrease Middle Eastern oil import reliance in North America (Sweeny 2010: p. 130). In 1994, this group, became the National Oil Sands Task Force, which provided CAN\$105 million annual budget to “find ways to boost production and trim costs” (Sweeny 2010: p. 130). In 1995, the National Oil Sands Task Force drafted a paper called *The Oil Sands: A New Energy Vision* which:

...outlined a twenty-five-year growth strategy for the Sands, calling them, “the largest potential private sector investment opportunity for the public good remaining in Western Canada, and a ‘national treasure’. The paper proposed investing up to \$25 billion to boost production in stages from 450,000 barrels a day to a million. The Task Force confidently predicted that all of this activity would create 10,000 direct new jobs (as cited by Sweeny 2010: p. 130).

This Alberta Advantage was attempted to be re-branded as so-called ‘ethical oil’, due to the human rights violations and anti-liberal and anti-democratic nature within oil producing Middle East countries (Levant 2010; Preston 2013). The final component of this tar sands rebirth was the creation of steam-assisted gravity drainage directional oil well drilling, which allowed upwards of 75 percent of bitumen found very deep in the ground to become recoverable (Sweeny 2010: p. 134ff; See also Davidson and Gismondi 2011; Nikifourk 2008). In conclusion, Premier Klein’s political project of rebirthing the tar sands, under neoliberal governance saw investment of CAN\$24.5 billion dollars from 1995 to 2002 (Sweeny 2010: p. 131).

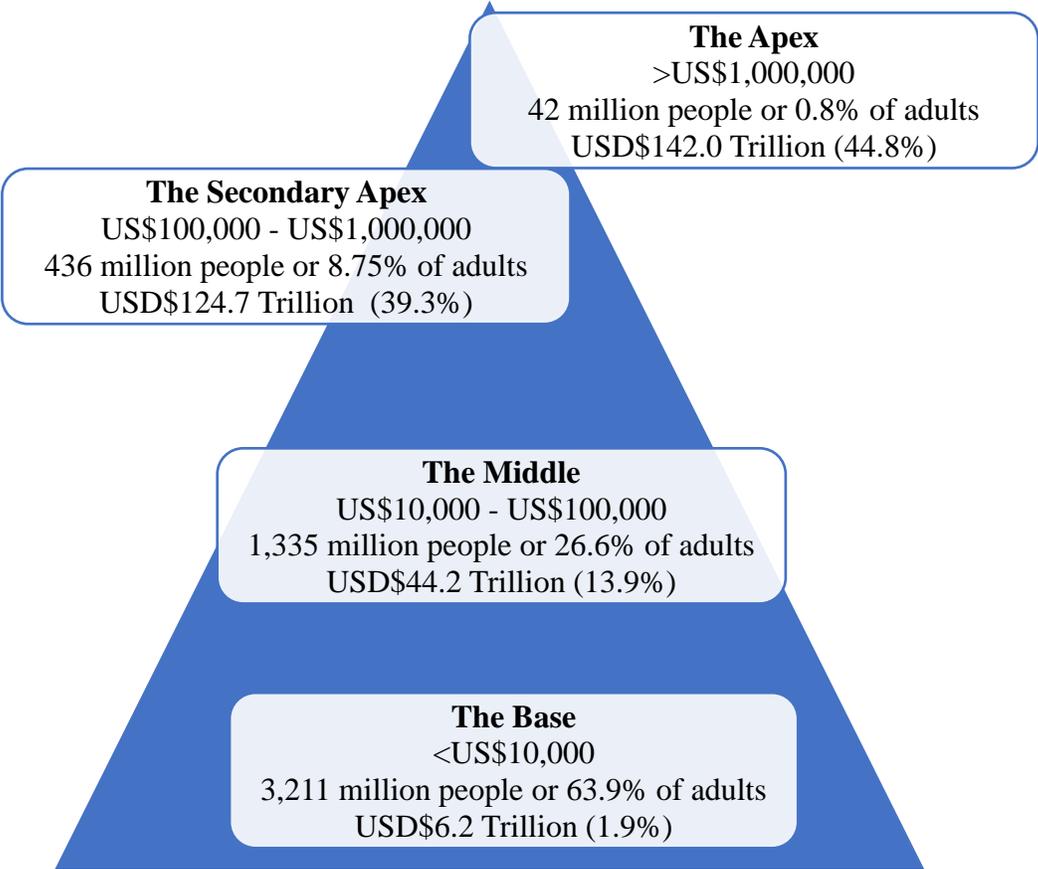
¹¹² Premier Klein attacked all special interests’ grounds “such as union members, environmentalists, academics, and feminists—combined with drastic cuts in spending to public services and a messianic zeal for privatization and deregulation became the order of the day. In the broader picture, the Klein years saw the final stage of Alberta’s transition to being a right-wing corporatist state in which the interests of the state align with those of private corporations” (Harrison 2015: p. 81).

Conclusion:

In conclusion, the new global political economy conditions can be conceptualized as being embedded in the logic of debt-growth-restructuring nexus within the global political project known as neoliberalism. I critique the (neo)Staples approach that argues neoliberalism has limited Canada's democracy, in terms of Canada's oil boom in the mid-2000s, and the myth that United States-based corporations own and dominate Canada's resources and manufacturing sectors (Adkin 2016; Laxer 2015; Nikifourk 2008; Shrivastava & Stefanick 2015). Canadian-Marxists too narrowly argue that neoliberalism is just a political project that accelerates continental integration, labour-exploitation, and limits the power of unionized workers (Klassen 2014; McBride 2005). Instead, I argue that by understanding Gill's concepts of disciplinary neoliberalism and new constitutionalism, carbon capitalism as a mode of development, and the theory of interpreting debt as a technology of power, it is demonstrated that Canada's levels of governments have locked-in the supremacy of capital accumulation and have limited or locked-out particular forms of the previous social Keynesian-liberal democracy. While Canada's 'economic growth' has gradually increased and all levels of 'Canadian debt' have ballooned, which is a global phenomenon, what then has neoliberalism actually accomplished? The answer is skyrocketing global inequality and the concentration of wealth for the so-called global 1% (Di Muzio 2015b; Di Muzio and Robbins 2016; Hardoon et. al. 2016; Picketty 2013). For example, in 1986 there were only 13 billionaires, in 2013 there were 1,426, and in 2018, there are 2,208 billionaires (Di Muzio 2015b: p. 43; Kroll 2018). The global apex class, in terms of income brackets (over US\$1,000,000), represents 42 million people (0.8% of global adults) who hold US\$142.0 Trillion (44.8% of global wealth). The secondary global apex class (US\$100,000 - US\$1,000,000), represents 436 million people (8.75% of global adults) and holds US\$124.7 trillion (39.3% of global wealth). The Global Middle

class (US\$10,000 to US\$100,000), represents 1,335 million people (26.6 of global adults) and holds US\$44.2 trillion (13.9% of wealth). Finally, the vast majority of the globe’s population, who make under US\$10,000, represent 3.211 million people (63.9% of adults), who hold US\$6.2 trillion (1.9% of global wealth) (Credit Suisse 2018; see Figure 13).

Figure 13: The Global Wealth Pyramid 2018



Source: Data collected from Credit Suisse 2018.

In short, neoliberalism has accelerated the concentration to levels of the world's eight richest billionaires who now control "the same wealth between them as the poorest half of the globe's population" (roughly US\$ 426 Billion) (Hardoon et. al. 2016).

Therefore, this chapter has demonstrated that under the era of neoliberalism, as a debt-growth restructuring nexus, Canada has become increasingly locked-in to a vicious cycle of global path dependency whereby the logic of debt and the need for unlimited growth and production requires evermore fossil fuels. This chapter then highlights one of the fundamental reasons why Canada has become one of the world's leaders in promoting the production and consumption of fossil fuels in the age of climate change, which the next chapter will take up in greater depth.

Chapter Six: Carbon Capitalism in the Age of Climate Change

Just as productionist dreams cannot override the laws of ecology, ecologist dreams cannot overcome the constraints of society and history.

– Jean-Claude Debeir, et. al.
In the Servitude of Power
(1991: p. XIV)

Introduction:

For over three centuries, fossil fuels or the *carbonization of everyday life* have become essential to the global political economy in many parts of the globe (Di Muzio 2015a; Dow 2016; see also Debeir et. al. 1991; Di Muzio and Ovadia 2016a; Smil 1994). This is especially the case for both Canada and the countries of the Global North with their carbon-energy intensive development and lifestyles (Di Muzio 2015a; Dow 2016; see also Appel et. al. 2015; Di Muzio and Ovadia 2016; Hall and Klitgaard 2012; Huber 2013; McNeish and Logan 2012; Nikiforuk 2012; Urry 2012; Watt 2005). This *mode of imperial living* (see chapter 1) and development trajectory is now at a crossroads given the multiple threats of climate change (Angus 2016; Brand and Wissen 2018; Dauvergne 2016; Heinberg 2011; Hornborg 2018; Klein 2014; O’Neil 2009; Oreskes and Conway 2010; Speth 2004, 2008). During the United Nations Framework on Climate Change Conference in Paris, from November 30 to December 11, 2015, the world witnessed countries sign-off on yet another ‘promise’ to transition their carbon-intensive economies to low-carbon forms of production and consumption (UNFCCC 2015). This agreement, known as the Paris Agreement, was signed by 195 nations and created a global consensus to transition the global political economy to low-carbon in order “to limit temperature rise to under 2°C, and the ambition to pursue efforts to limit the temperature increase to 1.5°C above [the] pre-industrial” era. This

aligns with the scientific research on climate change, yet, it *does not mention fossil fuels once* (IPCC 2014; Rockström et. al. 2016: p. 465; UNFCCC 2015).

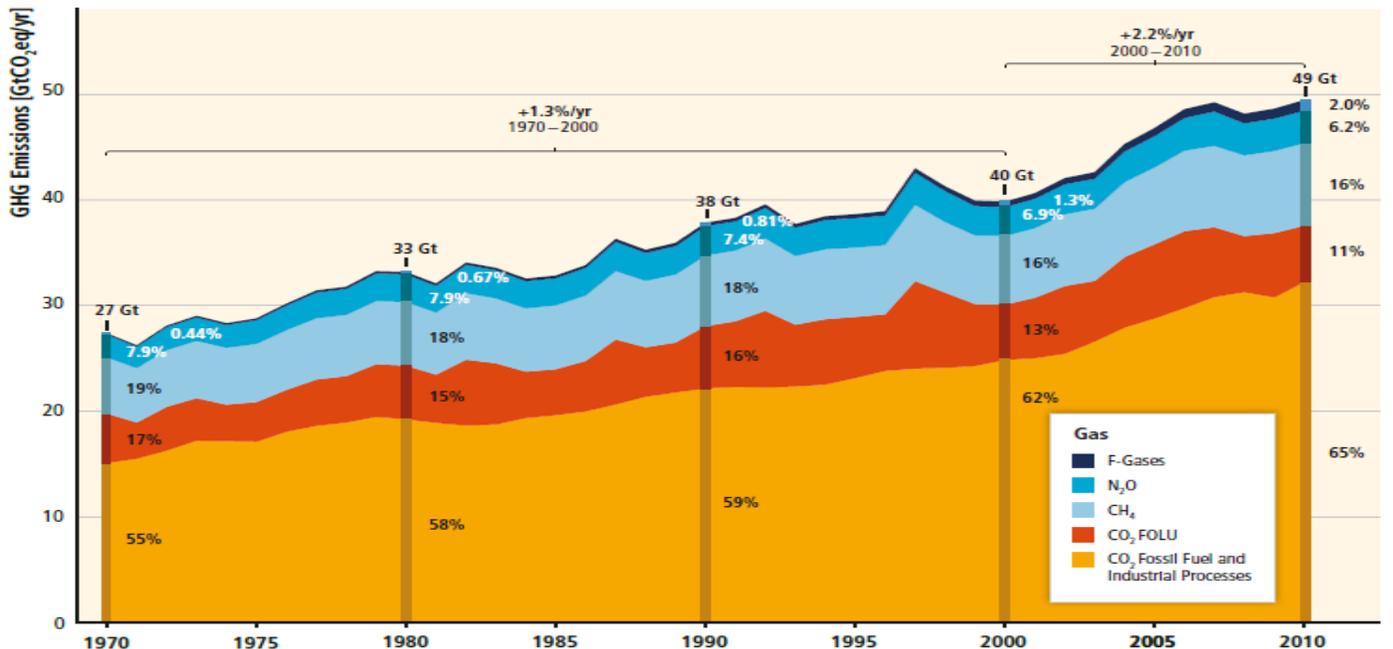
While the Paris Agreement was a historical event, it is not the first time there has been state-centric or global institutional arrangements over how to limit the impact of global climate change (Dauvergne 2016; Newell and Paterson 2010; Oreskes and Conway 2010). The last robust attempt was in 1992 when the United Nations held a Conference on the Environment in Rio in order to re-spark global awareness on climate change (Newell and Paterson 2010). This conference was met with resistance, especially from former United States President George H. Bush, who argued that *American “lifestyles were not negotiable”* (as cited by Gill 2003: p. 196, emphasis added). Despite this opposition, the United Nations was able to establish the Framework Convention on Climate Change and the Kyoto Protocol was signed in 1997, although not reinforced until 2005. The Kyoto Protocol’s objective was to reduce human-induced greenhouse gas emissions, but it largely failed (Brand 2012, 2015; Burke et. al. 2016; Newell and Paterson 2010: p. 34). Canada left the agreement in 2012 (CBC News 2011). As seen since the 1960s, even with the growing social awareness and scientific research on climate change, warnings have been largely downplayed or trivialized by political elites (Benton 1973; Carson 1962; Dauvergne 2016; Foster 1999; Martinez-Alier and Schlüpman 1987; Meadows et. al. [1972]2004; O’Connor 1988; Oreskes and Conway 2010).

So, what has shifted the global consensus from climate change denialism or ignorance to acknowledgement? In 2002, Paul J. Crutzen, an atmospheric chemist who published “Geology of Mankind,” argues the Holocene era is over. The period from roughly the late-1800s (British industrialism) to the present, Crutzen argues, should be conceptualized as a human-dominated geological epoch, known as the Anthropocene era. The Anthropocene era is the theorization that

human patterns of globalized social reproduction have impacted and accelerated climate change (Crutzen 2002; Edenhofer et. al. 2014; Lewis and Maslin 2015). Moreover, the recent global financial crises of 2007-8 has exponentially increased awareness and consensus of human-centric climate change as a real and imminent threat (Copenhagen Accord 2009; Edenhofer et. al. 2014; IEA 2013; IPCC 2007; Rockström et. al. 2016; UNEP 2007; UNFCCC 2016; UNHPR 2007, 2008). This is evidenced by Naomi Klein reporting that roughly 97 percent of climate scientists believe that humans have some form of impact on climate change (2014: p. 31). In December 2017, 15,364 scientists from 184 countries signed a letter calling-forth a *warning to humanity* that the global political economy must transition from fossil fuels and mass consumption and production in order to *save humanity* from the irreversible affects of climate change and collapsing biodiversity (Ripple et. al. 2017).

Yet, despite this consensus and awareness, anthropogenic greenhouse gas emissions continue to increase (see Figure 14).

Figure 14: Total Annual Anthropogenic Greenhouse Gas Emissions by Groups of Gases 1970 – 2010



Source: Adapted from Ottmar Edenhofer, Ramón Pichs-Madruga, Youba Sokona, et. al. (2014). *Technical Summary*. In: *Climate Change 2014: Mitigation of Climate Change*. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change: p. 7. Retrieved from: https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_technical-summary.pdf.

The “annual greenhouse gas emissions grew on average by 1.0 gigatonne carbon dioxide equivalent (GtCO₂eq) (2.2%) per year from 2000 to 2010 compared to 0.4 (GtCO₂eq) (1.3%) per year from 1970 to 2000” (Edenhofer et. al. 2014: p. 7). The “[t]otal anthropogenic greenhouse gas emissions were the highest in human history from 2000 to 2010 and reached 49 (±4.5) (GtCO₂eq)/year in 2010” (Edenhofer et. al. 2014: p. 7). In 2016, the global annual carbon emissions from human-centric carbon capitalism were 49.3 gigatonnes of carbon dioxide (GtCO₂) (Olivier, et. al. 2017: p. 4). Since the 1970s, the biggest producer of anthropogenic greenhouse gas emissions is, by far and large, fossil fuel combustion and industrialism which, when combined, roughly contribute to 78% of total emissions and fossil fuel combustion continues to rise (Edenhofer et. al. 2014: p. 7; see Appendix M). In 2010, fossil fuel-related carbon dioxide (CO₂) emissions reached 32 gigatonne carbon dioxide/year and continues to grow roughly from 1 to 3 percent each following year (Edenhofer et. al. 2014: p. 7). Richard Heede’s (2014) study on fossil fuel and cement industries empirically measured that:

...a total of 914 billion tonnes of CO₂-equivalent (GtCO₂e) has been traced to 90 international entities based on analysis of historic production records dating from 1854 to 2010. These entities cumulatively produced 985 billion barrels (bbl) of crude oil and NGLs [natural gas liquids] (79 billion bbl were used for non-energy products), 2,248 trillion cubic feet (Tcf), and 163 billion tonnes of various ranks of coal. The emissions traced to the carbon majors represent 63% of global industrial CO₂ and methane from fossil fuel combustion, flaring, venting, fugitive or vented methane, own fuel use, and cement between 1751 and 2010 (p. 234).

Out of these 914 gigatonnes of carbon dioxide (GtCO₂) emissions, half of them were emitted only since 1986 (Heede 2014: p. 229; see also Griffin 2017). The closest sector following fossil fuel combustion and industrialism is the food and agriculture sectors (which are fossil fuels dependent)

and they represent anywhere from 20 to 50 percent of anthropogenic greenhouse gas emissions (Clapp et. al. 2018: p. 80; see also: Albritton 2009; GRAIN 2015; McMichael 2009a; Pfeiffer 2006; Vermeulen et. al. 2012). Global farming has become increasingly reliant on industrialized methods that need fossil fuels and “it is now amongst the most significant contributors to climate change, accounting for 56 percent of global non-carbon dioxide (CO₂) greenhouse gas (GHG) emissions through the production of methane and nitrous oxide, and between 19 and 29 percent of total GHG emissions” (Newell and Taylor 2018: p. 111). The Paris Agreement, not addressing the global political economy’s dependence on fossil fuels, raises questions how members will transition globalized social reproduction in order to meet the scientific consensus of a global carbon budget of only “550–600 GtCO₂” (Rockström et. al. 2016: p. 468). This carbon budget would attempt to ensure that biosphere warming stays below 1.5°C (IPCC 2014). However, it is important to note, that from 1990 to 2012, fossil fuels, as a proportion of the total primary energy supply, only decreased by 1% (Smil 2013: p. 257). Therefore, the world only has “10 more years of global emissions at current pace” if the nation-states who signed the Paris Agreement actually intend to hit the benchmark of 1.5°C (Rockström et. al. 2016: p. 468).

Presently, the effects of global climate change are already happening. According to a study done by the United Nations Office for Disaster Risk Reduction (2016), from 1995 to 2015, there are more frequent trends of global extreme weather disasters (see also: Angus 2016: p. 94ff). For example, throughout this 20-year period, there were 6,457 weather-related disasters representing 90% of all global disasters (UNISDR 2016). These extreme weather-based disasters claimed the lives of 606,600 persons and 4.1 billion people have ‘been injured, left homeless or in need of emergency assistance’, predominately in the Global South (2016: p. 6). Moreover, the financial cost of these events is estimated to be anywhere from US\$250 billion to US\$1.891 billion

(UNISDR 2016). In 2017, the World Health Organization (WHO) states that environmental risk factors “cause at least 13 million deaths every year and about one quarter of the global burden of disease. Air pollution alone causes about 6.5 million deaths a year, or one in eight of all deaths, placing it among the top global risks to health” (2017: n.p.). In 2013, the global health and welfare losses from air pollution alone were estimated and valued at US\$5110 billion (WHO 2017: p. n.p.). The effects of climate change, through extreme-weather patterns (droughts, cold snaps, flooding, etc.), are also affecting the global supply of water and food (Angus 2016; Buxton and Hayes 2016; Clapp et. al 2018; FAO 2008, 2016; Parenti 2011; UN-Water 2012, 2018). Currently, this has globally led to an indeterminate amount¹¹³ of dispossessed people, known as ‘climate migrants’ or ‘climate refugees’ (Boano et. al. 2008; Hayes et. al. 2016).¹¹⁴ In 2010, the United States’ Pentagon’s Quadrennial Defense Review (2010) started to conceptualize climate change as a *threat multiplier*. What this suggests is that climate change will exacerbate the already widespread global water and food insecurities, environmental degradation, poverty, spread of disease, and massive migration (Burke et. al. 2016; Buxton and Hayes 2016; Dalby 2009, 2012; Gilbert 2012; Parenti 2011; QDR 2010). In 2011, even the United States’ Central Intelligence Agency “has established a Center on Climate Change and National Security to collect foreign ‘intelligence’ on the national security impact of environmental change in other parts of the world” (Gilbert 2012: p. 3). In short, the Quadrennial Defense Review argues that climate change will be one of the main potential future factors in reinforcing and creating so-called ‘failed states’ (Chomsky 2006; Gilbert

¹¹³ “Due to the challenge of multi-causality, it is extraordinarily difficult to develop and defend any methodology for calculating the number of climate migrants/environmental refugees” (Boano et. al. 2008: p 12).

¹¹⁴ “Debates around linkages between environmental degradation and forced migration have led to the emergence of a range of highly contested terms – primarily environmental refugee, but also environmental migrant, forced environmental migrant, environmentally motivated migrant, climate refugee, climate change refugee, environmentally displaced person, disaster refugee, environmental displace, eco-refugee, ecological displaced person and environmental refugee-to-be...” (Boano et. al. 2008: p. 4-5).

2012; QDR 2010). For example, Christian Parenti (2011, 2016) and Andreas Malm (2016b) argue that the Syrian civil war ignited due to a lengthy drought. As a result, with the growing awareness and acknowledgement of climate change, current and potential future impacts on globalized society have led to the scientific and social urgency to transition to a low-carbon based social reproduction and developmental trajectory. *This should change everything and be inevitable* (Klein 2014). But is it?

This chapter addresses why Canada has become one of the world's leaders in reconstituting fossil fuels as the dominant energy system through its unconventional hydrocarbon industry, despite the science on climate change. Traditional Canadian political economists, think tanks, and journalists argue that Canada's vision of becoming an unconventional 'energy superpower' is a contradictory national-provincial developmental phenomenon in the age of climate change (Adkin 2016a; Black et. al. 2014; Clarke 2008; Clarke et. al. 2013; Davidson and Gismondi 2011; Haley 2011; Hern et. al. 2018; Laxer 2015; Marsden 2008; Nikiforuk 2008; Shrivastava and Stefanick 2015a). That said, the above explanation as to why Canada's ambitions are contradictory is premised on two groundless assumptions: 1) Canada's unconventional oil industries benefit mainly the United States economy and United States-based oil corporations and 2) Canada is lagging behind the world order in transitioning to low-carbon forms of social reproduction (Dow 2016; Kellogg 2015b). I argue that Canada's *contradictory development trajectory* is rooted in the global unsustainable nature of carbon capitalism and petro-market civilization as well as reproducing carbon-based energy-intensive social reproduction patterns, which represents the current *paradoxical global conjuncture* (Gill 2011). Stephen Gill (2011) articulates this contradiction as involving a crisis of global leadership amid a wider organic crisis. The tar sands, unconventional hydrocarbon industries, or extreme-energy projects, located in Canada and the

globe, are then not only morbid symptoms of this global organic crisis, but also its outcome, in order to reproduce 21st century global capitalist social reproduction that is carbon-based energy dependent (Brenner 2014b; Di Muzio 2015a; Dow 2016; Gill 2011; Klare 2012, 2013).

In order to demonstrate the argument that Canada's contradictory developmental trajectory is rooted in the unsustainable nature of carbon capitalism, petro-market civilization, and energy-intensive social reproduction, I first return to the early and mid-2000s where conventional international relations and political economy debates centered around energy (*in*)security or *scarcity*. These debates articulated that the 21st century world order was heading into a *new period* of global securitization or militarism over oil. This period is often characterized by realist security scholars as a time of *resource wars*, by liberal scholars as *resource governance*, and by (neo)Marxists as *neo-imperialism* (Bromley 1991, 2005; Elhefnawy 2008; Hancock and Vivoda 2014; Harvey 2003; Klare 2002; 2003; 2008; 2014; Labban 2008; Le Billon 2005; Luft and Korin 2009; Moran and Russell 2009; Stokes and Raphael 2010). This potential new period and its surrounding debates intensified after the terrorist attacks of September 11, 2001 (9/11) on the United States; these debates became enmeshed globally with 'the war on terror', or what the United States government officials would call Operation Enduring Freedom, that would engulf Afghanistan and the Middle East. There was also the growing awareness of the global peaking of conventional oil and the dominance in oil reserve ownership by the new nationally-owned Seven Sisters (Bardi 2009; Bentley 2016; Bundeswehr Transformation Centre 2010; Deffeyes [2001]2009; Di Muzio 2015a; Heinberg 2007; Hick and Nelder 2008; IEA 2010; Klare 2002). As a result, the ongoing war, militarization and instability in the Middle East, the awareness of the peaking of conventional oil, and the escalation of the price of oil that peaked at \$US147.30 a barrel in July 2008, roughly a 319 percent increase from 1999, was foundational to the re-birth of

Canada's unconventional hydrocarbon industries (Bichler and Nitzan 2014; Dickers 2011; Di Muzio 2015a: Chp. 1; Dow 2016; Urry 2013). But there is far more to this contradictory developmental project than just war, energy 'insecurity' or 'scarcity,' and high oil prices.

The other part of this chapter addresses the problematic challenges of the transition to low-carbon energy forms of social reproduction. There are widely held assumptions by both conventional Canadian and international political economy scholarship that carbon capitalism can and is already transitioning to low-carbon forms of social reproduction (Angus 2016; Brand 2012, 2015; Clarke et. al. 2013; Haley 2011; Hawken 1993; Homer-Dixon 2009; Klein 2014; Lovins and Cohen 2011; Malm 2016: Chp. 15 and 16; Mulligan 2010; Schwartzman 1996, 2016; Stanford et. al., 2014; Tienhaara 2014; UNEP 2011). For example, the most optimistic and comprehensive report by Mark Z. Jacobson (et. al. 2017), *100% Clean and Renewable Wind, Water, and Sunlight All-Sector Energy Roadmaps for 139 Countries of the World*, reveals that for "80% conversion of the energy infrastructure to zero-emitting energy by 2030 and 100% by 2050", it would cost roughly US\$124.7 trillion dollars (p. 108 - 114). I critique these assumptions as the transition to a low-carbon world order cannot be just simply *unlocked by new technological advancements* or greening Global North's lifestyles and livelihoods (Angus 2016; Brand 2012, 2015; Burke et. al. 2016; Dalby 2018; Di Muzio 2015a; Foster 2009; Harris 2013; Moore 2015; Muhammad 2013; Mulligan 2010a, 2010b; O'Connor, 1994; Smil 2003, 2010; Trainer 2007, 2019). This is argued because there is no consistent scientific or empirical evidence to suggest that alternative energy sources can sustain, not only current levels of production or consumption of energy, or their increase, in the near future (Friedrichs 2013; Trainer 2007, 2015, 2019; Zehner 2012). The concept of carbon capitalism draws upon the dominant procedural of capitalization as a future indicator of how global terrains of social reproduction will be constituted. If 'green investment' is the key to

‘unlocking’ the low-carbon energy world order, there should be empirical evidence of this through key indicators such as market capitalization and state subsidies since both market capitalization and state subsidies provide a window of analysis into how the future energy system will be shaped. Therefore, I examine the fossil fuel industries versus the green-energy industry, in these terms. If corporations, global investors, and nation states have lost confidence in the fossil fuel industry’s capabilities of dominating the global energy system, “then we should see a rapid decline in market capitalization” and a rapid increase in market capitalization of green energy firms, which is not currently taking place (Di Muzio and Dow 2019: p. 567). Therefore, the arguments above provide greater insight into the rationale of why Canada has become one of the world’s leaders in reconstituting fossil fuels as the dominant energy system through its unconventional hydrocarbon industry despite the science on climate change (Dow 2016). Canada’s contradiction, then, is embedded in the global logic of carbon capitalism and its relentless and accelerated need to service debt through the search for unlimited growth at the cost of planetary life.

Section I: An Actual Period of Energy Crisis?

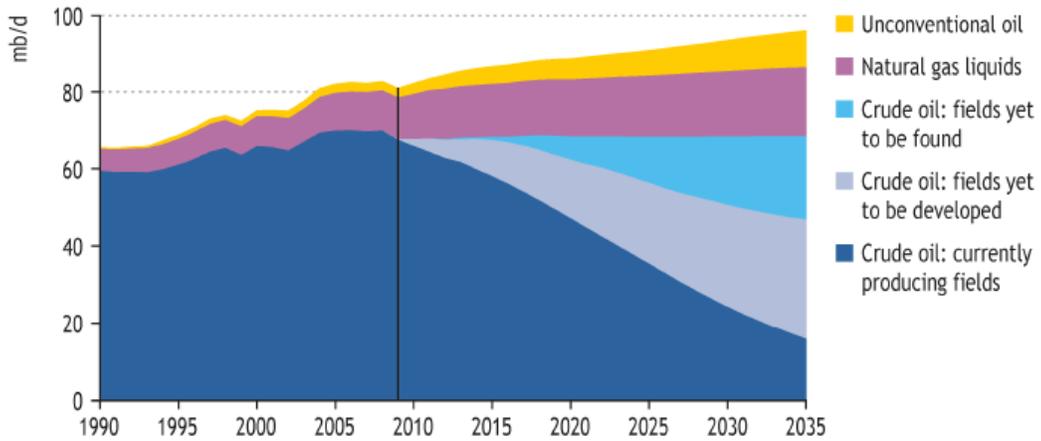
This section explores the early and mid-2000s and scrutinizes both the peak oil narrative and the conventional international relations and political economy explanations of what the outcome of this period would entail for oil insecurity or scarcity: resource wars, resource governance, or neo-imperialism. As a way of conclusion, I provide my own interpretation of this period and how it connects to the re-birth of Canada’s unconventional hydrocarbon industries by offering one insight as to why Canada is one of the major social forces in reconstituting fossil fuels as the dominant global energy supply in the age of climate change.

Since the oil crises of the 1970s, the politics of oil scarcity or insecurity have been at the epicenter of conventional international relations and political economy scholarship and United

States foreign policies, in terms of theorizing the importance of oil as a strategic commodity for globalized social reproduction and United States militarism (Bromley 1991, 2005; Di Muzio and Ovadia 2016; Gill and Law 1988; Hancock and Vivoda 2014). The previous oil crisis, as discussed in Chapter 4, was the outcome of capitalist methods of disruption and established the Weapon-Petrodollar Coalition rather than any actual physical oil scarcity or insecurity (Bichler and Nitzan 1995, 2014, 2018; Di Muzio 2015a; El-Gamal and Jaffe 2010; Gowan 1999; Mitchell 2011; Spiro 1999). There is a distinction between oil scarcity and insecurity; oil scarcity is the acknowledgement that there is a physical finite amount of oil on the planet. Whereas, energy ‘(in)security’ takes place when nation-states’ capabilities (military or financial) are unable to secure energy supplies, in this case, oil (Hancock and Vivoda 2014). This elicits the question: was this period in the early and mid-2000s any different?

In the early 2000s, Hubbert’s (1956) theory that global oil production would eventually peak was re-entering global public discourse (Deffeyes [2001](2009); Huber 2011a, 2011b; Mulligan 2010a, 2010b). There are many interpretations of peak oil but the ‘peak’ is a point in time when the world will produce the most oil it ever has, and thereafter, production will go into decline (Bardi 2009). This ‘new’ period of peak *conventional oil* was empirically proven by scholars, geologists, and institutions who strongly suggested that oil would peak between 2006-15 (Bentley 2016; Bundeswehr Transformation Centre 2010; Deffeyes [2001](2009); Exxon Mobil 2017; See Chapter 1; IEA 2010; Klare 2008, 2012). In 2008, the International Energy Agency (IEA) stated that conventional oil would peak in 2010 (See Figure 15).

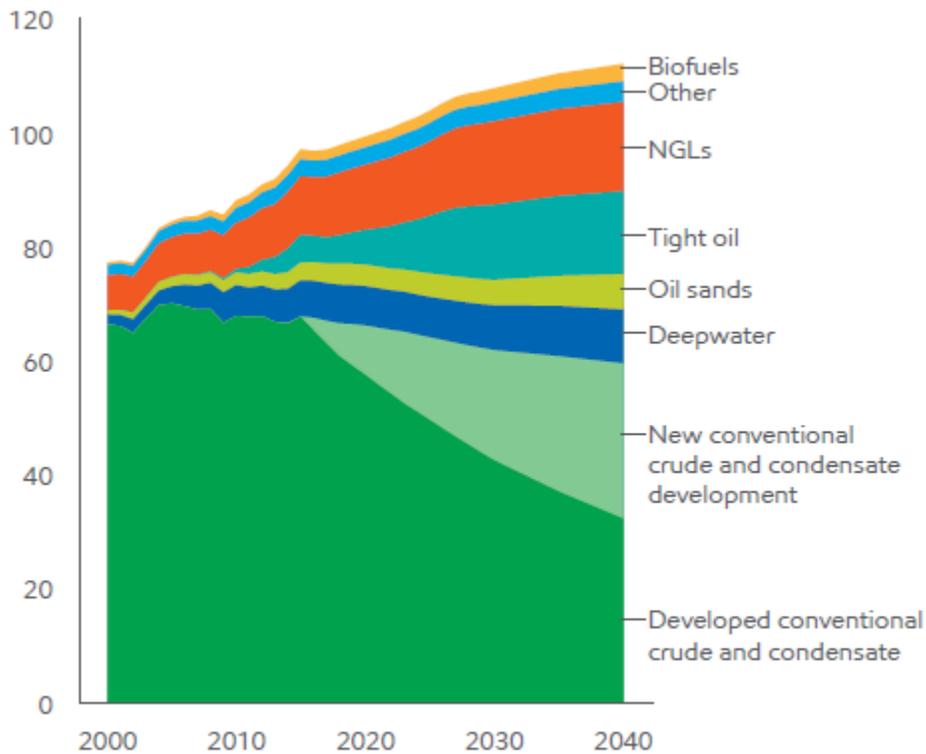
Figure 15: World oil production by type in the New Policies Scenario



Source: Adapted from IEA. (2008) *World Energy Outlook 2008*. (Paris: France): p. 250.

More recently, in 2017, ExxonMobil argued that conventional oil would peak around 2015 (See Figure 16).

Figure 16: Exxon Mobile’s Prediction for Future Oil Production by Type



Source: Adapted from Exxon Mobil. (2017). 2017 Outlook for Energy: A View to 2040: p. 37. (Irving: Texas). Retrieved from: <https://cdn.exxonmobil.com/~media/global/files/outlook-for-energy/2017/2017-outlook-for-energy.pdf>

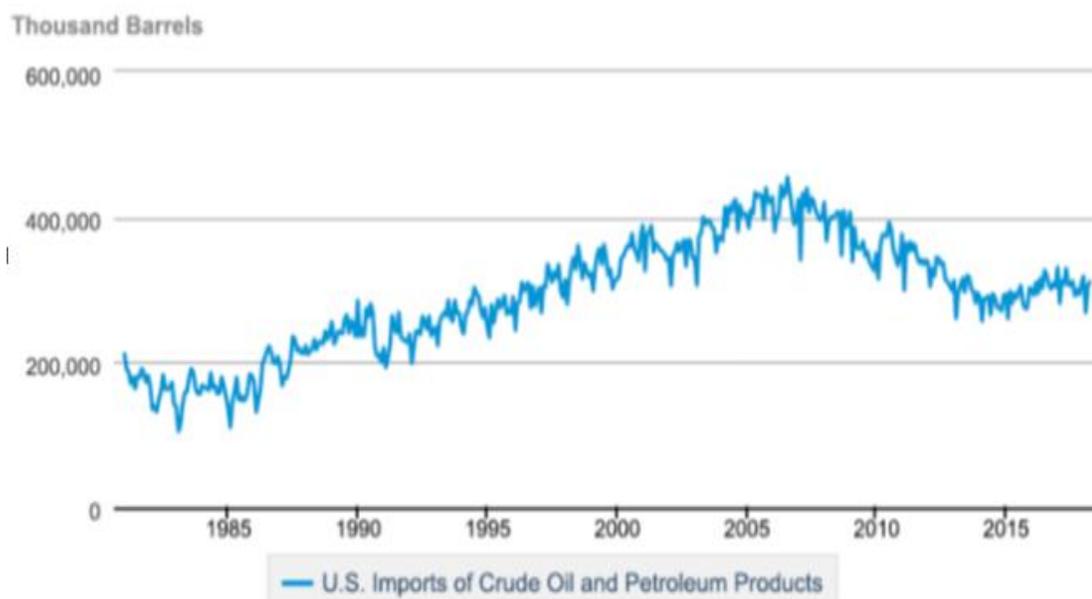
The international relations and political economy scholarship that theorize oil scarcity is (neo)liberal and can be analytically divided into two identifiable frameworks: neoclassical economics and neo-Malthusian political economy (Angus and Butler 2011; Bichler and Nitzan 2014; Caffentzis 2008; Clark 2007; Friedrichs 2013; Homer-Dixon 1999, 2009; Huber 2011a; Malm 2016). The difference between neoclassical economics and neo-Malthusianism is that neoclassical economics attempts to mathematically model oil scarcity through a theory of supply and demand (the desires of buyers outpaces sellers). However, no market or corporate firms can predict the desires of buyers or sellers of commodities, and therefore, the theory of supply and demand is inadequate at explaining commodity or oil prices (see Chapters 4; see also: Bichler and Nitzan 2015a, 2018; Dickers 2011; Keen 2011; Noreng 2008). Neo-Malthusians, and particularly the literature of environmental economists, maintain that there is a finite amount of any ‘natural resource’ on the planet, and because of over production and consumption, there will inevitably be resource scarcity (Angus and Butler 2011; Barbier 2011; Carson 1962; Clark 2007; Ehrlich 1968; Friedrichs 2013; Hardin 1968; Homer-Dixon 1999; Malthus 1798[1998]; Meadows et. al. [1972]2004). We should note that Thomas Malthus and neo-Malthusians generally reduce the problem of over production and consumption of ‘natural resources’ to *just overpopulation*, known as *the Malthusian Trap* (Angus and Bulter 2011; Clark 2007; Malthus 1798[1998]). The solution, for neo-Malthusians, is to control or limit biological social reproduction in often violent and discriminatory ways that are both racialized and gendered (Ojeda et. al. 2019). From both perspectives, if oil ‘scarcity’ was ‘real’, then the market price would be the key indicator insofar the price of oil would not only skyrocket, but eventually, oil-dependent global civilizations

(especially in the Global North) would ‘collapse’ (Deffeyes [2001]2009; Heinberg 2011; Hick and Nelder 2008). This collapse would come from high prices that would drive up all other oil-dependent commodities, financial instruments, and end ‘economic growth’ (Friedrichs 2013; Heinberg 2011; Hick and Nelder 2008; OilShock Wave 2005, 2007; Rubin 2009, 2012). The solution for both liberal paradigms is conceptualized as ‘resource governance’, which must be established over all ‘natural resources’, by creating global private property law regimes and expanding the global capitalist price system or market. This process would deny or limit populations from over production and consumption of ‘natural resources’ because of the ‘market price’ (Di Muzio and Ovadia 2016; Hancock and Vivoda 2014; Hardin 1968; Mulligan 2010a, 2010b). This ‘resource governance’ discourse is generally framed under the guise of ‘international cooperation’ between nation-states, global institutions and corporations to spread democracy, liberalism, and globalization in order to ‘avoid’ resource wars (Barkawi and Laffey 1999; Friedman 2005; Fukuyama 1992; Hirst et. al. 1996; Keohane and Nye [1977]2011; Owen 1994; Robinson 1996; Sachs 1995, 2005). We should note that there is a pro-militarist cooperation agenda amongst neoliberal international relations and political economy scholarship; when the process of diplomatic ‘international cooperation’ fails, the United States and North Atlantic Treaty Organization (NATO) militarism can be used as a vehicle to transition ‘disconnected’, ‘failed,’ or non-capitalist nation-states and economies to integrate into the world capitalist economy (Barkawi and Laffey 1999, 2001; Barnett 2003, 2004; Brzezinski 1998, 2012; Chomsky 2006; Duffield 2001; Gill 2002, 2012; Huntington 1968; Ikenberry 2004, 2011; Krasner 1985). In other words, both (neo)liberals and (neo)realists often articulate both global capitalism and the United States and NATO military intervention as inherently ‘progressive’, ‘civilizing,’ and ‘morally ethical’

(Barkawi 2001; Barnett 2004; Bowden 2009; Chomsky 2006; Federici 2000; Ikenberry 2011; Losurdo 2011; Persaud 2016).

For realism and (neo)realism, oil or energy security is a more common articulation in the discourse because it is only concerned with power relations of the nation-states' capabilities to access energy. This is especially the case for the United States, due to not only its foreign dependency on imported oil, but the broader military industrial complex centered largely in the Pentagon which is the largest consumer of oil globally (Burke 2014; Crawford 2019; Hancock and Vivoda 2014; Foreign Policy 2006; Klare 2007, see Figure 17; see Figure 18).

Figure 17: United States Imports of Crude Oil and Petroleum Products



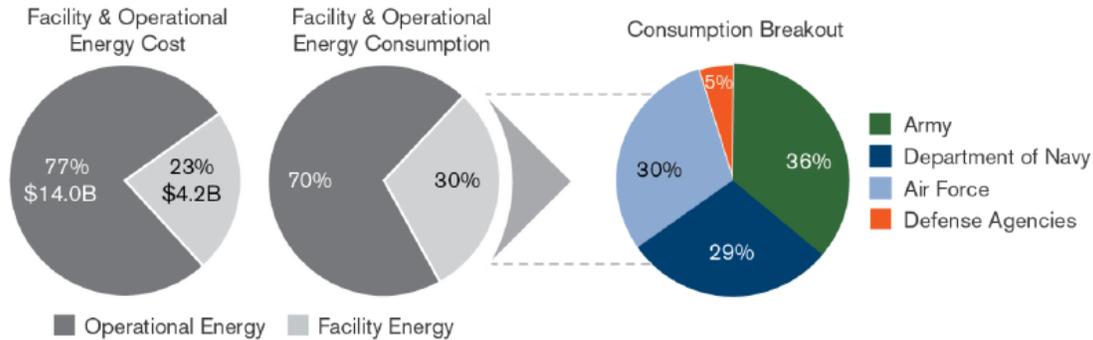
Source: Adapted from Energy Information Agency. (2018). Petroleum and Other Liquids.

Retrieved from:

<https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MTTIMUS1&f=M>.

For example, the distinguished and mainstream publication *Foreign Policy* surveyed a wide variety of United States national security experts in 2006. The largest issue or threat to United States security, amongst these experts, was the United States' reliance on foreign energy (oil) sources where 82 percent of the experts agreed (Foreign Policy 2006; see also Labban 2011).

Figure 18: United States Department of Defense Energy Consumption and Cost



Source: Adapted from United States of America, Department of Defense. (June 2016). *Annual Energy Management Report Fiscal Year 2015*: p. 17 – 151. Retrieved from: <https://www.acq.osd.mil/eie/downloads/ie/fy%202015%20aemr.pdf>

In 2017, the United States Department of Defense “consumed over 85 million barrels of fuel to power ships, aircraft, combat vehicles, and contingency bases at a cost of nearly \$8.2 billion” (United States Defense for Energy, Installations, and Environment 2018).

Since the 1970s, it has been widely acknowledged that OPEC countries control most of the world’s conventional oil deposits (see Chapter 4). In 2016, OPEC suggested that they still have roughly 1,216.78 billion barrels or 81.5 per cent of the world’s global reserves available (OPEC 2017). British Petroleum suggests that OPEC in fact controls 71.8 per cent of the world’s global reserves. The International Energy Agency (IEA) report in 2013 suggests that conventional oil is at an estimated 1.3 trillion barrels. The global proven reserves have increased modestly since 1990, despite the growth in consumption. The global reserves-to-production ratio, based on current consumption levels, is in the range of 40 to 50 years (IEA 2013: p. 17-20; see also: BP 2017; Dow 2016). Moreover, *The Financial Times* reports that there is a new Seven Sisters group largely comprised of nationally-owned or semi-nationally owned corporations. These include Saudi Aramco, the National Iranian Oil Company, the Iraqi National Oil Company, PDVSA of Venezuela, PetroChina, Gazprom of Russia, Petrobras of Brazil and Petronas of Malaysia (Di

Muzio 2015a: p. 166; Hoyos 2007). The new Seven Sisters control “one-third of the world’s oil and gas production and more than one-third of its total oil and gas reserves” (Hoyos 2007: p. n.p.). Publicly-traded oil companies, or the former Western Seven Sisters, produce roughly “10 percent of the world’s oil and gas and hold just 3 percent of reserves” (Hoyos 2007: p. n.p.). For (neo)Realists, the potential of conventional oil peaking, the concentration of ownership, and the growing demand for energy could create world order conditions that result not in *cooperation* but conflict for oil. Otherwise known as periods of *resource wars* (BP 2017; Homer-Dixon 1999; Huber 2011a, 2011b; IEA 2013; Klare 2002, 2008; Le Billon 2005; Luft and Korin 2009b; Moran and Russell 2009; see Appendix N). But what of the Marxist tradition in international relations and political economy?

(Neo)Marxism is splintered in theorizing this period as oil ‘scarcity’ (Huber 2011a, 2011b). Matthew T. Huber (2011b) argues that the idea of oil scarcity has divided (neo)Marxism into two camps. The first camp completely rejects the argument by the (neo)Malthusian perspective on the catastrophic nature of oil scarcity (Angus and Butler 2011; Boal et. al. 2005, Caffentzis 2008, 2013; Huber 2011a, 2011b; Labban 2010; Lilley et. al. 2012). This (neo)Marxist literature theorizes fossil fuel energy as a replaceable ‘input’ in the capitalist mode of production. The second camp, mainly ecological-sensitive Marxists, have largely accepted the peak oil narrative (Altvater 2006; Foster 2008a; Salmien and Vadén 2015). The main theoretical contribution of (neo)Marxism is over the question of oil ‘insecurity.’ We should recall that (neo)Marxism, like classical realism, theorizes ‘oil insecurity’ in terms of access and as a strategic commodity but for national capitalist interests (Bromley 1991). By contrast, both classical and (neo)realist literature is often silent on how capital accumulation and global capitalism operate within the world order (Di Muzio and Dow 2019; Gill and Law 1988). The (neo)Marxism paradigms believe that the capitalist world

order has entered a ‘new period’ of imperialism over the control of production and supply of oil (Caffentzis 2008, 2017; Foster 2008a; Harvey 2003; Stokes and Raphael 2010). The difference for (neo)Marxists is that the outcome of this oil insecurity period would not be the collapse of global capitalism or civilization, nor would the resolution be ‘resource wars’ *per se*, but neo-imperialism which would unevenly benefit the capitalist classes of the United States and NATO allies (Harvey 2003; Huber 2011a, 2011b; Klassen 2014). For (neo)Marxism, there are multiple ways to interpret this neo-imperial stage of capitalism (Klassen 2014: p. 51ff; see also: Kiely 2005, 2014; Panitch and Leys 2004, 2005).¹¹⁵ First, the United States is an *informal empire* or *empire of capital* that is consistently making and remaking global capitalism through their military or financial power (Panitch and Gindin 2012; Wood 2003). This neo-imperialist regime would largely benefit United States-based corporations and then benefits are assumed to trickle outwards to their allies (Panitch and Gindin 2003; Stokes and Raphael 2010; Wood 2003). The second is a more dogmatic return to classical Marxism insofar as the new imperial order is still about old imperial powers (Western Europe, Canada, the United States, etc.), and the new potential imperial powers (Brazil, Russia, India, China, and South Korea, etc.) may start inter-imperialist warfare with each other in attempts to control countries in the Global South or the world economy (Caffentzis 2017; Callinicos 2009; Desai 2015; Harvey 2003; Labban 2011; Lacher 2006). Although there are different interpretations of this neo-imperial stage of global capitalism, the primary synthesis is imperialism, which is no longer rooted in territorial, colonial or military control and domination as seen in previous stages of global capitalism, but rather through expanding or universalizing the logic of capitalism and capital accumulation that benefits the Global North’s national capitalist classes (Foster 2008a;

¹¹⁵ The similarity of these branches of (neo)Marxism and their conceptions of imperialism is that they fundamentally believe that the capitalist world economy is governed by the law of uneven and combined development (Klassen 2014: p. 54)

Harvey 2003; Klassen 2014; Magdoff 2003; Wood 2003). Therefore, in terms of new capitalist imperialism and ‘oil insecurity’, the (neo)Marxists have two different assumptions. First, the return to the inter-imperial rivalry warfare over oil (Foster 2008a; Harvey 2003; Labban 2008, 2011), or second, that the United States and NATO will collaborate on disciplining oil producing countries in order to maintain their oil-dependent social reproduction and militaristic patterns (Cox 1993; Gill 2003, 2005; Stokes and Raphael 2010).

The three conventional international relations and political economy perspectives hold different viewpoints. However, all three perspectives believe that the future of the global political economy was going to be greatly influenced by the geopolitical events and potential conflicts surrounding oil which became quickly entangled after the terrorist attacks of 9/11, with the global war on terror. The global war on terror started in Afghanistan (2001) and then Iraq (2003) creating instability throughout regions of both Central-East Asia and the Middle East (Harvey 2005; Klare 2004, Klassen and Albo 2013). There are various interpretations of the global war on terror: the *clash of civilizations*¹¹⁶ or defeating the *axis of evil* (known as the Bush Doctrine), *clash of globalization(s)*¹¹⁷, or *the clash of ignorance* and anti-United States imperial *blowback*¹¹⁸ (Barkawi

¹¹⁶ We should note Huntington’s (1993) original thesis was a critique of Francis Fukuyama’s (1989) argumentation of the ‘end of history’. Huntington argued the next wave of global warfare would be no longer rooted in ideologies of communism vs. capitalism but over cultural or civilizational differences.

¹¹⁷ There are two different interpretations in the discourse of ‘clash of globalization(s)’. The first account stemming from liberal international relations and political economy, which is clarified by Thomas Barnett (2003, 2004), that 9/11 represented how countries and populations ‘disconnected’ or have ‘rejected’ globalization which represents dangers to the world order. Therefore, United States and NATO’s grand military strategy should be about integrating these nations. The second account, by critical international relations and political economy scholarship, argues that ‘globalization’ or global capitalism, through various stages of Western imperialism and uneven development, has created conditions where 1/3 of the global populations’ (mainly Global North and Global South elites) social reproduction is dependent on violence, exploitation and inequality of the remaining 2/3 of the world’s population (Gill 2002, 2003).

¹¹⁸ Edward Said’s (2001) clash of ignorance and Chalmers Johnson’s (2000) concept of blowback both emphasize a form of Global North’s ignorance towards not acknowledging, that for the last few decades, both the United States and the Global North bloc have supported ruthless Middle Eastern dictators and monarchs in return for their loyalty. For example, the intense United States militarization of the area is to safeguard the production and consumption of oil and leadership in the region and, what is less known, is to keep petrodollars remaining in United States currency (See Chalmers 2004; Clark 2005; Di Muzio 2015a; El-Gamal and Jaffe 2010; Emre 2009; Lutz 2009; Mitchell 2011; Shipley 2007; Spiro 1999; Vitalis 2007).

2001; Barber 1992, 1995; Barnett 2003, 2004; Bush 2002; Chalmers 2000; Chomsky 2002; Cox 2002; Duffield 2001; Gill 2002; Huntington 1993, 1996; Medovoi 2007; Mitchell 2011: Chp. 8; Neumayer and Plümper 2009; Parenti 2003; Said 2001). The geopolitics of oil and the global war on terror started when the United States-led a NATO military invasion for the ‘original targets’ who were Usama (or Osama) Bin Laden (himself a former Central Intelligence Agency operative) and al-Qaeda¹¹⁹, who unofficially claimed responsibility for the 9/11 attacks, as well as the Taliban in Afghanistan, starting in 2001 (Coll 2004; Dow 2011; Hersh 2001; Warnock 2013). Yet, various critical scholars have assessed the war in Afghanistan as an imperialist war by the United States and NATO allies who attempted to integrate Afghanistan into global capitalism through privatizing their natural resources and establishing a fossil fuel infrastructure (Dow 2011; Fenton and Elmer 2013; Foster 2008b; Skinner 2013; Klassen 2014: Chp. 6 and 7; Klassen and Albo 2013; see also Brzezinski 1998). This interpretation of events is quite distinct from the ‘official narrative’ which was removing Islamic terrorist organizations, promoting women and children’s rights and democracy (Lang and Stein 2007). Moreover, there was a tremendous amount of speculation and evidence that the terrorist attacks were financed and supported by Saudi Arabia and United Arab Emirates, specifically the city of Dubai, which is still a well-known ‘financial hub of Islamic militants’ (Davis 2006: p. 57; See also Blanchard 2017; Chomsky 2002, 2003; Foreign Policy 2006; Labban 2011; US State Department 2016).¹²⁰ Nonetheless, the United States and Britain unilaterally and illegally invaded Iraq in 2003, under the unsubstantiated or “...smokescreen

¹¹⁹ Formerly known as the Mujahedeen, they were a Central Intelligence Agency and Saudi Arabian funded militia to defend Afghanistan from the Soviet Union invasion (1979 – 1989) (Coll 2004; Dow 2011; Warnock 2013).

¹²⁰ The United States State Department’s 2016 *Country Reports on Terrorism* reports on an entry on Saudi Arabia which states “[d]espite serious and effective efforts to counter the funding of terrorism within the Kingdom, some individuals and entities in Saudi Arabia probably continued to serve as sources of financial support for terrorist groups. While the Kingdom has maintained strict supervision of the banking sector, tightened the regulation of the charitable sector, and stiffened penalties for financing terrorism, funds are allegedly collected in secret and illicitly transferred out of the country in cash, sometimes by pilgrims performing Hajj and Umrah” (p. 221 – 222).

rhetoric of weapons of mass destruction, terrorism, and the threat posed by [Saddam] Hussein” (Shipley 2007: p. 7; see also Bhuta 2003; Caldwell 2006; Chomsky 2003; Ikenberry 2002; Sofaer 2003; Rens van Munster 2004). The war in Iraq was quickly interpreted by the conventional international relations and political economy theorizations that the world order was indeed entering into a period of *resource wars* or *neo-imperialism* to control Iraq’s oil (Caffentiz 2005; Chomsky 2003; Di Muzio 2007; Harvey 2005; Klare 2004, 2008; Mearsheimer 2005; Medovoi 2007; Stokes 2007). By contrast, liberal international relations scholar John Ikenberry (2002) argues that United States foreign policy and militarism had entered into a so-called new phase called *preventive war*. This was considered illegal under the United Nations’ Charter Article 51. As the UN argues, a nation-state has the capacity for self-defense, known as pre-emptive war, but only if a certain criterion is met, which in this case of invading Iraq, was not (see Bhuta 2003; Caldwell 2006; Chomsky 2003; Di Muzio 2009: Chp. 2; Sofaer 2003; Rens van Munster 2004). On the surface, then, it would seem that traditional international relations and political economy perspectives were correct; the world order is being shaped by the geopolitical conflicts over oil ‘insecurity’ or ‘scarcity’, under the guise of eliminating ‘international terrorism.’

Did the world order actually hit a period of oil ‘scarcity’ or ‘insecurity’? Both (neo)Malthusianists and (neo)Marxists have insufficient theorizations and interpretations of ‘oil scarcity’. As (neo)Malthusianists do not acknowledge the extremely unequal and uneven distribution of oil production and consumption in the creation of so-called periods of ‘scarcity’, as there is still roughly 1 billion people without access to electricity globally energy deficiency and poverty appear to go hand in hand (Abramsky and De Angelis 2008-9; Ren21 2017: p. 19; UNDP 2000; Urry 2012). Whereas, (neo)Marxists and even eco-Socialist platforms do not always acknowledge the biophysical limitations of the planet (Abramsky 2010; Angus 2016; Foster 1999).

Simply put, the biosphere cannot sustain the Global North's energy-resource intensive patterns of social reproduction everywhere equally (Chakrabarty 2014; Heinberg 2011; Sklair 2017; Trainer 2007, 2019). Moreover, both paradigms ignore the power of nation-states and the capabilities of corporations to strategically sabotage production or to create an artificial scarcity which is at the heart of private property ownership and global capitalism, which ironically, is a (neo)Malthusian solution to scarcity (Bichler and Nitzan 1995, 2009, 2015b; Di Muzio 2015a; Veblen 1904[1975], 1923[1967]). The theorization of 'oil scarcity', from my perspective, which aligns with Tim Di Muzio's argument, is that "scarcity has certainly been engineered by capitalists to boost their profits and the sabotage of production and social reproduction is an ongoing facet of differential accumulation..." and yet there is actually a finite amount of oil on the planet (Di Muzio (2015a: p. 168). As a result, I argue and will demonstrate that this crisis of oil 'scarcity' and 'insecurity' is similar yet slightly different to events that unfolded in the 1970s and 1980s.

It is interesting that the *peak oil narrative* has more or less dissipated from global public opinion since at least 2016 (Bentley 2016). In 2018, IEA states that "...there is no peak oil demand in sight, the pace of growth will slow down to 1 million barrels/per day by 2023 after expanding by 1.4 million barrels/per day in 2018" (p. 3). The reason for this is the rise of unconventional oil industries which includes all 'oil-types' (tight, extra-heavy, bitumen, shale, offshore, etc.) that are produced or extracted using techniques outside of the conventional oil well method (Overland 2016). R. W. Bentley (2016) argues the global peak of conventional oil is currently harder to pin-down. The reasons for this are: 1) how conventional oil is defined is constantly changing; 2) the unknown amount of OPEC (or any nationally-owned) reserves; 3) new unconventional oil reserves that open up because of the price of oil rising or falling; or 4) technological improvements that lower the cost of their production and grant larger access (Bentley 2016: p. 53, 72ff). Proven

unconventional oil reserves (depending on technology and price) would add an additional 1.9 trillion barrels of unconventional oil; this would provide the global political economy with roughly 100+ years of oil-based social reproduction (IEA 2013: p. 17 – 20). Although, in 2017, British Petroleum argues that global proven oil reserves are at roughly 1696.6 billion barrels; this can sufficiently provide the world order with 50.2 years of oil at current global production levels (British Petroleum 2017). Therefore, peak oil seems distant for now because of the rise of unconventional oil.

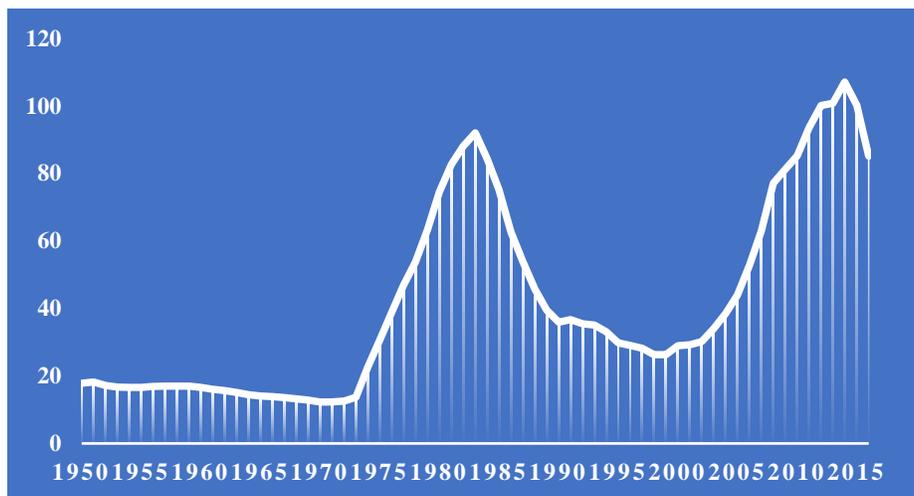
The importance of this is that the global demand for oil is currently increasing and will not peak until 2020 – 2050, if not later, depending on *whose scenario* is correct (see British Petroleum 2017; Chevron 2017; Exxon Mobil 2017; IEA 2018b). As a result, unconventional oil will have to sustain current and future oil-intensive patterns of social reproduction, as will be seen in the case of Canada. The contradiction, according to Carbon Tracker, a United Kingdom Climate Change Think-Tank, is that [o]nly 20% of the total reserves can be burned unabated, leaving up to 80% of assets technically unburnable” without runaway climate change (2011: n.p.; see also: Carbon Tracker 2015, 2017). This has come to be known as the impending carbon bubble or stranded carbon (or fossil fuel) assets (see Carbon Tracker 2015, 2017; Redmond and Wilkins 2013; Rubin 2015). In 2018, J. F. Mercure et. al. released a macroeconomic study that empirically argues that stranded fossil fuel assets valued at US\$1 to US\$4 trillion dollars, and potentially more, could cause another financial collapse. Whether we have hit *peak conventional oil* or have entered into a period of *unconventional oil abundancy*, if the United Nations Framework Convention on Climate Change (UNFCCC)(2015) wants to hit its 2°C scenario, only 20% of current oil reserves can be burned or certainly extreme forms of human-induced climate change events will be inevitable.

The possibilities of this period being one of ‘oil insecurity’, especially for the United States, seems to be more far-fetched than that of potential future conventional oil scarcity. For both (neo)Realism and (neo)Marxism, oil ‘insecurity’ takes place when a nation-state no longer has the capabilities (militarily or financially) to access it (Bromley 1991; Klare 2008). Since World War II, the United States has been unquestionably the world’s hegemonic (in the neorealist sense) leader in terms of financial and military power (Panitch and Gindin 2012). In other words, there is a tremendous volume of research demonstrating that the United States has a *permanent war economy*, *Pentagon-based capitalism*, *military industrial complex*, or *militarized Keynesianism* that has created a global United States military-economy power potential that far surpasses every other nation, historically and presently (Baran and Sweeny 1966; Bichler and Nitzan 1995, 2006; Boggs 2003, 2005, 2017; Chalmers 2004; Cunningham 2004; Custers 2010; Di Muzio 2007, 2015a; Duncan and Coyne 2013; Gill 2003, 2005; Lutz 2009; Melman 1970, 1974; Mills 1956; Turse 2009; Wood 2002, 2003). For example, using data from the Stockholm Institute for Peace and Research (2018), the United States has accounted for 42% (US\$17.5 trillion) of all global military spending at US\$ 40.9 trillion since 1988 to 2017 (both measurements are in constant United States 2016 prices). Furthermore, the United States has had a long diplomatic history with various Middle East nations, especially Saudi Arabia and Israel, who happen to be the largest military powers in the region (Bichler and Nitzan 2002; Mitchell 2011; Vitalis 2007). Catherine Lutz (2009: p. 1) notes the United States has over “190,000 troops and 115,000 civilian employees that are massed in 909 military facilities in 46 countries and territories. There, the U.S. military owns or rents 795,000 acres of land, and 26,000 buildings and structures valued at \$146 billion.” Yet, as Lutz (2009), Johnson (2004), and Turse (2011) argue, these are, at best, estimations because they are premised on the Department of Defense fiscal year military base reports and not all bases

are included due to confidentiality or ‘human error’. Before the war on terrorism, the United States had the following military bases in the Middle East region: Turkey (19), Israel (6), Saudi Arabia (1), Kuwait (16), Bahrain (8), Qatar (1), United Arab Emirates (2) (Lutz 2009: p. 3). After the military occupation of Afghanistan, there are now 16 – 80+ United States and NATO military bases and in Iraq, 55 – 100+ United States bases (Lutz 2009: p. 3; See also Englehardt 2009; Gerson 2009). Finally, economist Roger Stern (2010) suggests that the United States military alone has spent US\$7.3 trillion in defending the Persian Gulf’s oil shipping lanes from 1976 to 2007 with United States aircraft carriers.¹²¹ Therefore, at least on the United States military front, there was no oil ‘insecurity’ threat.

What about oil ‘insecurity’ or ‘scarcity’ in terms of the ‘market price’ of oil? The price of oil, slowly but then rapidly, increased from the early 2000s to 2014, roughly a 319 percent increase from 1999 (see Figure 19).

Figure 19: Crude oil prices 1950–2016 (Yearly moving averages in 2016 US\$ per barrel)



Source: Adapted from Tim Di Muzio and Matt Dow. (2019). Carbon Capitalism and World Order. In T. M. Shaw, L. C. Mahrenbach, R. Modi, et. al. (eds.), *The Palgrave Handbook of Contemporary International Political Economy*. (London: Palgrave Macmillan): p. 560.

¹²¹ As war veteran Stan Goff has said, ‘Oil is not a normal commodity. No other commodity has five US navy battle groups patrolling the sea lanes to secure it’” (cited in Di Muzio 2015a: p. 89 and Clark 2005: p. 33).

Neoliberal or Neoclassical perspectives assume that Brazil, Russia, India, South Korea, and mainly China, created a global demand on oil during the age of peak oil and instability in Iraq, and thus, the price increase. Some have argued the demand has outpaced supply of oil which led to an increase in oil prices (Dickers 2011: p. vi; See also: Bichler and Nitzan 2015a). This has been disproven as Bichler and Nitzan (2015a) demonstrate that ‘peak oil’ awareness did not correlate with the price increase as “the ‘real’ price of oil has little or nothing to do with its approximated scarcity” (p. 53; see also Dickers 2011; Noreng 2008). Since the first Gulf War (1990 – 1991), Iraq was barely producing oil because of the United Nations Security Council’s resolution 611, in August 1990, which placed an embargo or ‘economic sanctions’ against Iraq, that ironically ended in 2003, when the United States, British, and Iraq allies killed Saddam Hussein (Alnasrawi 2001; UNSC 2003: 1483).¹²² Moreover, the (neo)Realists logic is even more contradictory insofar that according to military strategists, economists, and scholars, ‘high oil prices’ would have terrible consequences on the global and United States economy (Elhefnawy 2008; Friedrichs 2010; Heinberg 2011; Hick and Nelder 2008; Klare 2005, 2008; OilShock Wave 2005, 2007; Rubin 2009). Yet, the United States and British military occupation and war with Iraq created instability throughout the region of the Middle East, the very conditions the Pentagon supposedly wanted to avoid, which were the potential for oil ‘scarcity’ and the ‘high oil prices’ that eventually occurred. This is reflected in the works of both Michael T. Klare (2004, 2008) and Bichler and Nitzan (2015a, 2018) who argue that if the Iraq War was about controlling, lowering oil prices, and creating abundance, then the opposite occurred as the situation worsened. For example, oil in 2000 was

¹²² Kathleen Wilusz (2002: p. 184) notes “[p]rior to the embargo, Iraq produced about 3 million barrels of oil a day, exporting 2.5 million. This trade fell by approximately 90%.” The ‘economic’ sanctions by the United Nations Security Council against Iraq had horrible consequences (mass starvation, economic collapse, etc.) for the population of Iraq. See Alnasrawi 2001; Crossette 1995; Siegal 1999.

US\$20 dollars a barrel (in 2013 prices) and then, by 2010, nearly US\$120 (Bichler and Nitzan 2015a: p. 52).

Finally, (neo)Marxists attempt to maintain that the labour theory of value, use and exchange values, and commodity prices are correlated, but this has never been mathematically proven or observable (Bichler and Nitzan 2009: p. 47ff). For example, eco-Marxist Anna Zalik (2010: p. 563) argues “prices are increasingly abstracted from oil’s use value as a key global input to the production and reproduction of society and capital” (see for original theorization: Bina 1988, 2006; Labban 2008, 2010, 2011; Mandel 1968, [1972]1978, 1978; Zalik 2010). As Zalik argues:

I understand price here, roughly, as exchange value abstracted through the money form. While in Marxist theory exchange value (measured in abstract labour time), and price are not strictly equivalent, the point here is to indicate that future prices are an expression of broad estimations regarding prospective (exchange) value of a given commodity – based on supply and demand (2010: Footnote 2).

Yet, Marx and (neo)Marxists theorizations that commodity prices are anchored in use values, exchange values, or the labour theory of value has, as noted, never been empirically proven or correlated with any commodity prices (Bichler and Nitzan 2009, 2015b). Zalik, adopting the neoclassical economics approach of supply and demand in an attempt to shed more theoretical light onto oil prices, only highlights the problematic theorization of (neo)Marxist economics on commodity prices.

What quickly changed in the global oil industries that made the price of oil so volatile and high? Daniel Dickers (2011), who was an oil trader for over 20 years, states the reason for the price increase during this period was “oil had become dominated by a new flow of money pulsing through it — speculative money from investors and traders who had no natural connection to oil at all” (p. VI; see also Hamilton 2009; Zalik 2010). In other words:

...[t]he explanations ran the gamut — from the falling value in the U.S. dollar, global economic growth, inflationary fears, or China’s soaring energy needs. All of

these explanations amounted to a bad alibi. Quite simply, a new set of players had come to dominate the oil markets and control them. Futures markets were designed to accommodate only a small group of hedgers — farmers providing raw products and manufacturers making finished products. Unlike the stock market or the bond market, the oil futures markets were never meant to accommodate investment, which it was now being forced to do (p. VI).

Previously, oil trading and traders belonged to giant oil corporations who held seats on the New York Mercantile Exchange (NYMEX): Chevron: 4 seats, Amerada Hess: 2 seats, BP: 2 seats, Conoco-Phillips: 2 seats, Exxon-Mobil: 2 seats, Marathon-Ashland: 2 seats, Shell: 2 seats, Sunoco: 2 seats, Total of France: 2 seats, Valero: 2 seats (Dickers p. 102ff). These oil traders main objective was to use “the futures markets as a tool only to guard the risks of their real physical assets” (p. VI). This rapid change, in the early 2000s, became evident when non-oil firms became deeply involved in New York Mercantile Exchange oil trading. These new oil traders belong more to global banks and financial institutions: BNP Paribas: 9 seats, American International Group: 6 seats, Merrill Lynch: 5 seats, Bank of America: 4 seats, Barclays: 4 seats, Citigroup: 4 seats, Deutsche Bank: 4 seats, JP Morgan: 4 seats, Morgan Stanley: 4 seats, UBS: 4 seats, Bear Stearns: 3 seats, Goldman Sachs: 3 seats, Lehman Brothers: 2 seats. These new financial-commodity traders sparked an ‘endless bid’ that drove up the price of oil¹²³ which was not connected to the global conversation on peak conventional oil but rather about hedging ‘bets’ or speculating on oil futures to generate income and profits streams (Dickers 2011: p. 105; See also Dickers 2011: Chp.

¹²³ Hamilton (2009: p. 16 – 17) notes “Michael Masters, manager of a private financial fund who has been invited a number of times to testify before the United States Senate...blames the oil price spike of 2007-08 on the actions of investors who bought oil not as a commodity to use, but instead, as a financial asset, claiming that by March 2008, commodity index trading funds held a quarter trillion dollars’ worth of futures contracts. A typical strategy is to take a long position in a near term futures contract, sell it a few weeks before expiry, and use the proceeds to take the long position in a subsequent near-term futures contract. When commodity prices are rising, the sell price should be higher than the buy, and the investor can profit, viewing this as a synthetic way to take a long position in the commodity without ever physically taking delivery. As more investment funds sought to take positions in commodity futures contracts for this purpose...the number of buys of next contracts always exceeded the number of sells of expiring. Masters argues that the effect was to drive up the future prices, and with it, the price of the associated spot commodity itself. He argues that this “financialization” of commodities introduced a speculative bubble in the price of oil.”

7 and 8; Hamilton 2009). For example, Morgan Stanley posted \$US5 billion in commodity trading alone in 2008 and Goldman Sachs “refused to comment [in 2008] on oil trading profits, calling it instead “particularly strong...in the first half of 2009, profits had topped \$3.4 billion — again, *that’s only for the first half of the year*” (Dickers 2011: p. 119). This is one part of how dominant owners of finance re-entered the global oil industry.

We should note that Dickers (2011) and James D. Hamilton (2009) argue that this oil bubble or shock was one of the fundamental reasons for the 2007-8 global recession as:

...the crude oil market experienced the most violent deleveraging in its history in the late summer and fall of 2008, spot oil prices fell from a high of \$147 a barrel to a final low of \$32. This historic drop in the price of the crude barrel was caused by the perfect mirror image of the same forces that had seen oil rise in price six-fold in five years. All of that investment money — in the form of index investment, hedge fund, and individual trading and commercial speculation tied to easy credit — disappeared, practically overnight (Dickers 2011: p. 204).

This is another extremely important example of the structural power of dominant capital owners at work in shaping the global political economy. Even the most critical branch of conventional international relations and political economy scholarship, (neo)Marxists maintain that the global recessions of the 1970s, 1980s, and 2007-8, have nothing to do with oil prices but always overproduction or underconsumption (See Mandel 1978; McNally 2011). Most orthodox (neo)Marxists have a tendency to view all ‘economic crises’ as not created nor preventable because they are internal to capitalism, known as ongoing crises of *falling rate of profit*, *overaccumulation*, or *underconsumption* (see Bina 1988; Clarke 1990-1; Lebowitz 1976; Mandel 1968; McNally 2011). Unfortunately, most (neo)Marxists are still fixated on earnings being only anchored on the narrow offshoot of producing commodities, labelling all other forms of capitalist accumulation as *fictitious* or *unproductive* (Lapavitsas 2014: p. 141ff; see also Durand 2017; Zalik 2010). In this way, they are short-sighted in understanding how global capitalism is inherently based on finance

and can, in many cases, generate earnings without any form of production process (Bichler and Nitzan 2009; Di Muzio 2015a).

The other rationale was that the global (national and publicly-traded) oil industries, OPEC, and the Global North states wanted to re-establish the Weapondollar-Petrodollar Coalition and open up non-compliant countries to global capitalist social relations (Barnett 2003, 2004; Bichler and Nitzan 2018; Di Muzio 2015a: Chp. 5; Gill 2003, 2005; Shipley 2007). The global oil industry is still oligarchic as Nana de Graff (2012a: p. 276) demonstrates the global oil market is controlled by relatively "...few companies and a small number of oil elites. The directors of the world's top 10 private oil companies collectively managed almost US\$1.6 trillion dollars in revenues. In comparison, there were only seven countries in the world with a gross domestic product exceeding that amount in 2008" (p. 276). More importantly, the former Western Seven Sisters and new Seven Sisters are deeply interlocked with each other through corporate directors and joint ventures (p. 281ff; de Graaf 2012b: p. 537).¹²⁴ On the viewpoint of global conflict and oil, I agree with the critical scholars perspective who argue that this period could be described as the United States and NATO allies collaborating on disciplining non-compliant oil producing states in order to maintain Global North's oil-dependent patterns of social reproduction and expanding and universalizing global capitalism (Gill 2003, 2005; Stokes and Raphael 2010). As Bichler and Nitzan (2006) argue, the United States military cannot invade any country, at any time, and especially not without the help of NATO and global finance, and this does not account as a 'new' form of imperialism and is *not* a new form of global capitalism. Tyler Shipley (2007) argues that the United States and British military occupation of Iraq was not so much about controlling Iraq's oil but rather how

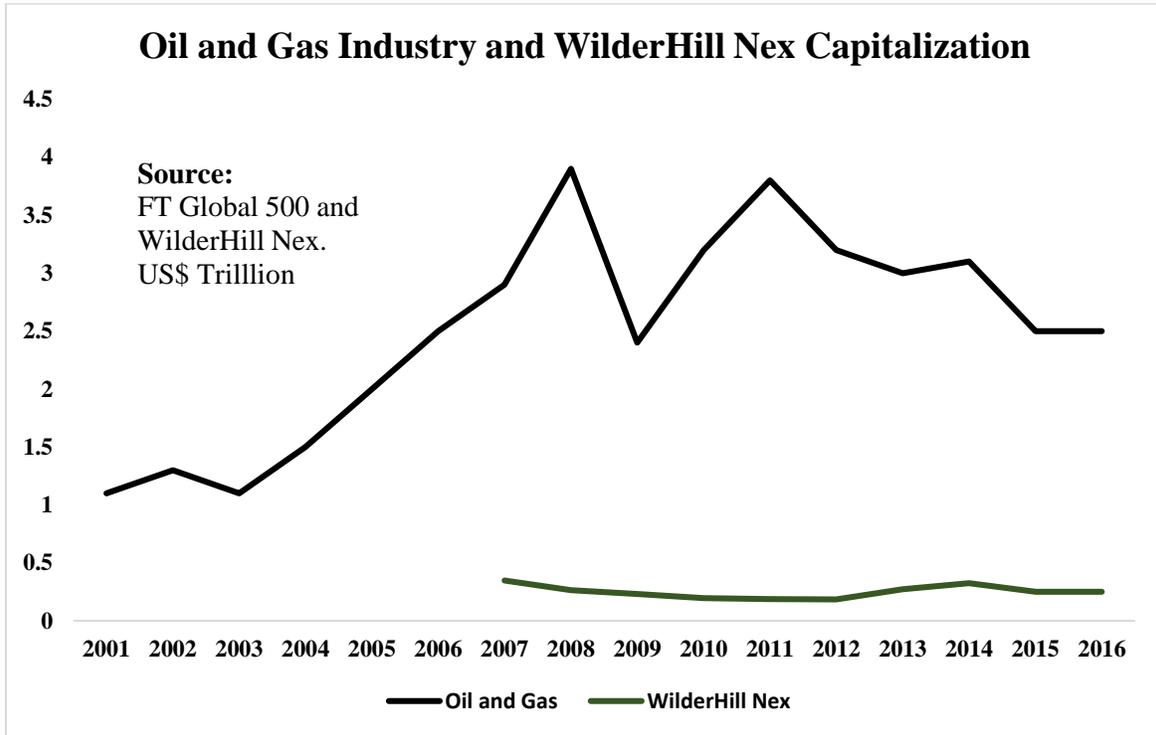
¹²⁴ The practice of interlocking directorates was in general much less common within the Southern oil elite, only 13 percent of those directors had interlocking ties to other companies. Within the Western oil elite, however, this proportion was quite high, 39 percent" (de Graaf 2012a: p. 289)

Iraq's oil is bought and sold. As Saddam Hussein, Russia, China, and other OPEC countries were debating on switching to a different globalized currency other than the United States dollar for the buying and selling of oil (Clark 2005; Shipley 2007). Di Muzio (2007) points out that the global buying and selling of oil, mainly in United States dollars, is one of the main reasons why the United States can leverage a tremendous national deficit and is considered a global currency (see also: Gowan 1999; Shipley 2007). In 2009, the former British Prime Minister Gordon Brown created a British inquiry into the Iraq War, known as the Chilcot Inquiry or Papers, after its chairman Sir John Chilcot (Moosavian and Mallory 2016). The Chilcot Inquiry demonstrates that the Iraq War was mainly fought to privatize Iraq's oil for the globally dominant oil firms, which largely failed (Ahemd 2014; Chmaytelli 2018; Jamail 2012; Juhasz 2013; Macalister 2016). We should also note the attempted coup d'état against former democratic elected, Venezuelan President Hugo Chávez, who was an outspoken critic of United States imperialism, the Bush Administration, and neoliberalism, in 2002 (Spanakos and Pantoulas 2017). While the coup d'état was organized mainly by Venezuelan ruling elite class, there is evidence of not only United States involvement but also, that it was largely over oil (Chodor 2016; Forero 2004; Vulliamy 2002; Wilpert 2007). Since 2007 – 2008, Chávez and future Venezuelan administrations have attempted public-private partnerships to build-up Venezuelan unconventional oil reserves, which resulted in Venezuela's government nationalizing dominant oil corporations' assets. This led to various lawsuits and victories by corporations like ExxonMobil, ConocoPhillips, and Sinopec against Venezuela's nationally-owned oil company (Krauss 2017; Pitts and Crooks 2014; Rucinski 2017; Wheatley 2018).

As a result, the events and social forces mentioned above led to reshape the world order towards fossil fuel dependency in the age of climate change awareness. Di Muzio (2013: p. 376)

argues that from the early to mid-2000s, the global market capitalization of the publicly traded oil and gas producers sky-rocketed from US\$1.1 trillion (in 2000) to US\$3.8 trillion (in 2008), roughly growing at a 186 percent from 2001 to 2010 (See Figure 20).

Figure 20: Oil and Gas and Renewable Energy Industry Market Capitalization



Source: Adapted from Tim Di Muzio and Matt Dow. (2019). Carbon Capitalism and World Order. In T. M. Shaw, L. C. Mahrenbach, R. Modi, et. al. (eds.), *The Palgrave Handbook of Contemporary International Political Economy*. (London: Palgrave Macmillan): p. 569.

We should recall that capitalization is a future oriented indicator in industry, firms, nation-states, etc. with capabilities of shaping and reshaping the future in generating earnings, and therefore, global investors jumped onboard. The top 50 global energy companies were able to capitalize, not only on the earnings from higher prices, but also adding and finding non-conventional oil reserves, as will be seen in Canada (Dow 2016; Zalik 2015). The only industry, at this time, that held a higher market capitalization, than the global oil and gas industries, was banking, at a total market capitalization of \$4030 trillion (Di Muzio 2012: p. 376). That said, Di Muzio (2012) then adds

Financial Times Non-Public 150 oil and gas firms adjusted for inflation, which was US\$3576 trillion, giving the global oil and gas industries a market capitalization of roughly US\$6729 trillion (p. 378). The “oil majors made record profits of US\$655.8 billion from 2001 to 2008 while the revenue of oil exporters climbed to a total of about US\$3270 trillion from 2002 to 2008” (Di Muzio 2012: p. 377). In this same period, global renewable energy industries, which are represented on the Wilderhill New Energy Global Innovation Index or NEX, that tracks 88 globally listed firms in 20 countries that are active in renewable energy businesses, had total market capitalization of only US\$196 billion (Di Muzio 2012: p. 380). What this means is that “[i]f we compare this capitalization with the oil and gas sector, we find that investors are 34 times more confident that the oil and gas producers will generate greater earnings going forward by ensuring that their oil and gas remains *the* central fuel of the global political economy” (Di Muzio 2012: p. 380). This period reveals one explanation for the contradiction between global carbon capitalism and climate change which is unfolding in Canada. If global investors and giant oil and gas firms are locking the global political economy into a carbon dependent future, then a significant aspect of this story can be traced to developments in Canada because the “majority (81%) of world oil reserves are owned or controlled by national governments. Only 19% of total world oil reserves are accessible for private sector investments, 52% of which are found in Canada’s oil sands” (CAPP 2017: p. 3). In short, why Canada is becoming one of the world’s leaders in reinforcing fossil fuels as the dominant energy system, through its unconventional hydrocarbon industry, may not be as contradictory a development trajectory as one may think, but rather a mere reflection of the future of the energy-intensive carbon-based world order (Dow 2016: p. 172).

Section II: The Unsustainable Nature of Petro-Market Civilization in Canada

This section highlights the various arguments and explanations by traditional Canadian political economy scholars, think tanks¹²⁵, and journalists who have often labelled Canada and Alberta's vision of becoming an unconventional energy superpower as a contradictory national developmental phenomenon in the age of climate change (Adkin 2016; Black et. al. 2014; Clarke 2008; Clarke et. al. 2013; Davidson and Gismondi 2011; Haley 2011; Hern et. al. 2018; Laxer 2015; Marsden 2008; Nikiforuk 2008; Shrivastava and Stefanick 2015). I will provide an alternative critical approach that demonstrates this is not just a contradictory *national* developmental phenomenon but *global in nature*, as globalized society continues to be locked-into carbon capitalism and petro-market civilization patterns of social reproduction and development.

As a consequence of the global situation above, Canada's proven reserves increased massively. For example, in 2003, Canada's proven oil reserves ballooned from 10 billion barrels to 180 billion barrels when Alberta's Athabasca bituminous sands¹²⁶ were both technically and economically recoverable. According to the Energy Information Agency of the United States and Natural Resource Canada, this ranked Canada the country with the third largest proven oil reserves in the world (EIA 2014; Natural Resource Canada 2018: Oil Resource). In 2018, Canada holds roughly 171.4 billion barrels of oil; 97% (166.3 billion barrels¹²⁷) are located in Alberta's

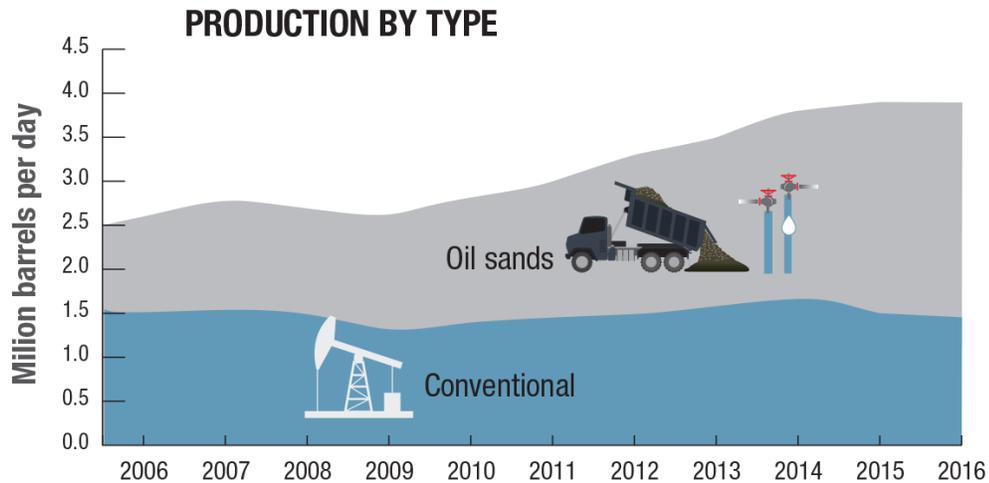
¹²⁵ These think tanks are a mixture of Canadian environmental and heterodox political economy institutes such as: Canadian Centre for Policy Alternatives, David Suzuki Foundation, Pembina Institute and Parkland Institute.

¹²⁶ Critical scholars and journalists generally label this deposit as Alberta's tar sands, while Alberta, the Canadian federal government, oil corporations, pro-Canadian oil think tanks, and journalists often label this deposit as Alberta's oil sands. For the debate, see Adkin 2016; Black et. al. 2014; Davidsen 2016; Laxer 2015; Nikiforuk 2008; Stefanick 2015.

¹²⁷ Out of 166.3 billion barrels found in the Athabasca bituminous sands, only 32.1 can be accessible by open-pit mining. The remaining 133.2 billion barrels can only be extracted from situ techniques. According to the Natural Resource, situ techniques which are "[s]team Assisted Gravity Drainage is currently the most widely used in-situ recovery method. This method requires the drilling of two horizontal wells, one slightly higher than the other, through

Athabasca bituminous sands (Natural Resource Canada 2018: Oil Resource). Canada, mainly Alberta, then, holds 10.3% of global proven oil reserves and Alberta alone currently produces 2.9% of global oil production (Natural Resource Canada 2018: Oil Resource). Since 2009, Alberta and Canada exponentially increased the production of unconventional oil (See Figure 21).

Figure 21: Canada’s Oil Production by Type



Source: Adapted from Canadian Natural Resource. (2018). *Crude Oil Facts*. Retrieved from: <https://www.nrcan.gc.ca/energy/facts/crude-oil/20064>

Currently, Canada produces 3.9 billion barrels of conventional-unconventional oil; Alberta accounts for 79.6% of Canada’s oil production while the next closest province or territory is Saskatchewan at 12% (Natural Resource Canada 2018: Crude Oil Facts). The reason why I argue it is a Canadian or global-national-provincial developmental trajectory rather than a limited focus on the provincial analysis of just Alberta is for two reasons: the first is that the federal government of Canada and various provinces and territories (Alberta, Canadian Arctic (Northwest Territories and Nunavut), British Columbia, New Brunswick, Newfoundland, Saskatchewan, etc.), at some

the oil sands deposit. Steam is injected continuously into the top well and, as the temperature rises in what is termed the “steam chamber”, the bitumen becomes more fluid and flows to the lower well. The bitumen is then pumped to the surface (Oil Sands Extracting and Processing 2018). For a daunting visual imaginary of this extraction (destruction) process, see Brenner 2014a; Helbig 2013 Quinn et. al. 2016.

point in time, are or were seeking to develop their unconventional fossil fuel deposits (Adkin 2016a; Black et. al. 2014; Carter et. al. 2017; Dow 2016; Greaves 2013; Natural Resource Canada 2018: Energy Source and Distribution; Sherval 2015; Slowey 2007, 2015). The second is the attempted rapid expansion of oil and gas pipelines that cross through different provinces and into the United States (CAPP 2018; CERI 2018).¹²⁸ The third is that the federal government of Canada has invested research, money (or capital), has advertisements numbering in the billions, and has promoted nationally and globally investment and development of Alberta's unconventional deposits, since the 1930s (Adkin 2016; Carter and Zalik 2016; Davidsen 2016; Lukacs 2015; Pratt 1976).

(Neo)Staples explanations for the rise of Canada's unconventional hydrocarbon industries highlight how Canada's historical national developmental trajectory has always been constituted by some form of reliance on 'natural resource' extraction (fur, wheat, timber, fossil fuels, etc.). This is known as a staple, for export-oriented growth, which will inevitably lead to a 'staples trap' (Clark et. al. 2013; Clark-Jones 1987; Drache 1977; Innis 1956; Levitt 1970; Mills and Sweeney 2013; Shrivastava 2015; See Chapter 1; Stanford 2014; Watkins 1963, 1977, 2007). The staples trap simply "describes the circular pattern behind Canada's historic tendency towards resource lock-in and truncated technological development" (Haley 2011: p. 102; See also Stanford 2014). The main assumption of the staples trap is that "the centre-margin relationship generates a series of self-reinforcing rigidities. They can include the large overhead costs that have resulted throughout Canadian history from the need to install infrastructure with fixed costs" (Haley 2011:

¹²⁸ The big three contested pipelines currently are Enbridge Line 3 which take Alberta's oil to the East coast of Canada, the TransCanada Keystone XL pipeline that would run all the way to Texas, United States, and the TransMountain Expansion Project (Kinder Morgan) which would run to British Columbia's coast (CAPP 2018)

p. 100; see Appendix A). This literature unquestionably accepts that the global capitalist price system governs commodities, through the invisible hand of supply and demand, and thereby leads to booms and bursts cycles, and overall, vulnerability for Canada (Haley 2011: p. 99; See also Stanford 2014; Watkins 2007). Meenal Shrivastava, following Mel Watkins (1963, 1977, 2007), Peter A. Hall and David Soskice (2001: p. 8), argues that Canada's capitalist economy is a 'coordinated market economy'. In other words:

Canada's unique model of a growth strategy founded on the export of natural resources blended the dynamism of a powerful export sector with elements such as skilled human resources, a high-wage manufacturing sector, modern public infrastructure, a robust financial sector, macro-economic stability, and a relatively unionized workforce" (Shrivastava 2015: p. 45).

Therefore, for (neo)staples scholars, Canada has always had a marginal, colony or dependency relationship with the global capitalist price system and core countries (France, then Britain and now the United States) who are the main innovators and shapers of the global political landscape (Haley 2011; Innis 1956; Kellogg 2015a; Levitt 1970; Stanford 2014; Watkins 1963, 1977, 2007).

This scholarship frames the development of Canada's unconventional hydrocarbon industries as contradictory because Alberta and Canada's governmental regimes and economy remain subservient (to the United States) and mostly benefits United States-based and other transnational dominant oil corporations (Clarke 2008, 2013; Laxer 2015; Marsden 2008; Nikiforuk 2008; Shrivastava and Stefanick 2015 Stanford 2008, 2014). Moreover, Canada's quest in attempting to become an unconventional *energy superpower* has created 'devastating' conditions, reflecting the international political economy theories and concepts of the *Dutch Disease*, *resources curse* (or *paradox of plenty*), *petro-state* or *petro-elite*, which has resulted in deepening the *democratic deficit* in Alberta but also Canada *writ large* (Adkin 2016; Shrivastava and

Stefanick 2012, 2015; Stanford 2008). The term, *Dutch disease*, first appeared in the *The Economist* (1977):

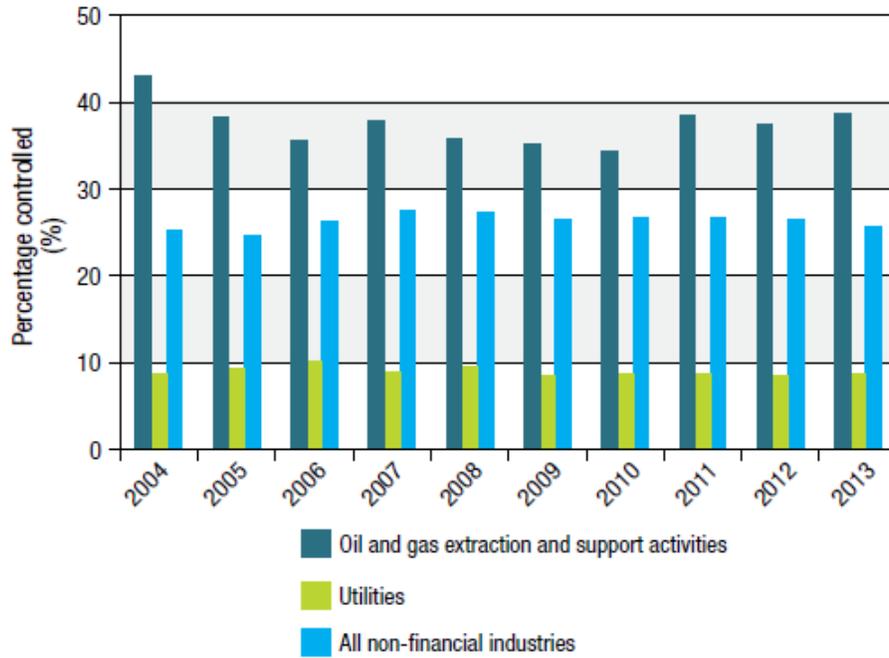
...to describe the decline of the manufacturing sector in the Netherlands after the discovery of a large natural gas field in 1959—refers to another causal mechanism, one that harms a country’s non-resource sectors. A sharp rise in revenue from the export of primary commodities, such as oil, has the effect of strengthening the country’s currency, which in turn drives up the cost of its other exports. This reduces the competitiveness of the country’s agricultural and manufacturing sectors, which have already been weakened by the booming resource sector, and thus draws both capital and labour away from these sectors, thereby raising production costs (Shrivastava and Stefanick 2015: p. 4 – 5).

For example, the Canadian national currency (dubbed the loonie) is closely correlated with the price of oil, and therefore, when the oil price goes up or down, so does the loonie; hence, the Canadian media’s interpretation that Canada’s national currency has become a *petro-loonie* (Carter 2016: p. 156; Stanford 2008). The *resource curse* or *paradox of plenty* thesis, historically, applied to developing (or Global South) countries that are dependent on one or more resources for overall economic growth (Auty 1993; Humphrey et. al. 2007; Karl 1997; McNeish and Logan 2012; Nankani 1979; Obi 2010; Ross 2001; Sachs and Warner 1999). Both theses argue that this form of development generally creates lack of development and investment in other spheres of the economy; impoverishment (for the majority of citizens) and anti-democratic conditions because of volatility in commodity prices and “...the narrowing of a capitalist economy down to one commodity gives those with control of that commodity inordinate power” (Shrivastava and Stefanick 2015: p. 5; see also Adkin 2016b; Auty 1993; Carter 2016; Carter and Zalik 2016; Humphrey et. al. 2007; Karl 1997; McNeish and Logan 2012; Nankani 1979; Obi 2010; Ross 2001; Sachs and Warner 1999). This theory, according to this (neo)staples scholarship, can now be applied to both Canada and Alberta (Carter 2016; Shrivastava and Stefanick 2015: p. 5). As Canada and Alberta are now conceptualized as a *petro-state* which “is a derogatory term for a state

that relies on oil revenue rather than on taxes and has weak political and economic institutions, and where power is concentrated in the hands of an elite minority [petro-elite]” (Shrivastava 2015: p. 54; See also: Carter and Zalik 2016; Clarke et. al. 2013; Karl 1997; McNeish and Logan 2012; Omeje 2008; Watts 2005). Finally, Brendan Haley (2011) argues that this staples trap has become a carbon trap as well as Canada’s bitumen and shale-gas industries represent a peculiar form of carbon lock-in or path-dependency. Instead of developing a clean-tech sector that would ‘mirror’ – at present meagre - the global concern for renewable energy, Canada is reinforcing the need for its unconventional hydrocarbon industry (Laxer 2015). This suggests that Canada will continue to build an infrastructure for fossil fuels rather than low-carbon energy (Clarke et. al. 2013; Haley 2011; Laxer 2015; Stanford, et. al. 2014). In short, Canada’s unconventional hydrocarbon industries are just another symptom of Canada’s *longue durée* of provincial-national developmental policies that have failed to address and transition Canada to escape from being a periphery to a core country.

Canadian (neo)Marxists and critical political ecologists have responded to the literature above (Adkin 2016a; Carroll 2017; Kellogg 2015a, 2015b; Zalik 2015). Canada’s conventional and non-conventional oil industries are not controlled by either the United States or other transnational oil companies (Kellogg 2015b). Foreign ownership of oil and gas extraction and support activities have fluctuated throughout Canada’s history and roughly remains just over 40% (Kellogg 2015b; (see Figure 22)

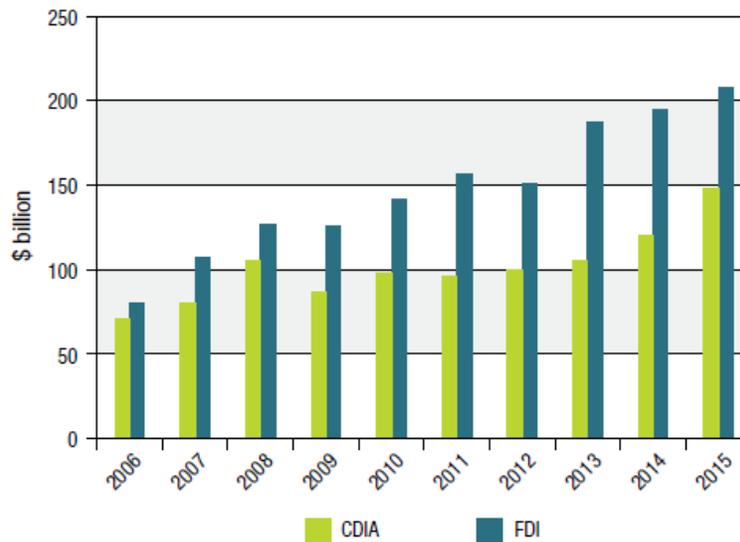
Figure 22: Foreign control of Canadian assets



Source: Adapted from Canadian Natural Resources. (2017). *Energy Fact Book 2016 – 2017*: p. 18.

However, the (neo)Staples scholars could argue that foreign direct investment dwarfs Canadian-based investment in Canada’s fossil fuels sector (see Figure 23).

Figure 23: Stock of foreign direct investment in Canada and Canadian direct investment abroad in the energy industry



Source: Adapted from Canadian Natural Resources. (2017). *Energy Fact Book 2016 – 2017*: p. 17.

This more or less demonstrates that Canada and Alberta's fossil fuels industries are one of the largest, in terms of reserves, and available for global private investment and ownership (Dow 2016; Zalik 2015). However, the (neo)Staples approach *totally ignores* the following conditions: first, Canada's foreign direct investment abroad far outpaces foreign direct investment coming into Canada (Klassen 2009, 2014; Chapter 5). Secondly, Canada is a military imperial and 'economic' power as seen in recent cases of Afghanistan, Haiti, and Honduras (Dow 2011; Engler 2009; Engler and Fenton 2005, Gordon 2009; Gordon and Webber 2016; Klassen 2014; Klassen and Albo 2013; Shipley 2017). The Canadian government, Canadian-based mining, and banking corporations are currently imperially swallowing up various financial institutions and mineral deposits throughout Latin America and the Caribbean (Deneault and Sacher 2012; Gordon 2009; Gordon and Webber 2016; Shipley 2017). In short, Canadian (neo)Marxists rightfully disagree that Canada's unconventional hydrocarbon industries are not unfolding in Canada *just* because of foreign capitalist classes or corporations and that Canada is not a peripheral colony or marginalized nation-state within the capitalist world order but an imperial power allied with the United States empire (Klassen 2014).

As for the Dutch Disease, Canadian (neo)Marxists would argue that the decline in Canadian manufacturing has only minimally to do with the Canadian dollar being high due to oil, as (neo)staples and heterodox economists would suggest (Carter 2016; Shrivastava and Stefanick 2015; Stanford 2008). Instead, critical and (neo)Marxists would highlight that the decline of manufacturing and unionism in Canada is a phenomenon of the Global North. It is the result of the umbrella concepts of *globalization*, *post-Fordism*, and *neoliberalism* that Canadian and other nation-states adopt and prescribe developmental policies that promote free trade, anti-unionism,

factory-work mobility, lowering wages and employment standards, etc., and not just that the Canadian dollar is high (Albo 2008; Brennan 2013; Camfield 2011; Cox 1993, Crow and Albo 2005; Harvey 1989, 2005; Jessop 1995; Kiely 1998; Klassen 2009, 2014; Duménil and Lévy 2004; Lipietz 1997; McBride 2005; Panitch and Gindin 2012; Panitch and Leys 2001; Peck 2010, 2017; Saad-Filho and Johnson 2005; Smardon 2011; Vachon et. al. 2016). Furthermore, critical and (neo)Marxists have long pointed out that oil or *any commodity* cannot determine a country's developmental trajectory as resource curse theories would suggest (Caffentzis 2013; Carter and Zalik 2016; Huber 2011a; Labban 2008; McNally 1981, 1986; McNeish and Logan 2012; Saad and Weeks 2013; Watts 2004). Rather, nation-states and their economies are shaped and reshaped by the historical and present social conditions of the geopolitical terrains, especially in this case of oil and so-called *petro-states*. For how Canada's fossil fuel industries, as seen in Chapter 2 and 3, were also constituted and reconstituted by social forces of colonialism, and later on, imperialism (see Black et. al 2014; Clarke 2008; Hern et. al. 2018; Nikiforuk 2008; Parson and Ray 2016; Pratt 1976; Preston 2013, 2017; Slowey 2008; Zalik and Carter 2016). Finally, Canadian (neo)Marxists and critical political ecology scholars have critiqued both Canada and Alberta's literature conceptualizing these governmental regimes as *just* 'petro-states' and controlled by a petro-global-national elite class in two different ways. The first is that the petro-state literature mainly critiques petro-elites for all the social woes in Alberta, Canada or elsewhere; this stops "...short of identifying global capitalism, fueled by petroleum – or fossil capitalism – as fundamentally antithetical to democracy and to ecological sustainability" (Adkin 2016b: p. 19; See also Martinez Alier 2002; Altvater 2006; Foster 1999; Malm 2016; O'Connor 1991, 1998).¹²⁹ The second critique

¹²⁹ Interesting that Timothy Mitchell (2011: p. 1) argues "[f]ossil fuels helped create both the possibility of modern [Global North's] democracy and its limits." Mitchell highlights the contradiction that Global North's liberal democracies and the liberal franchises rose through their carbon-energy dependency developmental trajectory. While simultaneously, the Global North removed or limited democracy in oil-producing regions, especially the Middle East.

is that if there were petro-elites in Canada, then they would be a peculiar fraction or embodiment (fossil fuels or extractive) of national capital or a capitalist class (Adkin 2016a; Carroll 2017; Carter and Zalik 2016; Labban 2008; Malm 2016; Veltmeyer 2014; Zalik 2015). We should note that the (neo)Marxist paradigm is distinguished from the (neo)Staples approach to understanding Canada's political economy as they highlight the fact that it is always a national or regional capitalist interest that occupies and drives the Canadian state or Albertan province through so-called *relative autonomy* (Albo and Jensen 1989; Carroll 2017; Panitch 1977, 1981). Therefore, how do Canadian-(neo)Marxists understand Canada's current contradiction of developing unconventional hydrocarbon industries in the age of climate change?

Canadian (neo)Marxist Paul Kellogg (2015b) argues that former Prime Minister Harper's administration, and especially the Albertan governments, have just allied themselves with the peculiar fraction of the Canadian extractive and financial capitalist class (see also Carroll 2017; Clarke et. al 2013; Harrison 2015; Lukacs 2015).¹³⁰ Canadian (neo)Marxist Zalik (2015) argues that the development of Canada's unconventional hydrocarbon industries, or the tar sands, represents how dominant global oil corporations are spatio-temporally fixing¹³¹ their reserve replacements.¹³² This is because the dominant global oil corporations see the tar sands as the probable way to deal with the potential future threat of conventional oil scarcity and current private-corporate oil deposits that are located in spaces of resistance, violence and instability, like the Nigerian Delta (Preston 2017; Zalik 2015; 2016). As a result, "[i]nvestment in spatial sinks is

¹³⁰ "Almost \$900 million was spent on energy research, development, and deployment by governments in 2015-16" Natural Resources Canada 2018: Energy and the Economy.

¹³¹ "The concept of the spatio-temporal fix, as derived from Marxist theory and theorized by David Harvey, includes the 'spatial fix', via which capital resolves varieties of overaccumulation crises through spatial expansion and/or exchanges and transfers. The temporal fix includes future markets, time-extensive exploratory processes, and financialization more broadly, in which capital is invested based on forthcoming returns" (Zalik 2015: p. 2451).

¹³² For Zalik (2015: p. 2447) a "reserve replacement, as pursued by large multinational companies, operates as a spatio-temporal fix for capital at various scales, allowing accumulated capital to be sunk into extractive landscapes and financial futures."

justified for their promise of new production and profits, thus averting or reducing potential overaccumulation crises. And this spatial fix arising from reserve replacement is mutually constituted with financialization's temporal fix which offers both real and fictitious capital to lubricate it" (Zalik 2015: p. 2452 - 3). In other words, the tar sands are reduced to a potential 'temporal fix' or 'sectoral fix' for the global oil industries in three ways: 1) future shortages, 2) overaccumulation, and 3) securing oil supplies as a critical input for "increasing the productivity of labour and thus decreasing the costs of production..." (Zalik 2015: Fn. 4; see also Huber 2013, 2017; Keefer 2009; Labban 2008; Patel and Moore 2017; Tanzer 1974). Most (neo)Marxists and the critical ecology literature on Canada's unconventional hydrocarbon industries provide another example in the *longue durée* of capitalist history of how global fossil capitalism destroys ecologies and the planet for capital accumulation (Adkin 2016a; Altvater 1993, 2006; Angus 2016; Brenner 2014; Hern et. al. 2018; Foster 1999; Malm 2016; Moore 2015; O'Connor 1991, 1998; Patel and Moore 2017; Preston 2013). Finally, similarly to (neo)Staples but slightly different, Canada's unconventional hydrocarbon industries also provide another example of how both Canada and Alberta's governmental project of resource colonialism or imperialism against First Nations or Aboriginal peoples, that surround the areas, is a form of environmental racism, under fossil capitalism (Black et. al 2014; Clarke 2008; Gordon 2009; Hern et. al. 2018; Huseman and Short 2012; Nikiforuk 2008; Parson and Ray 2016; Preston 2013, 2017; Slowey 2008; Slowey and Stefanick 2016; Zalik and Carter 2016).

In a nutshell, conventional Canadian political economy literature argues that the rise of Canada's unconventional hydrocarbon industries, in the era of climate change, can be really reduced to the importance of energy and energy systems; in this case, unconventional fossil fuels as an input in global production (Dow 2016; a minor exception is Nikiforuk 2012). Whereas,

(neo)Staples theorize that the development of this auxiliary has harmed Canada and Alberta's liberal democracy, economy, national sovereignty, etc. (neo)Marxists argue that the development of this auxiliary is to maintain global fossil capitalism's pursuit of cheapening and increasing labour productivity. The larger debate in conventional Canadian political economy literature has long attempted to portray Canada's capitalist economy as either driven by manufacturing industries (Marxism) or staples-based industries (Staples) (Drache and Clement 1985; Hurl and Christensen 2015; Smardon 2011). The main focal point of contestation between these paradigms is on Canada's exports and gross domestic product and the main economic sectors by contribution. (Neo)Marxist Jerome Klassen has demonstrated that manufacturing, in terms of proportion of gross domestic product and trade exportation, is higher than Canada's natural resource sector (Klassen 2009, 2014; See also: Lambret-Racine 2017).¹³³ This tells us very little of how Canada's capitalist economy operates. For example, world trade and labour exploitation are important to both capitalists and nation-states, but to argue that these are the only social relations that define wealth or power in the global capitalism system is incorrect (Bichler and Nitzan 2009, 2015b; Di Muzio 2014, 2015a, 2015b). The fundamental critique of both conventional Canadian political economy approaches stems from their limited assumption that Canada's capitalist economy can be understood through a neat division of business, industrial, and employment sectors which is rooted in understanding Canada and the global capitalist system as a mode of production through the lens of either Adam Smith (1776)[2005] as exchange/trade relations or Karl Marx (1867)[1976] as industrial relations (see Chapter 2). In 2017, Canada's gross domestic product roughly stands at CAN\$1.7 trillion dollars dividing the gross domestic product by sectors between services-producing industries (finance, real estate, public sector, etc.) which represents CAN\$1.2 trillion or

¹³³ In 2016, Canada's exports represented 25.5% of Canada's GDP, manufacturing makes up 73.3% and resources 26.7% (Lambret-Racine 2017).

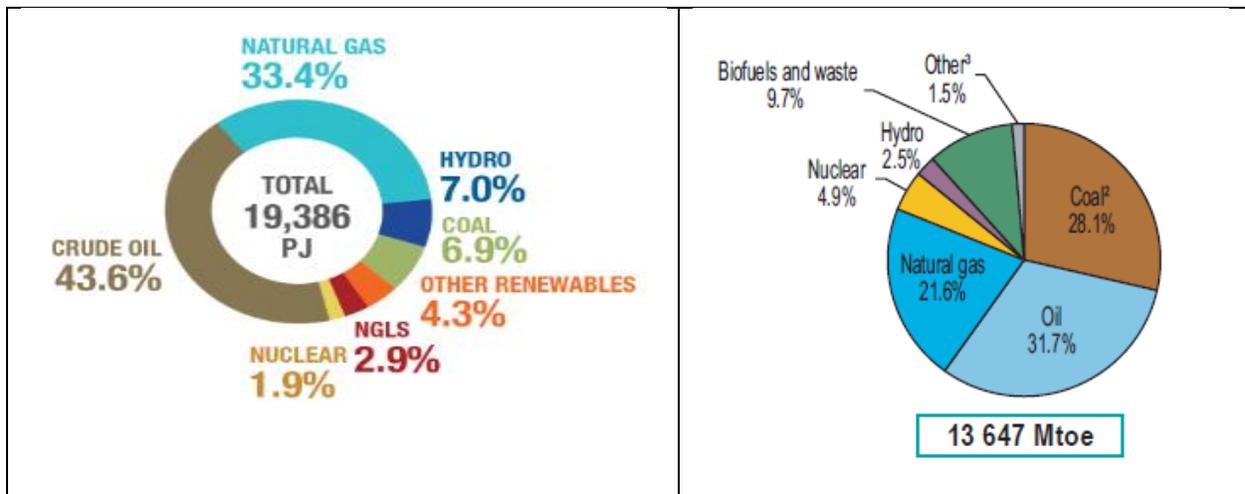
80 per cent. The goods-producing industries (manufacturing, energy, etc.) is roughly CAN\$500 billion or 20 percent (StatsCan GDP: May 2017). In terms of the labour force, Canada has roughly 18.4 million labourers, 13.7 are in the services-producing sector and the other 3.9 million are in the goods-producing sector (StatsCan Labour Force: 2017).¹³⁴ The reason why both (neo)Staples and (neo)Marxists have largely ignored services-producing industries is due to their definitions of capital and capital accumulation (see Chapter 2). Both approaches view finance, more or less, as ‘fictitious’ and view productive labour as anchored in the creation of commodities (manufacturing or resources) leaving the rest of the labour force as non-productive (Stanford 1999; see also Bichler and Nitzan 2009: p. 110ff). Finally, no global or Canadian dominant investors or capitalists own just one fraction of so-called capital but diversify their ownership portfolio over differing income-generating assets (Bichler and Nitzan 2009; Di Muzio 2015b). As a result, I take a different approach in understanding not only this current contradiction but in understanding Canada’s capitalist economy, through the concepts of carbon capitalism, petro-market civilization, and social reproduction (see Chapter 1; Di Muzio 2015a; Di Muzio and Dow 2019).

These concepts provide a framework, that reinforces the centrality of energy and energy systems, not just as ‘inputs’ or ‘auxiliaries’ in the capitalist mode of development but rather as foundational in the making and remaking of both Canadian and global political economy as labour, technology, capital, and war are. There is no distinct division between finance (money, debt, or ‘economic growth’) and carbon energy, in what Di Muzio (2015a) conceptualizes as *energy-capitalization-social reproduction nexus*. The more money-debt and ‘economic growth’ created, the more energy is needed (Alam 2005; Di Muzio 2015a; Hall and Klitgaard 2012). A snapshot of the current energy intensive patterns of the global economy reflects the continuing importance of

¹³⁴ Numbers have been rounded up.

carbon energy rather than renewables. The world's present total primary energy supply is still predominantly fossil fuels which accounted for 81.4 per cent in 2015 with 18.6 per cent coming from nuclear, hydro, combustible renewables, waste and marginal sources such as wind and solar (IEA 2017: p. 6). In 2016, approximately 93.7 million barrels of oil and liquid fuels were consumed per day worldwide. That works out to nearly 34.2 billion barrels a year (IEA 2017b: p. 3). Canada, following this fossil fuel-based energy path dependency, also relies on fossil fuels (86.8 per cent) for almost all of its energy supply (Natural Resource Canada 2018: Energy and Economy; see also Canadian Natural Resources Energy Factbook 2016 – 2017; IEA 2015). In 2018, Canada and the United States alone consumed roughly 22 million barrels of oil per day. This is the equivalent of every North American having 89 virtual energy slaves (Nikiforuk 2012: p. 64 - 5). As a result, Canada and the world's fossil fuel path dependency almost mirror each other (see Figure 24).

Figure 24: Canada's Total Primary Energy Supply (Left) and World's Total Primary Energy Supply Fuel Shares (Right):



Source: Adapted from Canadian Natural Resources. (2018). *Energy and the Economy*.¹³⁵ (Left). Retrieved from: <https://www.nrcan.gc.ca/energy/facts/energy-economy/20062> and IEA. (2017). *Key World Energy Statistics 2017*. (Paris: France): p. 6. (Right).

¹³⁵ There are a variety of ways to calculate primary energy consumption. I choose, for Canada, the method employed by the International Energy Agency (IEA) for consistency. See Canadian Natural Resources Energy Factbook 2016 – 2017 p. 25ff for details.

As seen above, 86.8 percent of Canada’s total primary energy sources come from fossil fuels, whereas, 81.4 percent of the world’s total primary energy sources comes from fossil fuels. With this magnitude of energy needed to reproduce livelihoods, it does not seem very likely that the transition to low-carbon energy is going to remove the primacy of fossil fuels in the global energy system any time soon as it has historically taken decades to implement new energy systems (Friedrichs 2013; Smil 2010). As seen in Section I, most dominant oil corporations and the International Energy Agency are predicting that global energy demand is not going to decrease but will rapidly increase in the decades to come. Therefore, the tar sands and Canada’s unconventional hydrocarbon industries are not just simply a ‘sectoral fix’ for the global oil industries, but rather, fundamental in maintaining carbon capitalism, petro-market civilization and social reproduction structures of everyday life.

From the viewpoint of owners of dominant capital, Canadian-based corporations follow a similar path dependency to that of global dominant capital owners. As Di Muzio (2012) suggests, oil and gas and finance were the most capitalized global industries in the mid-2000s. If we look at Canada’s top ten largest corporations by market capitalization, it is largely comprised of financial, oil and gas, and mining corporations¹³⁶ (See Table 9).

Table 9: Canada’s Ten Largest Corporations by Market Capitalization

May 2011 (measured in millions)	August 2018 (measured in billions)
Royal Bank of Canada \$83,125	Royal Bank of Canada \$112.64
Toronto-Dominion Bank \$72,714	Toronto-Dominion Bank \$108.75
Suncor Energy \$61,539	Bank of Nova Scotia \$73.03
Bank of Nova Scotia \$60,360	Suncor Energy Inc. \$67.55

¹³⁶ For this history of Canadian and global mining on the Toronto Stock exchange, see Alan Deneault and William Sacher 2012.

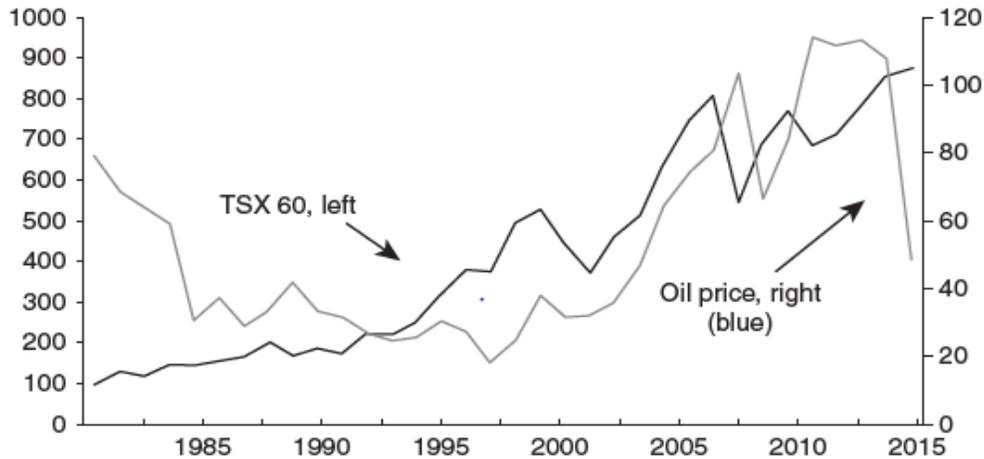
Canadian Natural Resources Limited \$43,896	Canadian National Railway Company \$64.99
Barrick Gold \$43,754	Enbridge Inc. \$61.67
Potash Corporation of Saskatchewan \$42,827	Bank of Montreal \$50.92
Imperial Oil \$38,667	Canadian Natural Resources Limited \$43.51
Goldcorp Inc. \$36,765	Brookfield Assets Management Inc. \$41.67
Bank of Montreal \$34,526	Canadian Imperial Bank of Commerce \$40.76

Source: Data compiled from: May 2011 data compiled from the Globe and Mail. August 2018 data compiled from NADSAQ.¹³⁷ Retrieved from: Accessed here: <https://www.theglobeandmail.com/report-on-business/rob-magazine/top-1000/canadas-100-biggest-companies-by-market-cap/article636150/>. Accessed here: <https://www.nasdaq.com/screening/companies-by-region.aspx?region=North+America&country=Canada>.

In terms of global rankings in 2009, Canada only had 1 corporation in the top 100 global corporations ranked by market capitalization; this was the Royal Bank of Canada which ranked 96th at \$41 billion. In 2017, Canada had two corporations, the Royal Bank of Canada ranked at 69th at \$107 billion and Toronto-Dominion Bank ranked 83rd at \$93 billion (PwC 2017: Slide 38 and 39). Another indication of dominant capital is found on the Toronto Stock Exchange (TSX). The TSX has become the world’s leader in oil and gas with 35 per cent of the world’s public energy companies listed on the TSX now connected to the price of oil (Dow 2016: p. 174; See Figure 25).

¹³⁷ Accessed here: <https://www.theglobeandmail.com/report-on-business/rob-magazine/top-1000/canadas-100-biggest-companies-by-market-cap/article636150/> on 07/08/2018. Accessed here: <https://www.nasdaq.com/screening/companies-by-region.aspx?region=North+America&country=Canada> on 07/08/2018

Figure 25: S&P/TSX 60 and Oil Prices, 1982 – 2015



Source: Adapted from Matt Dow. (2016). *The Unsustainable Nature of Petro-Market Civilization in Canada*. In Tim Di Muzio and Jesse Salah Ovadia (eds.), *Energy, Capitalism and World Order: Toward a New Agenda in International Political Economy*. (New York: Palgrave Macmillan): p. 175.

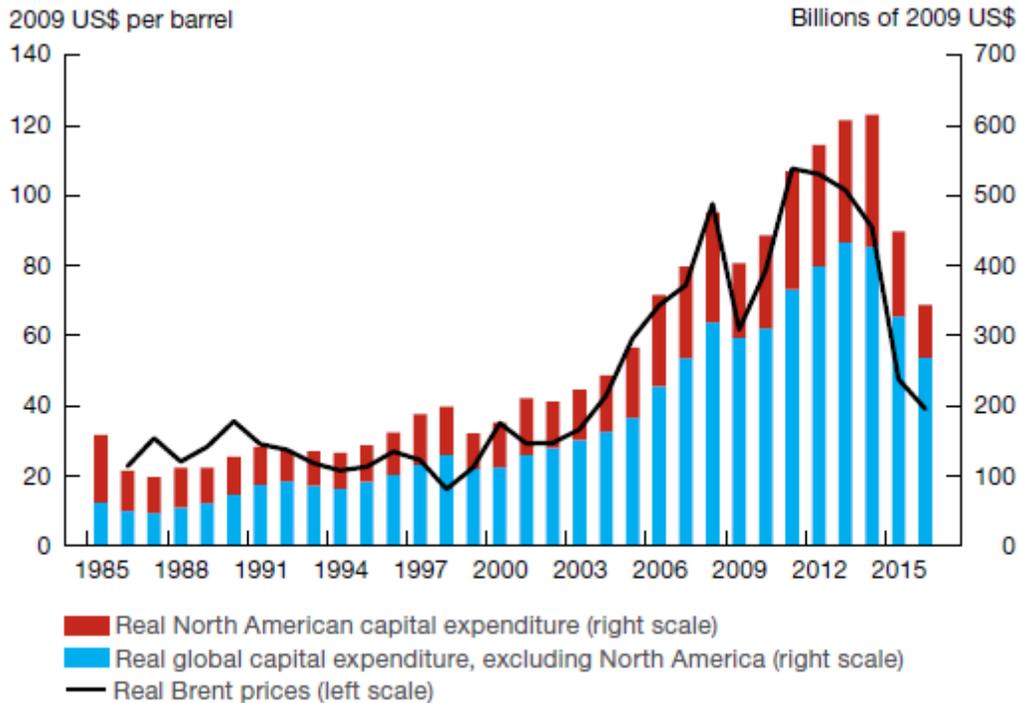
Furthermore, a presentation titled ‘A Capital Opportunity: A Global Market for Oil & Gas Companies’ (April 2014) by the TMX, during the ScotiaBank Investment Symposium, states that Canada ‘is the [seventh] largest equity market by float capitalization in the MSCI World Index’ (2014: Slide 2). The Toronto Stock Exchange and Toronto Stock Venture Exchange have 369 oil and gas firms (which represents CAD \$375 billion in market capitalization or about 12 per cent of total oil and gas market capitalization on the *FT Global 500*) (Dow 2016: p. 174). In 2013, alone, the total invested by Canada, in oil and gas, was \$2.7B, the United States \$980M, Africa \$789M, UK/Europe/Middle East and Russia \$595M and Latin America \$75M (2014: Slide 9). On August 7th 2018, the TSX was capitalized at CAN\$2,282.966 billion, making it one of the largest global stock exchanges. The three largest sectors in the Toronto Stock Exchange are finance, oil and gas, and mining. The financial sector was worth roughly CAN\$799 billion (weighted at 35%); the energy sector made up CAN\$456.6 billion (weighted at 20%) and mining was at CAN\$251.1

billion (weighted at 11%) (TMX Money: August 7 2018).¹³⁸ In short, the Toronto Stock Exchange and Canada's dominant capital owners are projecting that finance, oil and gas, and mining sectors will have a high probability in shaping the future-terrain of not only Canada but also global social reproduction. For example, in 2017 and 2018 alone, "[c]apital investment in Alberta's upstream energy sector, including oil sands, conventional oil and gas, mining and quarrying was estimated at \$26.5 billion in 2017 and is forecast at \$23.7 billion in 2018" (BankTrack 2018: n.p.).

The universal fixation on the price of oil, as an indicator to the future of Canada's unconventional hydrocarbon industries, is short-sighted, as oil prices seem to be more securely tied to the relations of power embedded in geopolitics and finance institutions than any 'economic theory' like the theory of supply and demand. Since 2014, oil prices have declined sharply. The "Brent prices, for example, fell from an average of US\$110 per barrel between January 2011 and June 2014 to a low of US\$29 in January 2016 and an average of only US\$50 since 2015" (Ellwanger et. al. 2017: p. 1). This has led to a decline in capital investment in the global oil-related expenditures because of the price of oil dropping (see Figure 26).

¹³⁸ Accessed here: <https://web.tmxmoney.com/indices.php?section=tsx&index=%5ETSX> on 07/08/2018.

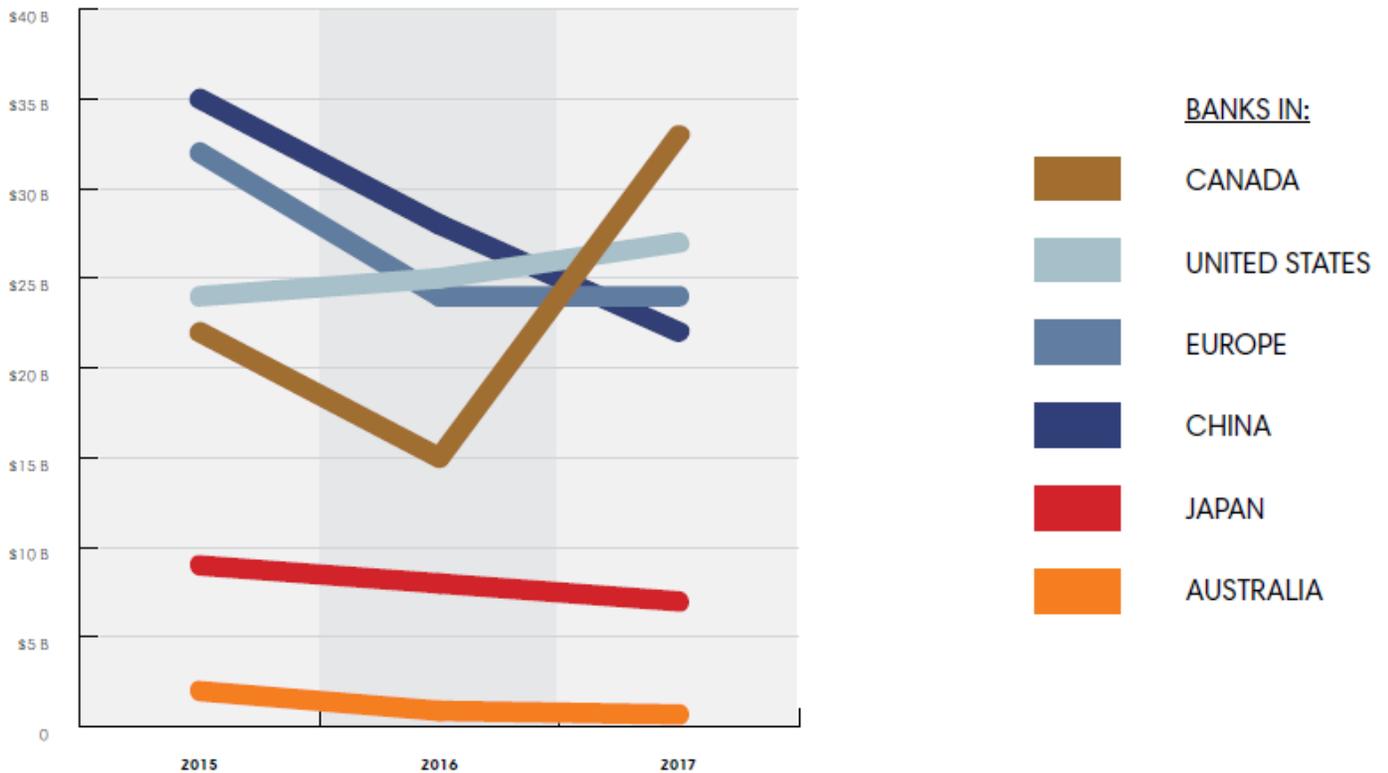
Figure 26: Global oil-related capital expenditures and the price of oil (shown in 2009 US dollars)



Source: Adapted from Reinhard Ellwanger, Benjamin Sawatzky, and Konrad Zmitrowicz. (Autumn 2017). Factors Behind the 2014 Oil Price Decline. *Bank of Canada Review*: p. 7. Retrieved from: <https://www.bankofcanada.ca/wp-content/uploads/2017/11/boc-review-autumn2017-ellwanger.pdf>.

Yet, in 2015, global banks invested US\$28.674 billion (roughly 15% of global oil investment) in the tar sands. Since 2014 to 2017, global banks have invested a total of \$US118.683 billion in the tar sands (Banking on Climate Change 2017, 2018). These investments do not account for other extreme unconventional hydrocarbon industries projects (Arctic oil, ultra-deep-sea oil, United States shale oil, coal etc.) (see Banking on Climate Change 2017, 2018). Canada’s financial sector is one of the leading social forces behind the capitalization of extreme energy projects (see Figure 27).

Figure 27: Finance for Extreme Fossil Fuels



Source: Banking on Climate Change. (2018). *Fossil Fuel Finance Report Card 2018*. Rainforest Action Network: p. 8. Retrieved from: [http://www.ran.org/wp-content/uploads/rainforestactionnetwork/pages/19540/attachments/original/1525099181/Banking on Climate Change 2018 vWEB.pdf?1525099181](http://www.ran.org/wp-content/uploads/rainforestactionnetwork/pages/19540/attachments/original/1525099181/Banking%20on%20Climate%20Change%202018%20vWEB.pdf?1525099181)

Furthermore, this period of low-prices, similar to the 1990s, has witnessed a large number of mergers and acquisitions. In 2014 and 2015, there was over CAN\$75 billion in mergers and acquisitions activity where Canadian companies had been “the most active buyers of Canadian energy companies and assets, accounting for 9 of the top 10 [mergers and acquisitions] transactions by value” (Canadian Natural Resources 2017: p. 19). What this means is that Canadian-based finance, oil and gas corporations are capitalizing on expectations of future profitability from potential high-oil prices or new technological improvements that will decrease the costs of producing bitumen and increase unconventional oil production to 5.4 million barrels per day by 2025 (Alberta Energy Regulator 2015; CAPP 2018; CERI 2018).

Why are Canadian-based finance, oil and gas, etc. corporations ramping up their investing and M&A activity during a period of low oil prices? The transition of governmental regimes in both Alberta and the federal government of Canada which, *very loosely*, involved the politics of oil and climate change awareness, had both Canadian and Albertan voters lose confidence with both provincial (after forty-four years) and federal (after roughly nine years) Conservative parties (Chapter 1; Harrison 2015). Yet, both Alberta's New Democratic Party, under NDP Rachel Notley, and Canada's federal government, the Liberal Party, under Justin Trudeau, are still maintaining the status-quo of developing Alberta's and Canada's unconventional hydrocarbon industries in the age of climate change (Livesey 2018; Lukacs 2018; Puxley 2017).¹³⁹ The question now becomes why? The conventional and weak argumentation revolves around the ideas that Alberta and Canada have replicated the Global South's petro-state conditions or they are controlled by a United States-based global petro-elite class, mainly the notorious Charles G. Koch and David H. Koch (Koch Brothers) (Adkin 2016a; Harrison 2015; Menotti 2015; Shrivastava and Stefanick 2015). There is little doubt that the Koch Brothers and other oil elites have influenced, funded, lobbied, have bought politicians, governments, media campaigns, and created think-tanks to support their fossil fuel empires globally (Coll 2012; Menotti 2012a, 2015; Mitchell 2011). That said, none of these so-called petro-elites just invest in fossil fuels but diversify their ownership claims on globalized society. These petro-elites are just a part of the global plutocratic class, known as the 1%, with potentially a larger stake-hold than other global 1% members in the oil and gas sectors (Di Muzio 2015b). More importantly, both conventional Canadian and international political economy perspectives still see a *distinct* or *relatively autonomous* separation between the nation-

¹³⁹ The most recent example is Justin Trudeau's Liberal Federal Government party buying the Kinder Morgan pipeline for an estimated \$CAN4.5 billion. Under NAFTA, the owners and investors could have sued both the federal government of Canada and British Columbia over loss revenue (De Souza 2018; Livesey 2018). This is just another example of disciplinary neoliberalism in Canada.

state from the economy and refuse to acknowledge that levels and peculiar organs of governmental regimes are capitalized and inseparable from dominant owners of capital (Bichler and Nitzan 2009). Moreover, while most of the bitumen is transported to the United States, it is the Federal Government of Canada, the province of Alberta, settlers and capitalists who have greatly benefited (Dow 2016). For example, Alberta's revenue and budget are mainly predicated on their oil and gas revenue (royalties) which ranges anywhere from 40 to over 50 percent, depending on the price of oil (Adkin 2016b; Alberta Government 2017)¹⁴⁰ or Alberta's oil and gas industries represent 27.9 percent of Alberta's gross domestic product in 2016 (Alberta Government 2018). This is due to not having any provincial sales tax, known as one of the great *Albertan Advantages*. This reinforces not only the governmental regimes and politicians, but also the population of Alberta to be fundamentally attached to global oil industries for their social reproduction (Adkin 2016a; Harrison 2015; Shrivastava and Stefanick 2015). In comparison, Canada's energy sector's contribution, nationally, is much lower. In 2016, Natural Resources Canada notes the following: 1) the energy sector directly employed more than 270,000¹⁴¹ people and indirectly supported over 600,000 jobs, 2) Canada's energy sector accounts for almost 7% of nominal Gross Domestic Product (Natural Resources Canada 2018). Moreover, the Canadian government subsidies towards fossil fuel industries is still an estimated \$26 to \$34 billion dollars (IEA 2013; IMF 2013), roughly 4 per cent of the government's income. This does not include money spent on energy research, development and deployment which, in 2015 alone, CAN\$900 million was spent by the Canadian government (Natural Resources Canada 2018). Finally, with the Canadians' Registered Retirement Savings Plans (RRSPs) and mutual funds, according to the TSX, the petroleum companies trading

¹⁴⁰ For the long history of Alberta's government oil revenues, see Alberta's Historical Royalty Revenue at <https://open.alberta.ca/opendata/historical-royalty-revenue> (accessed on 21/08/2018).

¹⁴¹ In 2017, approximately 140,300 people were employed in Alberta's energy sector (Alberta Government 2018).

at the stock exchange were worth CAN\$357 billion as of December 31, 2009, with approximately half of these shares owned by Canadians (Dow 2016: p. 200; see also Yunker et. al. 2018).¹⁴² In 2018, Canada's Pension Plan Investment Board still has hundreds of billions invested in oil and gas sectors (CPPIB Domestic and Foreign Holdings 2018; see also: Yunker et. al. 2018).¹⁴³ The reason why both Canadian and Albertan governments and populations continue to support Canada's unconventional hydrocarbon industries is due to global path dependency conceptualized as energy-capitalization-social reproduction nexus and the debt-based monetary system (Di Muzio 2015a; Di Muzio and Robbins 2016, 2017).

There are two contentious topics in this section that will need to be voiced. The first is the environmental destruction and intense carbon emissions that are caused by the bituminous sands development, which is well documented (Adkin 2016a; Black et. al. 2014; Clarke 2008; Clarke et. al. 2013; Davidson and Gismondi 2011; Griffin 2017; Haley 2011; Hern et. al. 2018; Huseman and Short 2012; Johnson et. al. 2017; Laxer 2015; Makar et. al. 2018; Marsden 2008; Nikiforuk 2008; Price 2008). The second is the ongoing struggle and resistance between First Nations and Aboriginal peoples and the Albertan and Canadian federal government over the development, ownership, and entitlements that surround the bitumen sands and Canada's other unconventional hydrocarbon deposits (Barker 2015; Black et. al. 2014; Clarke 2008; Coulthard 2014a; Dow 2016; Hern et. al. 2018; The Kino-Nda-Niimi Collective 2014; Nikiforuk 2008; Parson and Ray 2016; Preston 2013, 2017; Slowey 2008; Zalik and Carter 2016). Both of these issues will be taken up in the conclusion of this thesis.

¹⁴² Accessed here: <http://www.nrcan.gc.ca/energy/publications/markets/6505> (on 11/05/2015)

¹⁴³ See Domestic Holdings here: http://www.cppib.com/documents/1804/cdn_publicequityholdings_Mar2018_en.htm and Foreign Holdings here: http://www.cppib.com/documents/1805/foreign_publicequityholdings_Mar2018_en.htm (accessed on 21/08/2018). For further information on Canada's fossil-fueled pensions, see (Yunker et. al. 2018).

Therefore, in order to critically examine why Canada is developing its unconventional industry, one must understand how global and national political economies are interconnected in webs of accumulation and resistance (Gill 2008). In other words, in order to understand the entire totality of Canada's current contradictory dilemma, I stress the importance of the current debt-based monetary system (See Chapter 5). As is frequently stated, as both the federal debt of Canada (CAN\$631.9 billion) (Department of Finance 2017) and Canadian households (CAN\$2 trillion) (Poloz 2018) continue to grow, so does the gap between debt and repayment ability. The current global debt-based monetary system compels the need for greater 'economic growth' and therefore energy. (Neo)Staples scholarship argue that Canada is heading into a staple and carbon trap (Haley 2011). This reflects how the Canadian state has, once again, become willingly dependent on foreign direct investment (Haley 2011; Watkins 2007) and that the Canadian federal government openly creates, pushes and accepts free trade agreements that primarily benefit corporations and their investors (Brennan 2013). But of course, Canada's development trajectory is not alone in being dependent on foreign direct investment and export-oriented growth, as forms of disciplinary neoliberalism and new constitutionalism have given global investors, dominant corporations, and nation states incredible freedom and power to move their capital more freely and arguably with greater speed (Gill and Cutler 2014; See Chapter 5). In this way, given the domestic and international investment in Canada's unconventional hydrocarbon industries, the tar sands project should be seen as a symbol of Canada being locked-in, not necessarily into a carbon-trap or staples-trap, but into the differential accumulation strategies of global oil and gas companies and the banks that help fund them. These practices are about locking-in Canadian-global social reproduction and potential future energy needs of carbon capitalism so it can continue on a world scale energized

by unconventional fossil fuels. As a result, I move towards another reason why the bituminous sands are being developed in the age of climate change.

Section III: The Future of Energy in World Order

This section critically examines both international and Canadian political economy debates surrounding the future of energy in the world order. As with the looming crises of climate change, the world order should be heading towards a renewable energy-based future, but as this section will demonstrate, so far the opposite is taking place. As a result, this section provides another rationale as to why Canada and the rest of the globe is still locking into energy-intensive and fossil fuel-based global energy systems despite scientific evidence and awareness.

The majority of global civil society, whether knowingly or not, is placing the future of humanity and the biosphere in the hope of a renewable energy-based future (Newell 2019; Trainer 2007, 2015, 2019). The debate amongst both conventional Canadian and international political economy scholars articulate that transitioning to low-carbon or ‘green capitalism’ forms of social reproduction must happen in order to avoid catastrophic climate change-based events, which is achievable through a global renewable energy revolution. The actual debate, in international political economy, is between (neo)liberal and (neo)Marxists over the question can ‘green capitalism’ or a low-carbon world order be achieved? For the (neo)liberal paradigm, the answer is yes, insofar that renewable technology and investment, through global market competition (invisible hand), will transition the world order from carbon to renewable energy that can maintain the current and future-demands of mass consumption and production and unlimited economic growth patterns (Haley 2011; Hawken 1993; Hawken, Lovins and Cohen 2000; Homer-Dixon 2010; Lovins and Cohen 2011; Mulligan 2010a; Newell 2019; UNEP 2011). The global market is the world’s salvation, which is a rather absurd claim given the global market is saturated in oil

money and is dependent on fossil fuels (Di Muzio 2012, 2015a; MacNeil 2018). Once again, (neo)Marxist scholarship is splintered into two fractions over the question. The first fraction still theorizes energy as an input into the capitalist mode of production, which can be simply transformed back into being renewable-based instead of carbon-based (Malm 2016a; see also Abramsky 2010; Schwartzman 1996, 2016). An example of this is the ahistorical claim that the English capitalist class' ability to harness the renewable energy of water, through the waterwheel, led to the origins of capitalism in Britain, by increasing the mass production of British textiles (Malm 2016a). The second fraction has long-pointed out that sustainable, green, or low-carbon capitalism is an oxymoron and cannot be achievable (Altvater 2007; Brand 2012, 2015; Moore 2015; O'Connor 1988, 1998; O'Connor 1994). From this viewpoint comes the limited argument that only the global capitalist system destroys biospheric life for capital accumulation. Both (neo)Marxists paradigms agree that only social revolutions that lead towards an eco-socialist or solar communist world order can prevent catastrophic climate change-based events, and at the same time, create global equality (Abramsky 2010; Foster 1999, 2000, 2009, 2018; Schwartzman 2016). Yet, Dipesh Chakrabarty points out that if capitalism was less extreme in terms of economic inequality (specifically economic income) as it is¹⁴⁴, then climate change would be by far and large worse as there would be even more of the world's population mass producing and consuming and thereby emitting more greenhouse gas emissions (Chakrabarty 2014, see also: Boscov-Ellen 2018; Chakrabarty 2017).¹⁴⁵

¹⁴⁴ For how extreme global economic inequality is, see Credit Suisse 2018; Di Muzio 2015b; Kenner 2015; Picketty 2013.

¹⁴⁵ “[L]ogically speaking, the climate crisis is not inherently a result of economic inequalities—it is really a matter of the quantity of greenhouses [sic] gases we put out into the atmosphere. Those who connect climate change exclusively to historical origins/formations of income inequalities in the modern world raise valid questions about historical inequalities; but a reduction of the problem of climate change to that of capitalism (folded into the histories of modern European expansion and empires) only blinds us to the nature of our present...” (Chakrabarty 2014: p. 11).

In terms of Canadian political economy scholarship, only the (neo)Staples scholars have taken global energy transitioning seriously (Haley 2011; Laxer 2015). Yet, (neo)Staples scholars generally see the world order heading towards a global renewable energy system and the fundamental problem is Canada lagging behind (Clarke et. al. 2013; Haley 2011; Laxer 2015; Stanford 2014).¹⁴⁶ Therefore, (neo)Staples theorists, in a similar vein of Bill McKibben (2010), Naomi Klein (2014), and Roy Scranton (2015), attempt to persuade and make the global public aware of the looming effects of climate change. (Neo)Stapleists attempt to do this, with the Canadian and Albertan public, but under the false assumptions that Canada and Alberta have become petro-states controlled by foreign petro-elites (located in the United States or China). In short, the solution, for (neo)Stapleists, is that Canadians and Albertans should take back their country and province (through voting and social movements), known as the *Leap Manifesto* (2018)¹⁴⁷, and direct it towards the renewable energy sector and green investment, which would follow the so-called current global movement towards a renewable energy system (Haley 2011; Laxer 2015).

Yet Brendan Haley (2011), Tony Clarke et. al. (2013), and Jim Stanford's (2014) edited collection, *The Staples Theory @ 50*, provides little evidence that global climate change has forced the Organization for Economic Co-operation and Development (OECD) countries into transforming their dependency from carbon-based energy (fossil fuels) towards low-carbon based energy. Clarke et. al. state that annual spending on low carbon goods and services, in 2010, was estimated to be \$339 billion (2013: p. 31) and that "[b]y 2050, global spending on low carbon goods and services is expected to range between \$3.9 trillion and \$8.3 trillion depending on which

¹⁴⁶ See Albo 2007; Albo and Yap 2014; Angus 2016, for the Canadian-Marxists critiques of the Green Movements in Canada.

¹⁴⁷ See <https://leapmanifesto.org/en/the-leap-manifesto/>.

climate policy assumptions prevail” (2013: p. 31). The United Nations Environmental Programme (UNEP) (2015: p. 6) argues that global investment in renewable power and fuels (excluding large hydro-electric projects) was “US\$270.2 billion in 2014, nearly 17 per cent higher than the previous year” (p. 6), with most of the development taking place in China, Japan, and Europe. The reason for the recent investment is due to the technological costs of solar installations falling sharply (p. 6). This saw renewable energy technologies add 48 per cent “of the net power capacity added worldwide in 2014” (p. 6). This still falls short of the gross investment in fossil fuel capacity which was US\$289 billion. The increase in renewable energy is totally dependent, according to the UNEP, on investors, state policies, and global markets, in which they warn, are always unpredictable. More importantly, European and Asian governments are “tempted to see a bigger role for gas in the future generation mix, now that oil prices have plunged to the \$50 to \$60-a-barrel area and there is a chance of some of this reduction being mirrored in future oil-linked gas purchase contracts” (p. 12). If carbon capitalism creates a world or environment in its own image as a mode of development, then as Di Muzio (2012; 2015a) suggests, we must investigate how societies and world order are currently capitalized and energized (see also Di Muzio and Ovidia 2016; Newell 2019; Urry 2013).

Since 1973, the IEA has been monitoring global total primary energy sources. In 1973, fossil fuels represented 86.4 percent and renewable energy was at 14.4 percent. In forty-two years, there has been an increase of 4.2 percent, in the shift to renewable energy, accounting for 81.4 percent of total primary energy supply while renewable energy accounted for 18.6 percent. Interesting, that biofuels and waste are still the biggest contributors to the renewable energy sector at 10.5 percent (in 1973) and 9.7 percent (in 2015) (IEA 2017b). We should note that the latest food crisis of 2007-8 was the direct result of food-based financial speculation and the increase in

global consumption and production of biofuels – making biofuels an unlikely replacement for oil as a major alternative (Araghi 2010; Baines 2015, 2017; Banerjee 2011; Ghosh 2010; Henriques 2008; Holt-Giménez 2009; Kaufman 2010; McMichael 2009a).¹⁴⁸ There are also a couple of alarming concerns to consider. The first is that global crop industries are directly connected to fossil fuel consumption and production through fertilizers, transportation, and machinery (Albritton 2009; Clapp et. al. 2018; Di Muzio 2015a; GRAIN 2015; McMichael 2009a; Pfeiffer 2006; Vermeulen et. al. 2012). The second is that the biofuel industries are continuing and being considered as a renewable energy source. This is very concerning because of the following issues that impact global food industries: 1) climate change; 2) global, regional, and local wars¹⁴⁹ 3) urban development has skyrocketed¹⁵⁰; 4) the world’s population is increasing¹⁵¹; 5) and so is the automobile industry¹⁵² and finally 6) peak fertilizers and soil will inevitably happen (Di Muzio 2015a; FAO 2017; Heinberg 2011; McKinsey & Company 2013; UN-DESA 2015, 2018; UN-Habitat 2016; Parkin et. al. 2017; Winton 2017). In 2016, there were 815 million people who suffer from hunger (FAO 2017). This is likely to increase, not only due to the conditions above, but especially, if global food industries are to prioritizing feeding North America’s fetishized and individualistic automobile transportation networks, over the low-income portion of humanity

¹⁴⁸ For further research on how capitalist social relations structurally creates obesity and hunger, see Akram-Lodhi 2013; Albritton 2009; Friedmann 1993; George 1976; McMichael 2009a, 2009b; Patel 2007.

¹⁴⁹ “In 2016, more than 2 billion people were living in countries affected by conflict, violence and fragility. When the state, socio-economic systems and/or local communities do not have the capacities to prevent, cope with or manage situations of conflict, the worst affected are generally the poorest and most vulnerable sectors of society. The World Bank and Organisation for Economic Co-operation and Development (OECD) estimate that by 2030 high population growth rates and weak economic development could mean that the poor will come to represent half or more of the total population living in fragile and conflict-affected situations” (FAO 2017: p. 30).

¹⁵⁰ UN-Habitat (2016: p. 1, 2018) notes that there are currently “54 per cent of the world’s population [4.14 billion], and by the middle of this century, that figure will rise to 66 [or 68] per cent” who will be living in urbanized environments by 2050.

¹⁵¹ The current world population stands at 7.3 billion and “is expected to reach 8.5 billion by 2030, 9.7 billion in 2050 and 11.2 billion in 2100” (UN-DESA 2015).

¹⁵² In 2017, 88.1 million automobiles were sold and this is expected to rise exponentially. Most of the new consumption is coming from the rising middle classes in the BRICS countries (McKinsey & Company 2013, PWC 2017; Winton 2017).

(Campbell 2005; Di Muzio 2015a; Lutz and Lutz-Fernandez 2010; McMichael 2010; Paterson 2000, [2007]2017; Rosillo-Calle 2010; Shattuck 2008; Urry 2012).

Jacobson (et. al. 2017) demonstrates that in a ‘perfect world’ of investment and technology, the current carbon-based energy infrastructure can transition to zero-emitting energy by 80 percent by 2030 and 100 percent by 2050 at the cost of US\$124.7 trillion dollars (p. 108 - 114). These types of scientific-research studies suffer from techno-determinism by ignoring the larger socio-political-historical world order that is embedded with social relations of differential rationalities, hierarchies, power, and control mechanisms (Bichler and Nitzan 2017). The magnitude of money needed to build this ‘ideal’ global zero-emission infrastructure far exceeds the United States’ GDP (in 2016) at US\$18.75 (World Bank 2016),¹⁵³ World GDP at \$US80.684 (World Bank 2016),¹⁵⁴ and all publicly listed corporations of market capitalization, which in 2017, was at USD\$79.214 trillion (World Bank 2017).¹⁵⁵ The only financial instrument that is larger than this ‘green capitalism’ transition, is global debt, which stood at US\$244 trillion in 2019 (Oguh and Tanzi 2019).¹⁵⁶ If the research is accurate, this would mean the world order would have to spend \$US3.9 trillion (rounded up) over the next 32 years (2018 – 2050), which will be revealed below, as highly unlikely. Also, to my knowledge, this does not include the future increases in energy consumption which will grow by some 37 to 140 per cent by 2040 depending on whose scenario becomes true (Di Muzio 2015a: p. 198). More importantly, there has been no consistent scientific evidence that demonstrates “that current forms of energy-intensive social reproduction cannot be sustained with known sources of renewable energy. At best, renewable energy may make up less

¹⁵³ Accessed here: <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=US> (on 08/09/2018).

¹⁵⁴ Accessed here: <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD> (on 08/09/2018).

¹⁵⁵ Accessed here: <https://data.worldbank.org/indicator/CM.MKT.LCAP.CD?view=chart> (on 08/09/2018)

¹⁵⁶ Global debt is calculated by adding up government bonds, financial bonds, corporate bonds, and household debt (McKinsley 2015: p. 15).

than 30% of the world’s energy supply in the twenty-first century” (Di Muzio 2015a: p. 199; see also: Heinberg 2009; Smil 2011, 2017; Trainer 2007, 2015, 2019; Zehner 2012).¹⁵⁷ As Di Muzio (2015a: p. 199 - 200) notes some of the main problems:

Table 10: Snapshot of Problems with Renewable Energies

<ul style="list-style-type: none"> • Reliability as some sources are intermittent (e.g. wind and tides) • Scalability (e.g. wind turbines and solar cells) • The conversion of fertile land to wind farms and/or biofuels (e.g. the loss of food crops) • Negligible energy returned on the energy invested (e.g. some biofuels) • Integration into pre-existing power infrastructure (e.g. electricity generated by wind) • The inefficiency of battery storage (e.g. the loss of energy during conversion) • High cost to consumers (e.g. the price point of photovoltaic solar cells) • Components made with exhaustible and expensive rare Earth elements (e.g. gallium and indium used in solar cells). • Low winter insolation, dust and water vapor and clouds (e.g. photovoltaic solar cells) • High capital investment (e.g. wind turbines, solar cells, research and development)

More importantly, technological fixes are the preferred solutions because they do not challenge or disrupt the contradictions embedded in the current modes of behavior and fossil fuel-based consumptive capitalism that “underpin most current environmental problems” (Greaves 2013: p. 173). For example, technological fixes do not address the underlying monetary system of debt, and by *de facto*, the unlimited-growth base which will inevitably lead to the planet’s finite or exhaustible resources to be consumed by the rich and rising affluent consuming classes (Di Muzio 2015a: p. 199ff; See also: Heinberg 2011; Newell 2019; Trainer 2007, 2019). This techno-fix does not remove the historical and global conditions of planned obsolescence and the tremendous scale of fossil fuel-based commodities and waste that have become essential for civilizational social reproduction (Campbell 2002; Dauvergne 2008, 2010; Slade 2007). Furthermore, as Neil Brenner

¹⁵⁷ For example, to reach the levels that renewable energy can replace fossil fuels this would mean “...the next 25 years to replace most of what is supplied by fossil fuels, the world would need to build 200 square meters of solar photovoltaic panels every second plus 100 square meters of solar thermal every second plus 24 3-megawatt wind turbines every hour nonstop for the next 25 years” (Assadourian 2010: p. 7).

(et. al. 2014) notes, the current world development trajectory is one of planetary urbanization, insofar, as more and more of the world's population move into mega-cities to fulfil and secure their means of social reproduction and lifestyles (See also: Davis 2005). This is alarming as the UN-Habitat states that cities are responsible for 70% of global carbon dioxide emissions (p. 1). Finally, even if by some miracle, Jacobson et. al. (2017) and other scientific green optimists remove all the social, scientific, engineering, power and capital investment barriers involved in creating zero-emissions world order; foundational problems still exist. In other words, in 2014, carbon dioxide (CO₂) emissions stood at 49 gigatons, with renewable energy being more of an electric and infrastructure replacement for fossil fuels; this only removes 15.4 (rounded up) of gigatons of CO₂ (Edenhofer et. al. 2014: p. 8; See Appendix L). This would leave 33.6 gigatons of CO₂ emissions remaining, and if the United Nations Framework on Climate Change Conference wants to meet the carbon budget (550–600 gigatonnes of CO₂) to keep global warming from being over 2 degrees Celsius, this decrease of carbon emissions would only provide 5.6 years of current global development trajectory.

Since 2014, the federal government of Canada, Alberta, Saskatchewan, and major oil corporations (i.e. British Petroleum and Shell Canada) are placing their bets on carbon capture and storage facilities as a potential for maintaining carbon capitalism, petro-market civilization, and social reproduction (Goldenberg 2014; Morgan 2018; National Energy Board 2016; Shell Canada 2018). Carbon capture and storage are plants that capture carbon dioxide from large sources, such as a cement factory or oil refinery, who then store carbon dioxide on site and then deposit it underground. Shell Oil, and the Albertan and Canadian federal governments have hailed their carbon capture and storage facility, near Edmonton, as a success, as for over three years, it has “safely stored 3 million tonnes of CO₂, and has achieved this milestone ahead of schedule”. As

well, “Canada has nearly one fifth of the 22 large-scale carbon capture and storage plants operating or under construction around the world” (Shell Canada 2018). The science of carbon capture and storage is not only still scientifically debatable but so are the long-term environmental consequences (Boot-Hanford et.al. 2014; Cuéllar-Franca and Azapagic 2015; Leung et. al 2014; Smil 2011b). Finally, the magnitude of cost ranges between “\$40 and \$70 per ton CO₂... The annual cost of sequestering 3 GtCO₂/year at a cost of \$50 per ton CO₂ is \$150 billion per year” (Snieder and Young 2009: p. 36; see also Irlam 2017).¹⁵⁸ At the current rate of CO₂ emission at 49 gigatons, this would cost \$2445 billion annually.¹⁵⁹ The creation and funding of carbon capture and storage seems to be, more or less, another governmental subsidy for global fossil fuel corporations and locking-in the global developmental trajectory as carbon-based rather than fundamentally dealing with this 21st century contradiction (Smil 2011b, 2017; Unruha and Carrillo-Hermosilla 2006).

As a result, in order for renewable energy to be ‘unlocked’, besides the need for vast technological improvements similar to current energy-intensive fossil fuel global infrastructure, it will need a magnitude of governmental subsidies and investment. Since the 1970s, carbon capitalism, petro-market civilization and social reproduction have been exponentially expanded and maintained by governmental subsidies, war, and capitalization (Di Muzio 2015a). As Di Muzio and Dow (2018: p. 567) state “[i]f corporations, global investors and nation-states no longer assume that fossil fuels are viable or are expected to dominate the global energy system, then we

¹⁵⁸ “Alberta had once been an enthusiastic investor in carbon capture and storage projects and committed \$1.3 billion to two projects in 2014, which at the time, accounted for 10 per cent of the total global investment in carbon sequestration. But the technology was considered too expensive relative to other emissions reduction strategies and further investments in carbon capture and storage, in Alberta, were abandoned” (Morgan 2018: n.p.)

¹⁵⁹ Smil (2017: n.p.) notes “[t]hese efforts at carbon capture and storage began decades ago and have increased since 2000, but all operating projects and those under construction have an annual capacity equal to just 0.3 percent of annual emissions from stationary sources (less than 40 million metric tons compared with some 13 billion metric tons). This is another perfect illustration of the scale of the challenge. All of the carbon-capture projects now scheduled to start operating at various dates during the 2020s would not even double today’s minuscule rate of carbon capture.”

should see a rapid decline in market capitalization.” Starting with governmental fossil fuel subsidies; a common conception is that nation-states “...still provide an estimated US\$548 billion in subsidies for fossil fuels compared to US\$121 billion in renewable energy” (Di Muzio and Dow 2019: p. 567; See also: Bridle and Kitson 2014). Yet, the research of David Coady et. al. (2017) implies that the very idea of what is a subsidy is highly contested, specifically when it comes to fossil fuels, because they are embedded in every aspect of everyday life in most parts of the globe (Appel et. al. 2015; Di Muzio and Ovadia 2016; Hall and Klitgaard 2012; Huber 2013; McNeish and Logan 2012; Nikiforuk 2012; Urry 2012). He suggests by dividing energy subsidies by pre-tax and post-tax, the actual volume of governmental subsidies towards fossil fuels is by far larger, especially when it comes to post-tax. “[P]ost-tax energy subsidies are estimated at \$4.9 trillion worldwide in 2013 and projected to reach \$5.3 trillion in 2015, or 6.5% of global gross domestic product in both years. The 2015 post-tax subsidies are 16 times as high as pre-tax subsidies (\$333 billion)” (Coady et. al. 2017: p. 12). The nation-states that provide the most subsidies, in 2013, were “China at \$1.8 trillion in 2013, followed by the United States (\$.0.6 trillion), Russia, the European Union and India (each about \$0.3 trillion), and Japan (\$0.2 trillion” (p. 12). The reason why governmental subsidies are a key indicator in theorizing the possibilities or the limits of renewable energy transition is similar to global corporations, investors and those being encompassed in dominant capital whereby nation-states have tremendous capabilities in shaping and reshaping not only national but global political economy and social reproduction. In this case, if nation-states, like global corporations or investors, no longer accept that the fossil fuel dominant energy system will continue, then there should have been a decrease in fossil fuels subsidies, which is the opposite trajectory that is currently unfolding (Coady et. al. 2017; Di Muzio 2015a).

Therefore, most nation-states are still predicting that the future energy system is one of fossil fuel supremacy.

By contrast, levels of capitalization can be used as a proxy for understanding how investors and corporations foresee the future. For example, Di Muzio and Dow (2018: p. 563) state:

the world's leading mobile company Nokia had a market value just over US\$120 billion in 2007, the year Apple introduced its iPhone and new operating system. As of late September 2017, the value of Nokia is just shy of US\$30 billion, a percentage decline in value of -75 percent over a ten-year period. The questions for us is what sent Nokia's market value into freefall? According to the Marxist paradigm, where corporate earnings have to be explained by the labor theory of value, the rate of exploitation of workers must have been slowing, while wages, as a proportion of the surplus produced, must have been increasing. However, in reality, every stock analyst knows that what drove down corporate earnings was Nokia's failure to compete with Apple's iPhone combined with new competition from below in the less expensive mobile phone market. What this suggests is that while production is important for corporate earnings and therefore overall capitalization, it is not enough to explain the magnitude of accumulation. Instead...prices and accumulation are largely determined by organized power rather than the exploitation of labor.¹⁶⁰

The situation, unfolding globally and particularly in Canada, by banking, fossil fuels corporations and nation-states is that they are still financing and developing unconventional hydrocarbon reserves. There are incentives provided by governmental fossil fuel subsidies, and there are technical and socio-economic-political barriers for renewable energy. Thus, it is not surprising that there has only been a minor decline in global market capitalization in the fossil fuel sector. In 2014, data from the *Financial Times Global 500* demonstrates that

the capitalization of publicly-traded oil and gas producers was the 3rd largest sector of the global political economy just behind banks and pharmaceuticals and biotechnology at US\$2.5 trillion. This figure is down from US\$3.9 trillion in 2008 when the oil and gas industry was the leading sector of the global political economy by market capitalization (Di Muzio and Dow 2019: p. 568).¹⁶¹

¹⁶⁰ Another element of market capitalization is confidence in potential profitability as seen by D. T. Cochrane's (Forthcoming) analysis of how the Deepwater Horizon oil spill effected British Petroleum's market capitalization.

¹⁶¹ "All numbers are rounded. This does not include nationally-owned oil and gas producers like Aramco, Gazprom, National Iranian Oil Company, etc." (Di Muzio and Dow 2019: fn. 8)

This US\$1.4 trillion dollar decline in capitalization is the result of low oil and gas prices and not the shift in global capitalization towards the renewable energy industries. The *WilderHill Nex*, which is the most comprehensive renewable energy index, is

comprised of companies worldwide whose innovative technologies and services focus on generation and use of cleaner energy, conservation and efficiency, and advancing renewable energy generally. Included are companies whose lower-carbon approaches are relevant to climate change, and whose technologies help reduce emissions relative to traditional fossil fuel use (Nex Index 2018).¹⁶²

The *WilderHill Nex* is a “good indication of how investors weigh the profitability and prospects of renewable energy going forward” (Di Muzio and Dow 2019: p. 568). According to *WilderHill Nex Factsheet 2016*, the total market capitalization of the index is \$252 billion (up from \$196 billion in 2010) with the average corporation having a \$2.7 billion market capitalization and the largest corporation having \$30 billion (p. 2).

The global renewable energy industry is still, by far, dwarfed by the global fossil fuel industries at US\$2.5 trillion capitalization. Even with the price drop of oil, according to Bloomberg and Bloomberg and PricewaterhouseCoopers’ analysis, from March 2009 until March 2017, there are still eight oil and gas producers in the global top 100 corporations by market capitalization (See Table 11).

Table 11: Top Oil and Gas Producers by Market Capitalization

March 2009 – measured in billions	March 2017 – measured in billions
Exxon Mobil 1 st at US\$337	7 th at US\$340
Royal Dutch Shell 9 th at US\$135	23 rd at US\$220
Chevron 11 th at US\$135	27 th at US\$203
PetroChina 2 nd at US\$287	29 th at US\$201

¹⁶² <http://www.nexindex.com/> (accessed 1/20/2017)

Total SA 20 th at US\$117	52 th at US\$124
BP 16 th at US\$126	61 st at US\$113
Schlumberger 76 th at US\$49	66 th at US\$109
China Petroleum & Chemical 25 th at US\$102	74 th at US\$100

Source: Data compiled from PwC. (2017). *Global Top 100 Companies by Market Capitalisation*. Retrieved from: <http://www.pwc.com/top100>.

The data does not account for nationally or semi-nationally owned oil and corporations that are not publicly-listed. We should note, that with the price drop of oil, this has led to OPEC nations relying on increasing their sovereign debts, instead of oil revenue, to maintain their social reproduction (Fahey 2015; Holodny 2016; Hussain 2016; Sharif and Narayanan 2018; See Table 12).

Table 12: OPEC’s Oil-Prices Needed to Break-Even

OPEC Member	Fiscal Break-Even Price
Algeria	\$96.00
Angola	\$110.00
Ecuador	n/a
Iran	\$87.20
Iraq	\$81.00
Kuwait	\$49.10
Libya	\$269.00
Nigeria	\$122.70
Qatar	\$55.50
Saudi Arabia	\$105.60
United Arab Emirates	\$72.60
Venezuela	\$117.50

Source: Adapted from Mark Fahey (December 3rd 2015). *Oil prices and budgets: The OPEC countries most at risk*. CNBC. Retrieved from: <https://www.cnbc.com/2015/12/03/oil-prices-and-budgets-the-opec-countries-most-at-risk.html>.

For example, Saudi Arabia’s national sovereign debt stood at \$44 billion (riyals), in 2014, now it stands at \$316.5 billion (riyals). In 2016, this was an increase of 619% in just two years (Hussain 2016: n.p.). What this means is that Saudi Arabian bondholders are not only capitalizing on Saudi

Arabian debt, but by de facto, their future oil revenue.¹⁶³ What this market capitalization data and OPEC debt suggests is that major global social forces are still predicting that the future will have potentially high oil prices and will be dependent on a fossil fuel energy to maintain globalized social reproduction.

From what has been presented above, the reason why Canada has become one of the world's leaders in reconstituting fossil fuels, as the dominant energy system through its unconventional hydrocarbon industry, despite the science on climate change, is a morbid symptom or a mere reflection of a much larger global leadership and organic crises of globalized social reproduction. As the world order is still currently being locked-into a carbon-based energy system in the age of climate change in order to maintain and continue the reproduction of twenty-first century global capitalist civilizational order on a growing planetary scale.

Conclusion:

It should be stressed that this chapter, or overall this thesis, is not an argument against the global development or transition towards renewable energy sources or a post-carbon world order. That said, we need to question whether global civil society wants to transition to a post-carbon world order at all. Ted Trainer (2007: p. 6) notes “[w]e cannot solve the big global problems such a society generates unless we face up to transition to a very different kind of society.” Since the 1970s, the global-national logic of a debt-based monetary and unlimited growth system has reinforced and accelerated carbon capitalism, petro-market civilization, and carbon energy-intensive social reproduction on a planetary scale. These global civilizational patterns which are not post-carbon adoptable have been fundamental to accelerating human-induced climate change.

¹⁶³ Due to low oil prices, the Saudi Arabian government was debating on listing 5% of Saudi Arabian Oil Co. (Saudi Aramco) stock on the global stock market. Saudi Aramco was valued at more than \$2 trillion. See <https://www.forbesmiddleeast.com/en/saudi-aramco-behind-the-worlds-biggest-ipo/> (accessed 09/08/2018)

This is seen in a new study that empirically proves that current economic growth patterns cannot become green (Hickel and Kallis 2019). Simply put, green economic growth is impossible. There are a few glimmers of hope, though, for the renewable energy industries and potential post-carbon world order. For example,

Attorney generals of New York, Massachusetts and the U.S. Virgin Islands launched investigations of Exxon in 2015 and 2016. Prosecutors want to see if the company lied to the public about the risks of climate change or to investors about how such risks might hurt the oil business. Since then, Exxon has been waging a relentless fight through state and federal courts to impede the continuing investigations by New York and Massachusetts. It sued Massachusetts Attorney General Maura Healey and then-Attorney General of New York Eric Schneiderman in federal court to block the investigations, but the judge rejected Exxon's claims that the investigations are politically motivated. Legal battles also spilled into the courts of both states; all the way up to the supreme courts of New York and Massachusetts (Hasemyer 2018: n.p.).¹⁶⁴

Yet, the outcome so far is that there is substantial evidence that oil corporations have been hiding the findings from the global and American public that human-induced climate change is real (See Chapter 4: See also: Banerjee et. al. 2015; Jerving et. al. 2015; Supran and Oreskes 2017). This has led Exxon Mobil and other global oil corporations to stop funding disinformation campaigns (Nasiritousiin 2017). However, global oil corporations continue to monetize the world's remaining fossil fuels resources as this is the primary way these corporations generate differential earnings and therefore differential capitalization (Di Muzio and Dow 2019: p. 561). More importantly, King Coal seems to be finally in decline in terms of total primary energy supply (specifically in heat and electricity) (BP 2017; Di Muzio and Dow 2019; IEA 2017).¹⁶⁵ Moreover, since 1990, the IEA

¹⁶⁴ “The investigations drew a quick, fierce response from Exxon. The company went on the legal offensive to try to shut down the probes, employing an army of aggressive, high-priced lawyers and a strategy of massive resistance. The attorney general of the Virgin Islands capitulated and ended his investigation just three months after issuing subpoenas” (Hasemyer 2018: n.p.). For key up-to-date courting findings and events please see <https://insideclimatenews.org/news/04042018/climate-change-fossil-fuel-company-lawsuits-timeline-exxon-children-california-cities-attorney-general> (accessed 08/08/2018).

¹⁶⁵ Yet, global banks are still lending upwards of \$US600 billion to develop coal plants. See <https://www.banktrack.org/coaldevelopers/> (accessed 08/08/2018).

suggests that “renewable energy sources have grown at an average annual rate of 2.0%, which is slightly higher than the growth rate of world total primary energy supply, 1.8%” (2017: p. 3), while investment in most Global North countries have recently dropped or relatively stagnated to \$125 billion for the renewable energy industries (Ren 21 2017: p. 112). The UNEP (2016: p. 11) notes that China, India and Brazil have started to invest immensely in renewable energy industries currently estimated at \$156 billion. Even with this recent event and new global investments that promote a renewable energy future, Di Muzio and Dow (2019: p. 566) argue

... it will be up to the various organs of global civil society to keep up the pressures on both corporate and state social forces since, other than individual lifestyle changes, this is the only way in which a peaceful transition to a new energy order may come about. If the transition fails to be organized and coordinated, the transition to a post-carbon world order may indeed be bleak.

What global civil society cannot do is depend on the petro-global market to save planetary life from potential catastrophic climate change events (Klein 2007, 2014), as the global market, along with nation-states, global banking and fossil fuel corporations are still financing, subsidizing, developing, and capitalizing on a future fossil fuel dependent world order (Financial Report Card 2016, 2017).

This chapter, then, demonstrates that Canada and Alberta’s contradictory development of developing unconventional hydrocarbon, in the age of climate change, is inherently part of the global-national path dependency for being dependent on a carbon-based energy system, for globalized social reproduction. Moreover, I argue, that currently, global social forces are locking-in their development trajectory on fossil fuels rather than opting in to a renewable energy oriented-future, unlike both conventional international and Canadian political economy perspectives who more or less theorize fossil fuels as a ‘strategic commodity’ or ‘input’ into the capitalist mode of production and militarism. In my perspective, energy or energy systems are fundamental in shaping and reshaping the global political economy. This was seen during the period of the early

and mid-2000s, where there were debates of peak conventional oil, growing instability, war in oil-producing nations, an increase in energy demand, the rise of financial-commodity traders, which led to the re-birth of global oil industries and dominant capital nexus in reshaping the world order towards fossil fuel dependency in the age of climate change awareness. Whether or not we have hit peak conventional oil is no longer the point, because if humanity decides to combust all the remaining fossil fuels, there may or may not be a viable planet or human civilization left.

The second part of this chapter critiques conventional Canadian political economy perspectives on theorizing why Canada's unconventional hydrocarbon deposits are being developed. The (neo)Staples literature argues that the primary owners and benefactors of Canada's unconventional hydrocarbon deposits are the United States and other 'non-Canadian' actors, which is not true, as demonstrated above. Instead, the owners and benefactors, of mainly Alberta's bituminous sands project, are in fact, although unevenly, the Alberta and Canadian state, Canadian settlers, global banks and fossil fuel corporations. This paradigm of thought has also loosely attempted to show that Canada is one of the very few countries not taking a climate change initiative or transitioning to low-carbon forms of social reproduction seriously. I tend to agree with this position; however, this is not only a Canadian exception but global in nature. Canadian-Marxists have attempted to demonstrate that Canada's unconventional hydrocarbon industries is just a fossil fuel sectoral fix, if the peak conventional oil narrative turns out to be true. This is a limited viewpoint on understanding how both energy or energy systems and dominant capital shape and reshape global capitalism and social reproduction. Furthermore, Canadian-Marxists maintain that only through a national or global eco-socialists or solar-communist revolution can Canada or the rest of the world escape this twenty-first century contradiction between capitalism and climate change. Yet, how the eco-socialists or solar communist world order is going to remove

the current extreme amount of global inequality and save the biosphere remains to be seen. As Magnus Enzensberger (1974) once stated, “[c]atastrophes cannot be combated by quotations” (p. 22).

Finally, this chapter demonstrates that this contradiction will not be resolved simply through a new ‘techno-economic paradigm’ but rather through a deeper reflection and democratization of globalized social reproduction, resistance, and the search for alternatives. This is seen in how, even under a renewable energy system, we will still be dependent on the market and monetary rationality of mass production, consumption, debt and thereby unlimited growth that will eventually exhaust the planet’s finite resources and destroy important planetary carbon sinks. As scientifically speaking, the biosphere is a natural carbon sink, whereby “roughly 20 billion tons of CO₂, i.e., more than half of global anthropogenic carbon emissions, are annually sequestered by natural ecosystems on land and in oceans” (Rockström et. al. 2016: p. 468). This biospheric destruction is demonstrated with the imminent sixth mass animal extinction (Barnosky et. al, 2011; Burke et. al. 2016), the mass plasitification¹⁶⁶ and acidification of the ocean and deforestation (Brienen et al. 2015; Doney et. al. 2009; Geyer 2017; Giam 2017; Hoegh-Guldberg et. al. 2007; Jambeck 2015; Orr et. al. 2005; Patel and Moore 2017; Ripple et. al. 2017; Rockstrom et. al. 2016; Williams 2006). As a result, the major misconception is that carbon capitalism, petro-market civilization, and the Global North’s affluent lifestyles can operate or be transformed to a green, low carbon, or sustainable political economy regime. Therefore, carbon capitalism, in the age of climate change, is perhaps

the largest contradiction of modern history – over the last century in particular, the oil and gas industry has used its power to shape and reshape a global economy heavily reliant on the combustion of fuel sources that threaten to dramatically alter

¹⁶⁶ Jambeck et. al. 2015 “estimate[s] the mass of land-based plastic waste entering the ocean. We calculate that 275 million metric tons (MT) of plastic waste was generated in 192 coastal countries in 2010, with 4.8 to 12.7 million MT entering the ocean” (p. 768).

living conditions for humans and other creatures in the biosphere (Di Muzio and Dow 2019: p. 565)

The growing resistance against Canada's unconventional hydrocarbon industries development projects in Canada, by both the environmentally conscious settlers and First Nations and Aboriginal people, could act to define the *limits of the possible* and how far Canada will be fracked and its tar sands excavated. But just as important, we, as settlers in Canada and all of humanity, do in fact have to acknowledge the actual limitations of the biosphere, not only on the basis of commodities, but also on the basis of understanding how and why the relentless need for unlimited growth takes place. In conclusion, two questions must be asked of humanity, settler Canadians, First Nation and Aboriginal communities: will we allow the current carbon-intensive capitalism, which disproportionately benefits the plutocrats (while externalizing costs to society at large) threaten the fundamental human security of future generations to continue? And do we settlers, continue to maintain our social reproduction patterns, that are dependent on the social conditions, by allowing these resources to "...be exploited to power far-off cities and towns, while Indigenous peoples and people of colour live in the energy sacrifice zones[?]" (LaDuke 2014: p. 230).

Concluding Reflections: Resistance in the Web of Power

Future intelligent life will know we were here because some humans have filled the fossil record with such marvels as radiation from atomic bombs, plastics from the oil industry, and chicken bones.

– Raj Patel and Jason W. Moore
A History of the World in Seven Cheap Things
(2018: p. 14)



*"Yes, the planet got destroyed. But for a beautiful moment
in time we created a lot of value for shareholders."*

January 30, 2015

The New Yorker Cartoon.

Accessed at: <https://www.newyorker.com/cartoon/a16995> (on 02/02/2016).

The first chapter of the dissertation outlines the primary arguments, contradictions, theoretical approaches, and the various scholarly contributions to the fields of international relations theory, Canadian and International Political Economy. The chapter argues that Canada's current situation; that is the development of their unconventional hydrocarbon deposits in the age of climate change, should be understood in a historic and broader context that is embedded within the current global organic and leadership crises, since current leadership appears to support the

contradiction of carbon-based globalized social reproduction and climate change. My primary critique focuses on both fields of international and Canadian political economy for largely sidestepping the importance of energy and energy systems in the production and reproduction of the global political economy. As a result, I draw from conceptual lenses of *carbon capitalism*, *petro-market civilization*, and *social reproduction*, to highlight how the current world order and global political economy is locked-into a vicious cycle of path dependency whereby production and social reproduction require evermore fossil fuels, even in the age of climate change and the looming catastrophic threats and events that could follow.

The second chapter finds major shortcomings in conventional Canadian political economy approaches, (neo)Staples and Canadian-Marxism, in terms of their understanding of how Canada's political economy unfolded. Both (neo)Staples and Canadian-Marxists divorce the historical and ongoing violence and centrality of settler colonialism from Canada's political economy, social reproduction, and capitalism. More specifically, their theoretical accounts of what capital accumulation and capitalism are, not only suffers from *Eurocentrism* but have very limited explanatory power in relating how the colonial-capitalist developmental nexus in Canada unfolded. In order to overcome these limitations, within Canadian political economy scholarship, I provide my own theoretical account of what capital accumulation and capitalism are, which provides greater insight and linkages on how foundational Aboriginal or Indigenous dispossession was and still is active in the making of Canada's political economy.

Chapter three reveals that both international and Canadian political economy have largely sidestepped the importance of energy and energy systems, in the making and remaking of global and Canadian political economy and misunderstood the importance of the Seven Sisters which

were a fundamental social force in the creation of the global petro-market civilization which forged the transition to an oil-based global capitalism, social reproduction, ~~and~~ that deepened and broadened the *carbonization of everyday life*.

Chapter four offers a comprehensive critique of how most socio-political-economic analyses generally reduce the study of oil to ‘oil addiction’ in the maintenance of everyday life and political economy. This chapter further finds that both neoclassical and Marxist economics have no tangible theory of how oil is priced as both the laws of supply and demand and the labour theory of value do not hold up socio-scientific scrutiny. Finally, with OPEC not only nationalizing most of the world’s known oil reserves, not only accelerated but reinforced petro-market civilization’s central role in reproducing the terrains of global political economy and also overshadowed the emergent global environmental movement that was already discussing the *limits to growth* and potential future environmental devastation in the 1970s and 1980s.

Chapter five reveals that Canada follows a global path dependency, known as neoliberalism, which this chapter defines as a *debt-growth restructuring nexus*, relating this to Stephen Gill’s concepts of *disciplinary neoliberalism* and *new constitutionalism* offer much needed awareness to how Canada has juridical locked-into reforms, policies and laws that entrench capitalist social reproduction and make it more difficult to alter capitalist patterns of energy-intensive development. In other words, I find that there are two global objectives in the neoliberal era. The first, drawing from Tim Di Muzio and Richard Robbins’ (2016) new theory of how debt should be understood as a *technology of power* highlights that as the world order becomes more and more saturated with debt, this allows banks and credit rating agencies to have the power to deem individuals, corporations and governments creditworthy or non-creditworthy; therefore, subjecting these social forces to potential market discipline. The second, is that Canada and most

of the world have entered into a new constitutional era premised on unlimited growth and limited democratic intervention into Canada's political economy in order to service and comply with market forces and why Canada's governmental regimes are obsessed with economic growth and developing their unconventional hydrocarbon industries in the age of climate change.

Chapter six summarizes why Canada has become one of the world's leaders in reconstituting fossil fuels, as the dominant energy system through its unconventional hydrocarbon industry, despite the science on climate change. Canada's current situation should be understood, in a broader context, as a *morbid symptom* that is embedded within the current global organic and leadership crises, since current leadership appears to support the contradiction of carbon-based globalized social reproduction and climate change.

Canada is following a globalized and energized path dependency; whereby, most social forces are still locking-in the world order towards a fossil fuel-dependent energy system future instead of concentrating on transitioning to renewable energy systems and low-carbon forms of social reproduction. The world order is facing growing energy demands, the peaking of conventional oil, the lack of non-nationalized oil deposits, potential energy insecurities, and a debt-based monetary system that perpetuates and is dependent on unlimited growth. This could potentially be the largest paradox in human history as humanity should be attempting to limit production and consumption by reducing climate change fuels. Yet, no amount of renewable energy technological-fixes, fossil fuel divestment, nor the petro-based global market, alone, are going to solve this dilemma. Rather, it will be up to global civil society, nation-states, and corporations to fundamentally transition the global political economy towards a debt-free, alternative model of 'economic growth', and a post-carbon based one. If not, the looming catastrophic effects of climate change, the global exhaustion of resources, and the mass sixth

extinction may become a reality that will ultimately devastate human civilizations (IPCC 2018; WWF 2018).

Epilogue:

My final remarks are reflected in the recently released Intergovernmental Panel on Climate Change (IPCC) (2018) report that states that if the current and eventual intensified fossil fuel-based world order continues on – human-caused greenhouse gas emissions are on track to increase global temperatures to a 3 to 5 degree celuis scenario, by 2050 to 2100, which will have catastrophic impacts on global humanity (see also: McGrath 2018; Plumer and Popvich 2018; Ripple et. al. 2017; Rockström et. al. 2016). There is currently a new trend in both international relations and political economy scholarship to try to hold someone or something accountable for the current paradox. Conventional international relations and political economy scholars generally blame either global capitalism and dominant elites, just petro-elites and fossil fuel corporations, or no one in particular (Burke et. al. 2016; Carroll 2017; Chandler et. al. 2017; Dalby 2018; Griffin 2017; Menotti 2012, 2015; Moore 2015, 2016; Supran and Oreskes 2017). This is particularly reflected in both the Anthropocene or Capitalocene narratives (Angus 2016; Crutzen 2002; Edenhofer et. al. 2014; Foster 2018; Lewis and Maslin 2015; Moore 2015, 2016, 2018). For example, the two branches of ‘ecologically sensitive’ Marxist schools are that of Jason Moore’s Capitalocene School and the Monthly Review School. Both perspectives argue that global capitalism and the ruling elite class are to blame for the current paradox (Angus 2016; Foster 2018; Malm and Hornborg 2014; Moore 2015, 2016, 2018), as this global development trajectory has disproportionately benefited a small portion of the global population, specifically eight men who now control wealth equal to half of humanity (Oxfam 2018). Yet, both Marxist Schools have totally ignored the responsibilities of the global consuming classes who are found in the Global

North (Appel et. al. 2015; Bakker and Gill 2003; Di Muzio and Ovadia 2016; Trainer 2007). The global consuming classes are those who have an income exceeding USD\$10,000 (roughly 29.9 of the world's population) and are highly dependent on fossil fuels, mass consumption and production to fulfil their lifestyles and livelihoods (Credit Suisse 2018: p. 21).

The other tendency is to simply blame petro-elites and fossil fuel corporations for funding climate denialism and being the largest greenhouse gas emitters (Griffin 2017; Menotti 2012, 2015; Supran and Oreskes 2017). For example, from 1988 to 2015, the dominant fifty fossil fuels corporations have produced 568,035 metric tons of carbon dioxide greenhouse gas emissions or roughly 63.2 per cent of total industrial greenhouse gas emissions (Griffin 2017: p. 14; See also: Appendix O). Yet, this scholarship often forgets these social forces have an interdependent relationship with global militarism, financial institutions, nation-states, and that globalized social reproduction is, for now, dependent on fossil fuels.

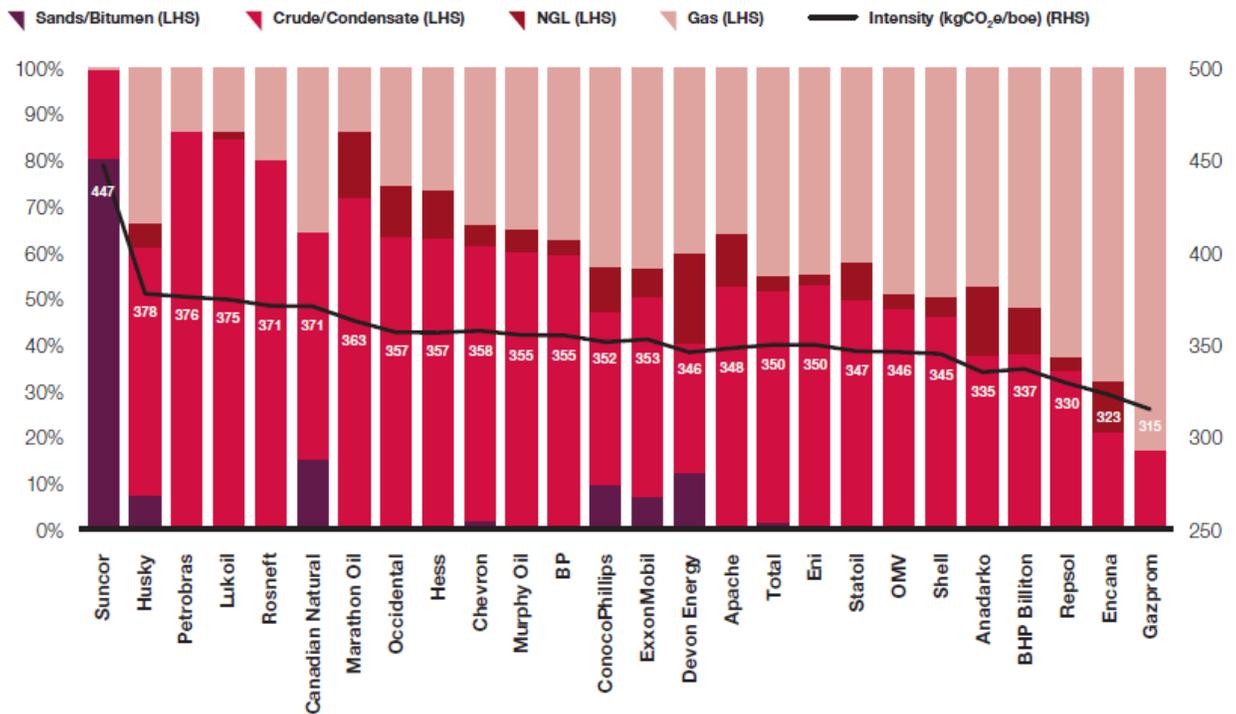
Finally, Anthony Burke (et. al. 2016: p. 501), reflecting on the Anthropocene scientific narrative, states “[w]e need not focus on who is responsible, but we do need to learn to adapt to the world we have created.” This is also misguided as it totally ignores the global social relations of power and the logic of the current developmental trajectory, as seen throughout this thesis. Therefore, all these approaches describing “who is responsible” are tremendously short-sighted and ignore how global human-centric development and social reproduction, although highly unequal, have been dependent for three centuries on fossil fuels, pollution, biosphere destruction, and create peculiar patterns of development that prioritize unlimited growth, the accumulation of money, and debt repayment over future generations of planetary life.

This predicament is clearly seen unfolding across Canada. For example, the development of bituminous sands has so far caused the removal and degradation of almost “2 million acres of

boreal forest since 2000” (The Narwhal 2014: n.p.; See also: Petersen et. al. 2014). The bituminous sands still require “three to four barrels of new water to produce one barrel of bitumen” for surface mining and “0.4 barrels of fresh water for each barrel of production” for the in-situ process (Natural Resources Canada 2015: p. 1). Currently the production of bitumen, through surface mining, stands at 31.7 billion barrels while the in-situ method produces 131.7 billion barrels (Natural Resources Canada 2018). Surface mining requires 95.1 or 126.8 billion barrels of water and 52.68 billion barrels of water are needed for the in-situ method. More importantly, although there has been improvement in the recycling of water – most of this water becomes toxic and enters into the tailing ponds that often leak (Nikiforuk 2010; Price 2008). This contaminated water is comprised of “polycyclic aromatic hydrocarbons (PAHs), mercury, and naphthenic acids. PAHs include a number of compounds, many of which are suspected or are known as carcinogens, and increasing concentrations have been evidenced in the Athabasca River downstream from extraction operations” (Davidson and Gismondi 2011: p. 115). For example, tailing ponds leak roughly 11 million liters a day into the river and, as a result, bioaccumulate in fish and vegetation. All of this on the land of First Nations.¹⁶⁷ Furthermore, two important scientific studies have shown that bituminous sands produce far more acid pollution and methane emission than originally thought (Johnson et. al. 2017; Makar et. al. 2018; see Figure 28).

¹⁶⁷ “A study conducted for Fort Chipewyan Community Health Authority indicated increases of mercury levels in Lake Athabasca of 98% since the inception of tar sands development (Timone 2007). Arsenic levels in the lake water had also risen, by 466%, lead by 114% and PAHs by 72%” (as cited by Davidson and Gismondi 2011: p. 116-7).

Figure 28: Oil and Gas Companies: Product Portfolio Mix, GHG emissions intensity



Source: Adapted from Dr. Paul Griffin. (July 2017) *The Carbon Majors Database: CDP Carbon Majors Report 2017*. Climate Accountability Institute: p. 6. Retrieved from <https://www.cdp.net/en/articles/media/new-report-shows-just-100-companies-are-source-of-over-70-of-emissions>.

As Paul Griffin’s (2017) research and graph, above, shows Suncor, Husky, and the Canadian Natural Resource Company are three major oil corporations operating in the bituminous sands and have a much higher intensity in greenhouse gas emissions compared to other fossil fuel corporations (see Chapter 1).

Yet, there are various social movements of resistance against Canada becoming an unconventional hydrocarbon superpower in the age of climate change (Black et. al. 2014; The Kino-nda-niimi Collective 2014). These avenues of resistance could be attributed to Gill’s (2000, 2012) concept of the *post-modern prince movement* that has the potential to direct globalized society towards Di Muzio and Dow’s (2019) argument that the world order is in desperate need of new global leadership and a green and a non-violent mobilization of knowledge and power similar

in scale to the original Manhattan Project that produced the atomic bomb. According to Gill (2000), the post-modern prince movement is premised on:

...[h]uman and intergenerational security on and for the planet, as well as democratic human development and human rights. ... As such, the multiple and diverse political forces that form the post-modern Prince combine both defensive and forward-looking strategies. Rather than engaging in deconstruction, they seek to develop a global and universal politics of radical (re)construction (p. 131)

There have been pockets of potential post-modern prince movements across the globe but mainly in Latin America (Gill 2008, 2012). These are social-political-economic based on rejecting not only dominant ideologies of global power but attempting to build alternative modes of governance and development (Gill 2008, 2012). Examples of these range from: Seattle protests against the World Trade Organization, the World Social Forum, the Landless Workers Movement in Brazil, the Bank of Bolivarian Alternative for the Americas, challenging settler colonialism, pipelines, and bituminous sands development in Canada (Black et. al. 2014; Coulthard 2014b; Dow 2016; Gill 2000, 2012; Manuel and Derrickson 2015, 2017; Simpson 2014).

While these movements are organically different from one another, there is one fundamental similarity; it is the rejection of limiting struggle and alternative visions to just the realm of *politics proper*. Politics proper, I argue, refers to limited channels created by liberal democracies for the population to socially influence and engage all levels and branches of government: courts, institutions, lobbying, political parties, voting, etc. These channels were historically and fundamentally important to the extension of democracy and human rights, only obtainable in Canada, by the majority of the population, through various stages and forms of resistance and struggles (McKay 2000, 2010; Pilon 2017, 2018). That said, these limited channels have become increasingly corrupted by *disciplinary neoliberalism*, *new constitutionalism* and the politics of capital accumulation and debt (Di Muzio and Robbins 2016; Gill 2008; see Chapter 5).

As a result, I provide a bundle of political objectives that need to be incorporated into the looming potential post-modern prince movement in Canada that currently has hindered Canada from becoming an unconventional energy superpower in the age of climate change.

There is a tendency for Canadian settlers to oppose the bituminous sands and pipelines because of the potential of disruption or pollution in their ‘own backyard’ or because it contradicts the national myth that Canada is environmentally sensitive (Shaw et. al. 2015). From 2004 to 2017, there were an estimated 1,605 incidents that involved minor or major leaks from oil pipelines and infrastructures across Canada (Transportation Safety Board of Canada 2018). The racist narrative of Ezra Levant’s (2010) *Ethical Oil: The Case for Canada’s Oil Sands* is predicated on challenging these settlers’ vision. Levant argues that if Canada does not extract or transport fossil fuels from their own territory, then Canadians will be dependent on oil from mainly anti-democratic and anti-human rights oil-producing nations in the Middle Eastern countries, as seen in the case of the Atlantic Provinces. All the while, Levant avoids settler colonialism in Canada and the long history of colonialism, imperialism, and alliances by Global North countries in order to maintain these anti-human rights values and dictatorship regimes in most oil-producing Middle East countries.

Simply put, most settlers do not want to take Canada’s own global and national dark, past and present circumstances, seriously (Alfred 1999, 2009; Coulthard 2014a; Gordon 2010; Gordon and Webber 2017; The Kino-nda-niimi Collective 2014; Shipley 2017). Therefore, I argue *all settlers* must strive to de-colonize Canada and become anti-imperial globally. By de-colonizing Canada, I argue, we settlers *must* not only accept the current existing and disputed land treaties, but we must stop all different assimilation policies that are still in existence and acknowledge that these populations live in distinct nations (Coulthard 2014a; The Kino-nda-niimi Collective 2014; Manuel and Derrickson 2017; Pasternak 2015, 2016). This will obviously impact various settlers

and corporations currently operating and living on their land, but is it not finally time to accept that First Nations, Aboriginals, Inuit, Métis, etc. populations have the fundamental human right to live in accordance to their own traditions, customs, and values? Finally, we should also note that these people are not a homogenous group and that some First Nations and Aboriginal people may want to develop their resources, but that should be left to them (Slowey 2008).

A potential avenue to overcoming the current paradox between climate change and fossil fuel-based social reproduction is de-colonization in Canada. As the slow emergence of alliance between settlers, First Nations, and Aboriginal people have, for now, thwarted the following pipelines, by activism and then court decisions, or lack of economic investment returns: 1) upgrade of Enbridge Line 9; 2) KinderMorgan Trans Mountain Pipeline, 3) Energy East Pipeline, 4) Mackenzie Pipeline, etc. (Adams 2016; Ryan and Baker 2018; See also: Figure 29).

Figure 29: Canada and United States Oil Crude Oil Pipelines and Proposals



Source: National Energy Board. (2014). Canadian Pipeline Transportation System Energy Market Assessment: p. 7. Retrieved from: <https://www.nerb-one.gc.ca/nrg/ntgrtd/trnsprtt/2014/2014trnsprttsssmnt-eng.pdf>

This alliance between environmentalist settlers and various Aboriginal populations has been labelled by the Royal Canadian Mounted Police (RCMP) as an anti-petroleum movement and a so-called national security threat (Dow 2016). As seen in social movements such as Idle No More, Tar Sands Healing Walk, to the protests against fracking in New Brunswick and against Ontario's Chemical Valley, they expose the underlying contradictions of carbon capitalism in Canada and how these particular populations live in energy sacrificial zones for mainly settler, corporate and governmental social reproduction (Black et. al. 2014; Howe 2015; The Kino-nda-niimi Collective

2014; Tar Sands Healing Walk¹⁶⁸). Therefore, settlers must openly accept and take seriously First Nations, Aboriginal, Métis, Inuit, etc. peoples' land recognition and self-determination, treaty and constitutionally protected rights. As Coulthard reminds us “[a]fter all, First Nations, with our constitutionally protected aboriginal and treaty rights, are Canadians’ last best hope to protect the lands, waters, plants, and animals from complete destruction – which doesn’t just benefit our children, but the children of all Canadians” (2014: p. 40).

Finally, this potential post-modern prince movement will have to promote and establish alternative modes of living and development that will replace the current fossil fuel-based dependency, monetary-debt system, mass consumption, and unlimited growth (measured in gross domestic product) in Canada. For example, this movement should focus on the central tenets of *eco-Socialism*, specifically human emancipation and equality as the driving force of human development (Abramsky 2010; Angus 2016; Benton 1989, 1996; Brand 2015; Burkett [1999]2014; Enzensberger 1974; Foster 2000; Foster and Clark 2016; Gorz 1994; Hornborg 2016, 2018; Kovel and Löwy 2017; Löwy 2015; Malm 2016; Moore 2015; O’Connor 1988, 1998; O’Connor 1994; Panitch and Leys 2007; Schwartzman 2011, 2016; Tanuro 2013; Wainwright and Mann 2018; Williams 2010). This movement should also turn towards *Post-Development*, *Post-Carbon*, *De-Growth*, and *The Simpler Way* for alternative and critical theories of development and modes of living (Brigg 2002; Cursh 1995; Escobar 1992, 1995; Heinberg 2011; Kiely 1999; McGregor 2009; Rahnema and Bawtree 1997; Seaton 2019; Trainer 1985, 2007, 2015, 2019; Urry 2013; Ziai 2007; see also: Post Carbon Institute¹⁶⁹ and New Left Review¹⁷⁰). This will be a much larger and more critical political project than just greenifying lifestyles and livelihoods

¹⁶⁸ See <http://www.healingwalk.org/>.

¹⁶⁹ See: <https://www.postcarbon.org/>.

¹⁷⁰ The (neo)Marxists’ publication *New Left Review* has been taking seriously various green strategies, see <https://newleftreview.org>

in Canada; it will encompass the building of a more sustainable and humane political economy. Yet, this will have to be a global phenomenon, not just a national political project. Di Muzio and Dow (2019: p. 570) argue that although the Manhattan Project originally led to the unnecessary, horrific and tragic nuclear bombings of Nagasaki and Hiroshima, at a cost of US\$ 27 billion (in 2016 dollars) in research and development, this event did show that peoples can come and work together to solve scientific and social problems and dilemmas. Unfortunately, in this case, it was war. But in order to save planetary life – the world order needs to come together to develop a green and non-lethal Manhattan project. If we do not “...find a new operating system for social reproduction geared to well-being and the logic of livelihood rather than the accumulation of profit and power, if we fail in this endeavor, the life chances of future generations will likely be grim” (Di Muzio and Dow 2019: p. 571).

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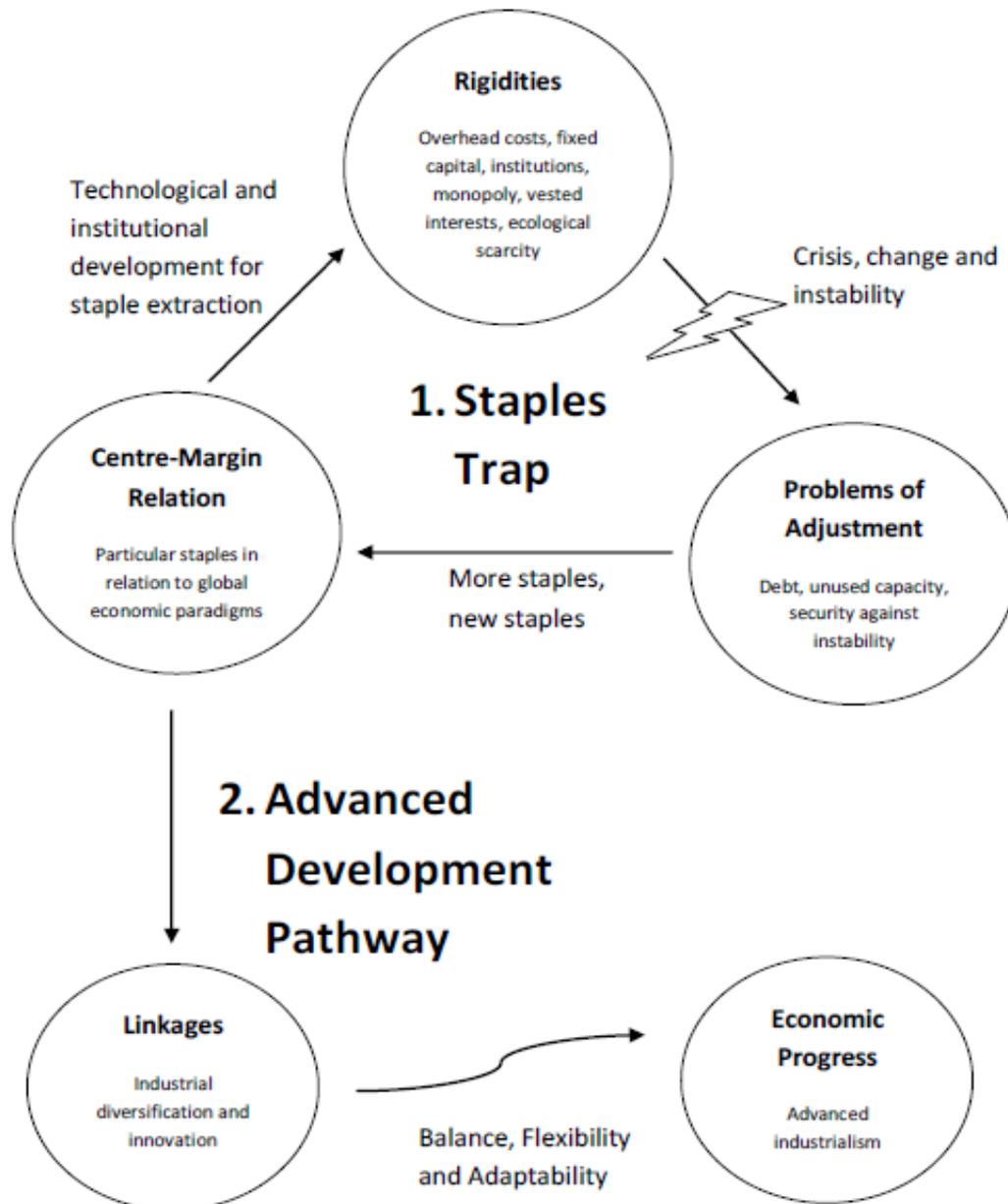
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Appendices:

Appendix A: Staples Trap Diagram



Source: Adapted from Brendan Haley. (2011). From Staples Trap to Carbon Trap: Canada's Peculiar form of Carbon Lock-In, *Studies in Political Economy*, Vol. 88(1): p. 101.

Appendix B: Hudson Bay's Stock and Value

THE INTERNATIONAL FINANCIAL SOCIETY

LIMITED

ARE PREPARED TO RECEIVE

SUBSCRIPTIONS FOR THE ISSUE AT PAR OF CAPITAL STOCK,

IN

THE HUDSON'S BAY COMPANY,

Incorporated by Royal Charter, 1670.

The Stock will be issued in Certificates of **£20** each, and the Instalments will be payable as follows:—

£1	being	5	per	cent.	on	Application.	} To be returned in the event of no Allotment being made.
4	"	20	"	"	on	Allotment.	
5	"	25	"	"	on	1st Sept., 1863.	
5	"	25	"	"	on	2nd Nov., 1863.	
5	"	25	"	"	on	1st January, 1864.	
<hr/>							
£20							
<hr/>							

With an option of prepayment in full on Allotment, or on either of the days fixed for payment of the instalments, under discount, at the rate of 4 per cent. per annum.

The Capital of the Hudson's Bay Company has been duly fixed at £2,000,000, of which amount the International Financial Society Limited have obtained, and are prepared to offer to the Public, £1,930,000.

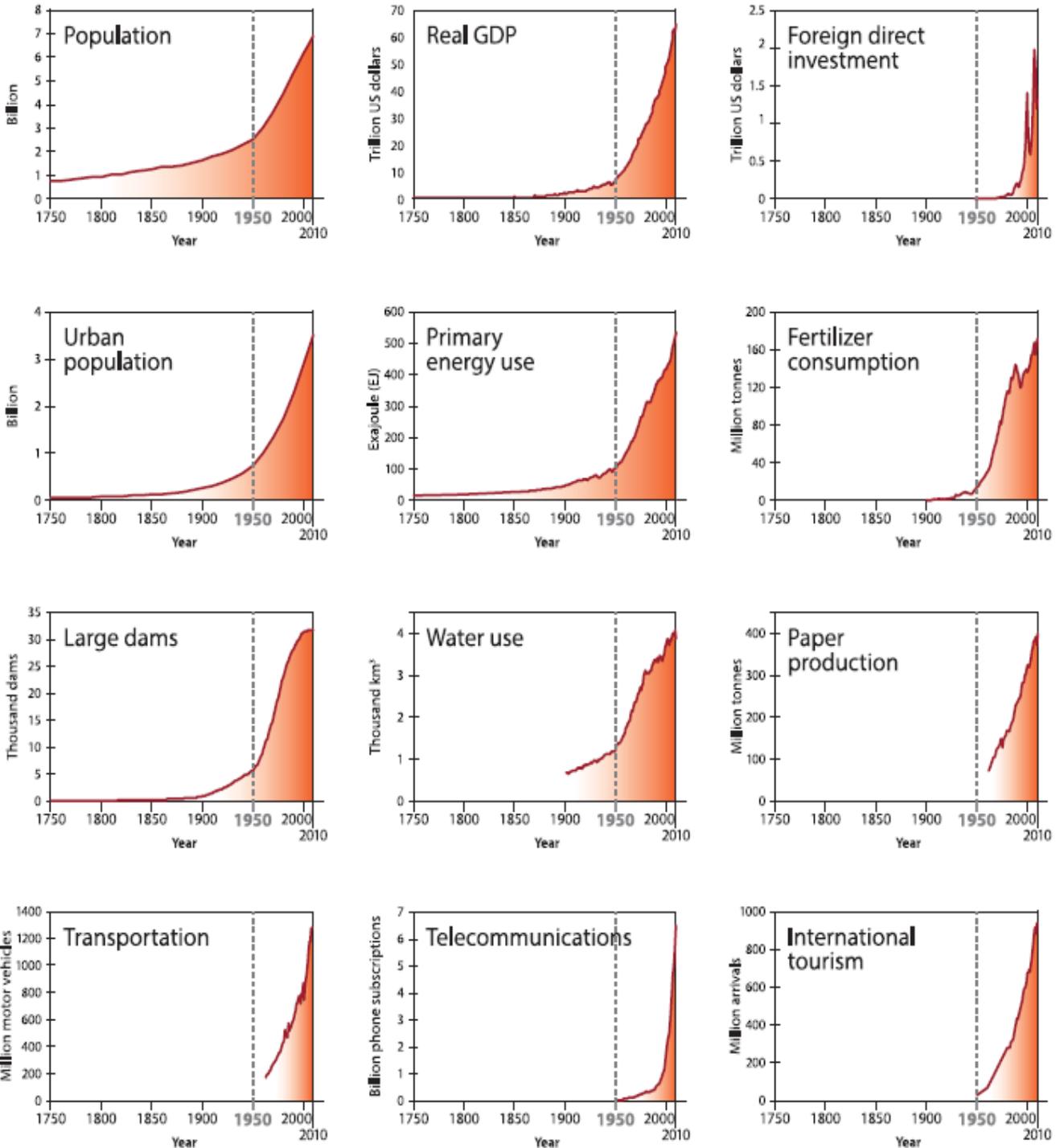
The Subscribers will be entitled to an Interest, corresponding to the amount of their Subscription, in—

- 1. The Assets (exclusive of Nos. 2 and 3) of the Hudson's Bay Company, recently and specially valued by competent Valuers at £1,023,569.*
- 2. The Landed Territory of the Company, held under their Charter, and which extends over an estimated area of more than 1,400,000 square miles, or upwards of 896,000,000 acres.*
- 3. A Cash Balance of £370,000.*

The present net income, available for dividend amongst Stockholders of the Company, secures a minimum interest exceeding 4 per cent. on the above £2,000,000 Stock.

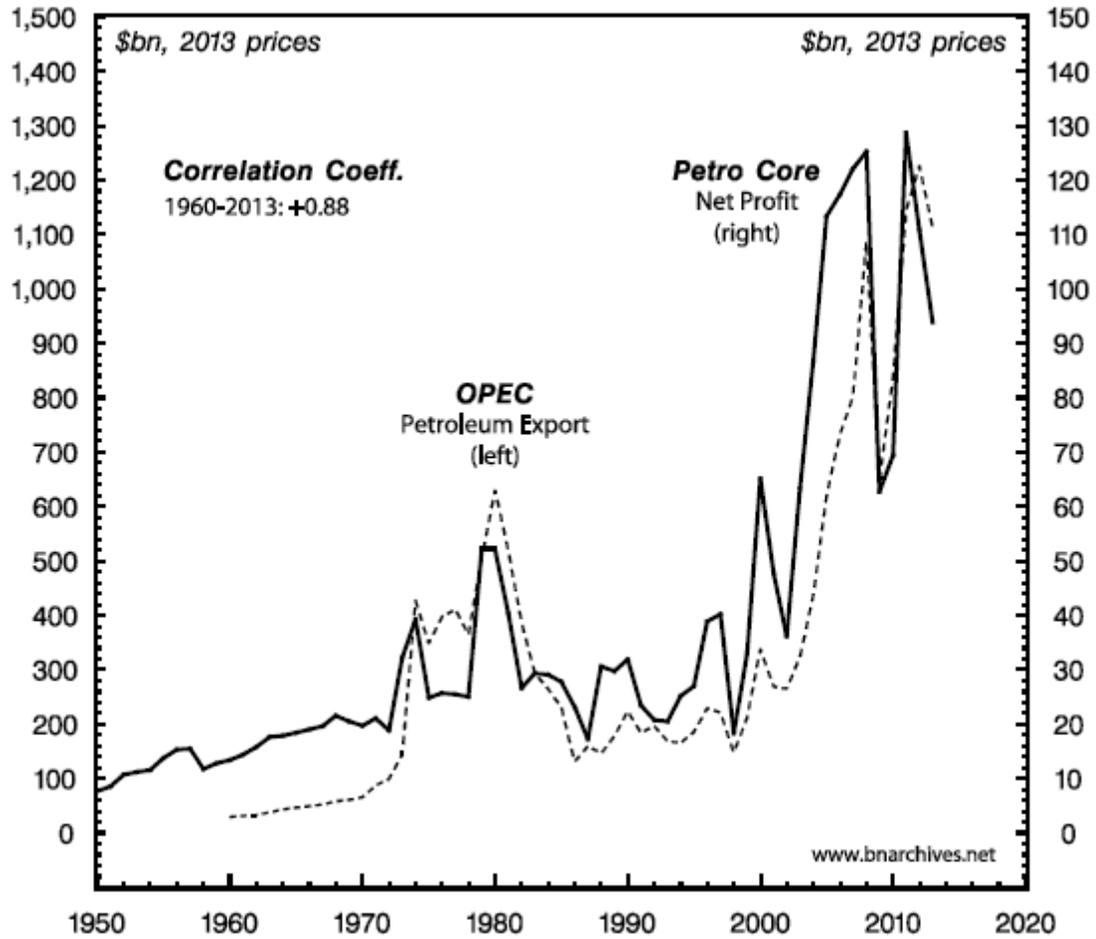
Source: Adapted from Hudson Bay Company Archives and International Financial Society. (1863). The International Financial Society Limited: issue of stock in the Hudson's Bay Company, incorporated by royal charter, 1670: prospectus. Retrieved from: https://archive.org/details/cihm_23097/page/n7

Appendix C: Socio-Economic Trends of the Great Acceleration



Source: Adapted from Will Steffen, Wendy Broadgate, Laura Deutsche, et. al. (2015). *The Trajectory of the Anthropocene: The Great Acceleration. The Anthropocene Review*, Vol. 2(1): pp. 84.

Appendix D: OPEC and the Petro-Core



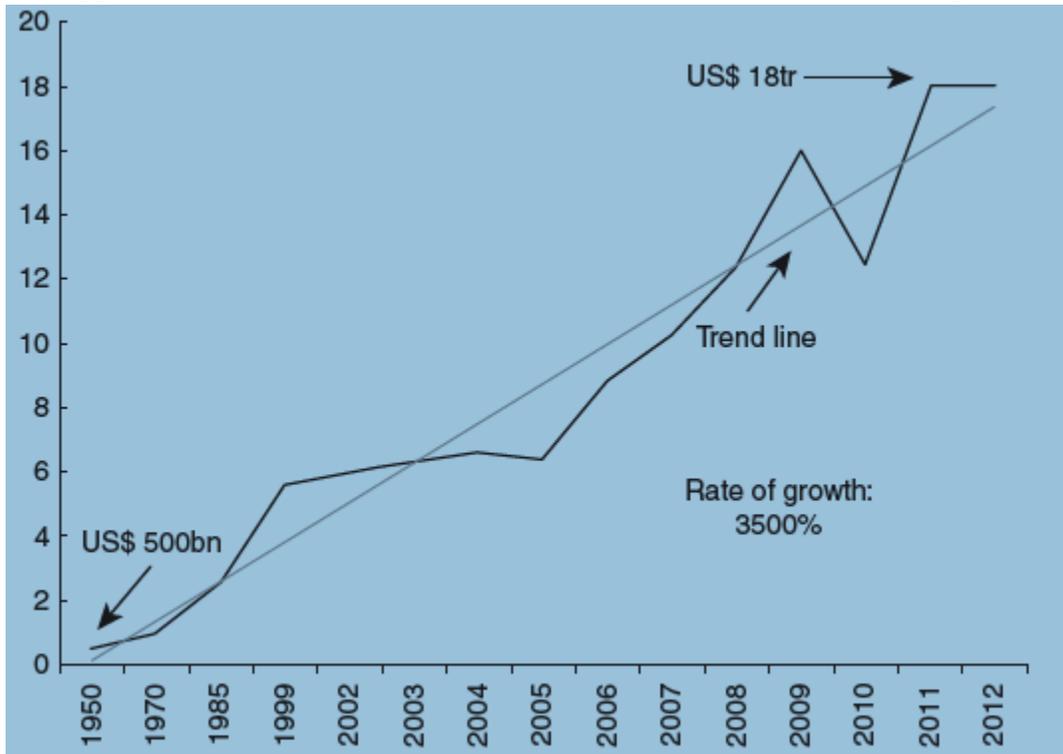
Source: Shimshon Bichler and Jonathan Nitzan. (2015a). Still about oil? *Real-world economics review*, No. 70: 49 – 79: p. 58. Accessed at: http://bnarchives.yorku.ca/432/2/20150200_bn_still_about_oil_rwer.pdf.

Appendix E: Net Northern Commercial bank claims on developing countries (in millions of dollars)

Country	Commercial Bank Claims	Market Value of Bank Claims	Commercial Bank Liabilities
Argentina	35,090	7,369	11,735
Bolivia	424	42	568
Brazil	75,891	30,356	16,181
Chile	11,011	6,276	4,292
Colombia	6,946	3,994	5,795
Costa Rica	866	104	276
Ecuador	4,874	609	1,237
Ivory Coast	3,177	731	2,218
Jamaica	613	245	557
Mexico	69,315	29,632	24,466
Morocco	5,081	2,439	1,411
Nigeria	8,869	2,040	2,975
Peru	4,555	228	2,723
Philippines	12,267	6,011	3,984
Uruguay	2,019	1,201	3,547
Venezuela	25,523	10,401	15,907
Yugoslavia	9,013	4,056	3,806
17 other Highly-Indebted Countries	275,534	105,734	101,678

Source: Adapted from Jeremy Bulow and Kenneth Rogoff. (1990). Cleaning up Third World Debt Without Getting Taken to the Cleaners. *Journal of Economic Perspectives*, Vol. 4(1): p. 38.

Appendix F: Total United States dollar amount of merchandise exports



Source: Adapted from Silke Trommer and Tim Di Muzio. (2016). *The Political Economy of Trade in the Age of Carbon Energy*. Tim Di Muzio and Jesse Salah Ovadia (eds.), *Energy, Capitalism and World Order: Toward a New Agenda in International Political Economy*. (New York: Palgrave Macmillan): p. 59.

Appendix G: Canada's Trade and Investment Agreements

- Canada-Argentina Foreign Investment Promotion and Protection Agreement (1993-04-29)
- Canada-Armenia Foreign Investment Promotion and Protection Agreement (1999-03-29)
- Canada-Barbados Foreign Investment Promotion and Protection Agreement (1997-01-17)
- Canada-Benin Foreign Investment Promotion and Protection Agreement (2014 – 05 – 12) and Canada-Burkina Faso Foreign Investment Promotion and Protection Agreement (2017 – 10 – 11)
- Canada-Cameroon Foreign Investment Promotion and Protection Agreement (2016 – 12 – 16)
- Canada-Chile Free Trade Agreement (1997 – 07 – 05)
- Canada-China Foreign Investment Promotion and Protection Agreement Negotiations (2014 – 10 – 01)
- Canada-Colombia Free Trade Agreement (2011 – 08 – 15)
- Canada-Costa Rica Free Trade Agreement (1999 – 09 – 29) And Canada-Costa Rica Foreign Investment Promotion and Protection Agreement (2015 – 12 – 14)
- Canada-Côte d'Ivoire Foreign Investment Promotion and Protection Agreement (2015– 12 – 14)
- Canada-Croatia Foreign Investment Promotion and Protection Agreement (2001 – 01 – 30)
- Canada-Czech Republic Foreign Investment Promotion and Protection Agreement (2012 – 01–22)
- Canada-Egypt Foreign Investment Promotion and Protection Agreement (1997 – 11 – 03)
- Canada-European Free Trade Association (EFTA)¹⁷¹ (2009 – 07 – 01)
- Canada-European Union: Comprehensive Economic and Trade Agreement (CETA)¹⁷² (2017 – 09 – 21)
- Canada-Guinea Foreign Investment Promotion and Protection Agreement (2017 – 03 – 27)
- Canada-Honduras Free Trade Agreement 2014-10-01
- Canada-Hong Kong Foreign Investment Promotion and Protection Agreement 2016-09-06
- Canada-Hungary Foreign Investment Promotion and Protection Agreement (1993 –11 – 21)
- Canada-Israel Free Trade Agreement (1997 – 01 – 01)
- Canada-Jordan Free Trade Agreement (2012 –10 – 01) and Canada-Jordan Foreign Investment Promotion and Protection Agreement (2009 – 12 – 14)
- Canada-Kuwait Foreign Investment Promotion and Protection Agreement (2014 – 02 – 19)

¹⁷¹ Iceland, Liechtenstein, Norway, Switzerland

¹⁷² Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, and United Kingdom.

- Canada-Latvia Foreign Investment Promotion and Protection Agreement (2011–11 – 24)
- Canada-Mali Foreign Investment Promotion and Protection Agreement (2016 – 06 – 08)
- Canada-Mongolia Foreign Investment Promotion and Protection Agreement (2017 – 02 – 24)
- North American Free Trade Agreement (NAFTA)¹⁷³ (1994 – 01 – 01)
- Canada-Panama Free Trade Agreement (2013 – 04 – 01) and Canada-Panama Foreign Investment Promotion and Protection Agreement (1998 – 02 – 13)
- Canada-Peru Free Trade Agreement (2009 – 08 – 01) and Canada-Peru Foreign Investment Promotion and Protection Agreement (2007 – 06 – 20)
- Canada-Philippines Foreign Investment Promotion and Protection Agreement (1996 – 11 – 13)
- Canada-Poland Foreign Investment Promotion and Protection Agreement (1990 – 11 – 22)
- Canada-Romania Foreign Investment Promotion and Protection Agreement (2011 – 11 – 23)
- Canada-Russian Federation Foreign Investment Promotion and Protection Agreement (1991 – 06 – 27)
- Canada-Senegal Republic Foreign Investment Promotion and Protection Agreement (2016 – 08 – 05)
- Canada-Serbia Republic Foreign Investment Promotion and Protection Agreement (2015 – 04 – 27)
- Canada-Slovak Republic Foreign Investment Promotion and Protection Agreement (2012 – 03 – 14)
- Canada-Tanzania Foreign Investment Promotion and Protection Agreement (2013 – 12 – 09)
- Canada-Thailand Foreign Investment Promotion and Protection Agreement (1998 – 09 – 24)
- Canada-Trinidad and Tobago Foreign Investment Promotion and Protection Agreement (1996 – 07 – 08)
- Canada-Ukraine Free Trade Agreement (2017 – 08 – 01) and Canada-Ukraine Foreign Investment Promotion and Protection Agreement (1995 – 07 – 24)
- Canada-Uruguay Foreign Investment Promotion and Protection Agreement (1999 – 06 – 02)
- Canada-Venezuela Foreign Investment Promotion and Protection Agreement (1998 – 01 – 28)

Source: Federal Government of Canada. (2018b). Trade and Investment Agreements. Retrieved from: <https://www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/index.aspx?lang=eng>

¹⁷³ Mexico, and United States of America.

Appendix H: Money Creation as an internal process within the federal government in Canada

Balance sheet	Type of entry	
	Asset	Liability
Bank of Canada	New Government of Canada securities purchased	New deposit from the Government of Canada
Government of Canada	New deposit at the Bank of Canada	New Government of Canada securities issued

Source: Adapted from Penny Becklumb and Mathieu Frigon. (2015). How the Bank of Canada creates money for the federal government: operational and legal aspects. (Ottawa: Library of Parliament): p 8. Retrieved from: <https://lop.parl.ca/staticfiles/PublicWebsite/Home/ResearchPublications/InBriefs/PDF/2015-51-e.pdf>.

Appendix I: Money Creation in the Private Banking System in Canada

Balance sheet	Type of entry	
	Asset	Liability
Private commercial bank	Loan to private entity	Deposits created for the private entity
Private entity	Deposits at the commercial bank	Loan from the commercial bank

Source: Adapted from Penny Becklumb and Mathieu Frigon. (2015). How the Bank of Canada creates money for the federal government: operational and legal aspects. (Ottawa: Library of Parliament): p 9. Retrieved from: <https://lop.parl.ca/staticfiles/PublicWebsite/Home/ResearchPublications/InBriefs/PDF/2015-51-e.pdf>.

Appendix J: Total debt by category

Type of debt	2000 (4Q) Dollar (Trillion)	2007 (4Q) Dollar (Trillion)	2014 (4Q) Dollar (Trillion)	2018 (4Q) Dollar (Trillion)	Percent increase (%) Since 2000
Government bonds	22	33	58	64	+191%
Financial bonds	20	37	45	59	+195%
Corporate bonds	26	38	56	70	+169%
Household	20	33	40	45	+125%
Total Debt as a % of GDP	246	269	286	318	+29%

Source: Data collected from Tim Di Muzio and R. Robbins. (2015). *Debt as Power*. (London: Bloomsbury): p. 6. McKinsey Institute. (2015). Debt and (Not Much) Deleveraging. *McKinsey Global Institute*: p. 15. Alexandre Tanzi. (April 9th, 2018). Global Debt Jumped to Record \$237 Trillion Last Year. *Bloomberg*. Retrieved from: http://www.mckinsey.com/insights/economic_studies/debt_and_not_much_deleveraging and <https://www.bloomberg.com/news/articles/2018-04-10/global-debt-jumped-to-record-237-trillion-last-year>.

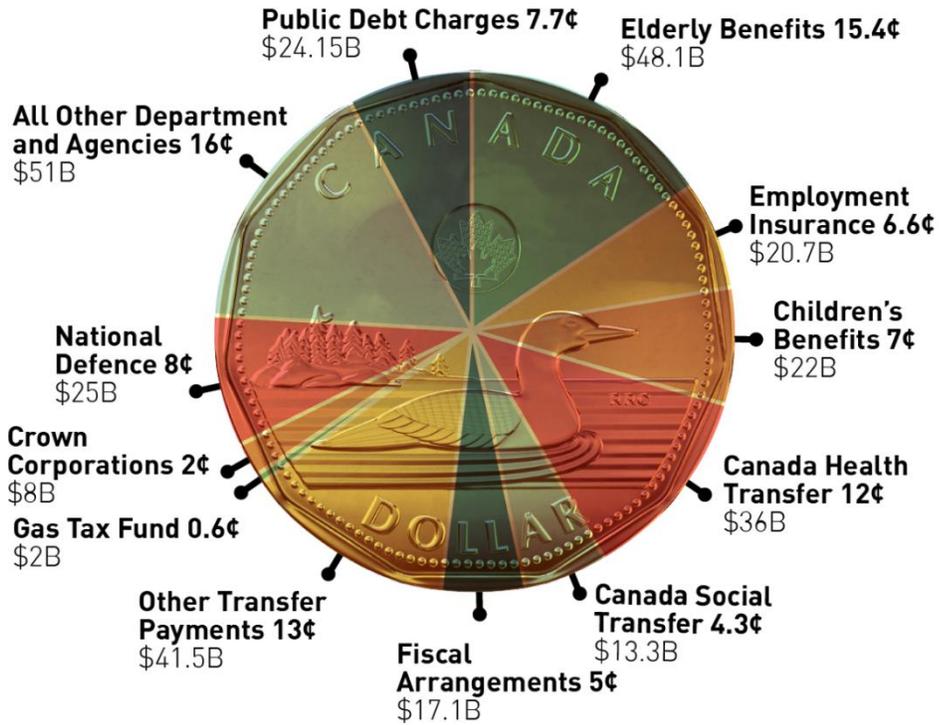
Appendix K: Real GDP Growth Rate Required to Start Deleveraging %

Countries	GDP Growth Projection 2014 – 2019	Growth Needed to Start Deleveraging	Overall Growth Needed
Spain	1.7	3.8	5.5
United Kingdom	2.5	2.2	4.7
France	1.5	2.5	4.0
Portugal	1.4	2.5	3.9
Finland	1.6	2.1	3.6
United States	2.8	0.3	3.1
Ireland	3.0	0	3.0
Netherlands	1.6	1.3	3.0
Japan	1.1	1.8	2.9
Greece	2.5	0	2.5
Italy	0.9	1.4	2.3
Belgium	1.6	0.6	2.2
Germany	1.6	0	1.6

**Source: Adapted from McKinsey. (2015). Debt and (Not Much) Deleveraging. *McKinsey Global Institute*: p. 32. Retrieved from:
http://www.mckinsey.com/insights/economic_studies/debt_and_not_much_deleveraging**

Appendix L: Canadian Federal Government Tax Dollars Expenditures

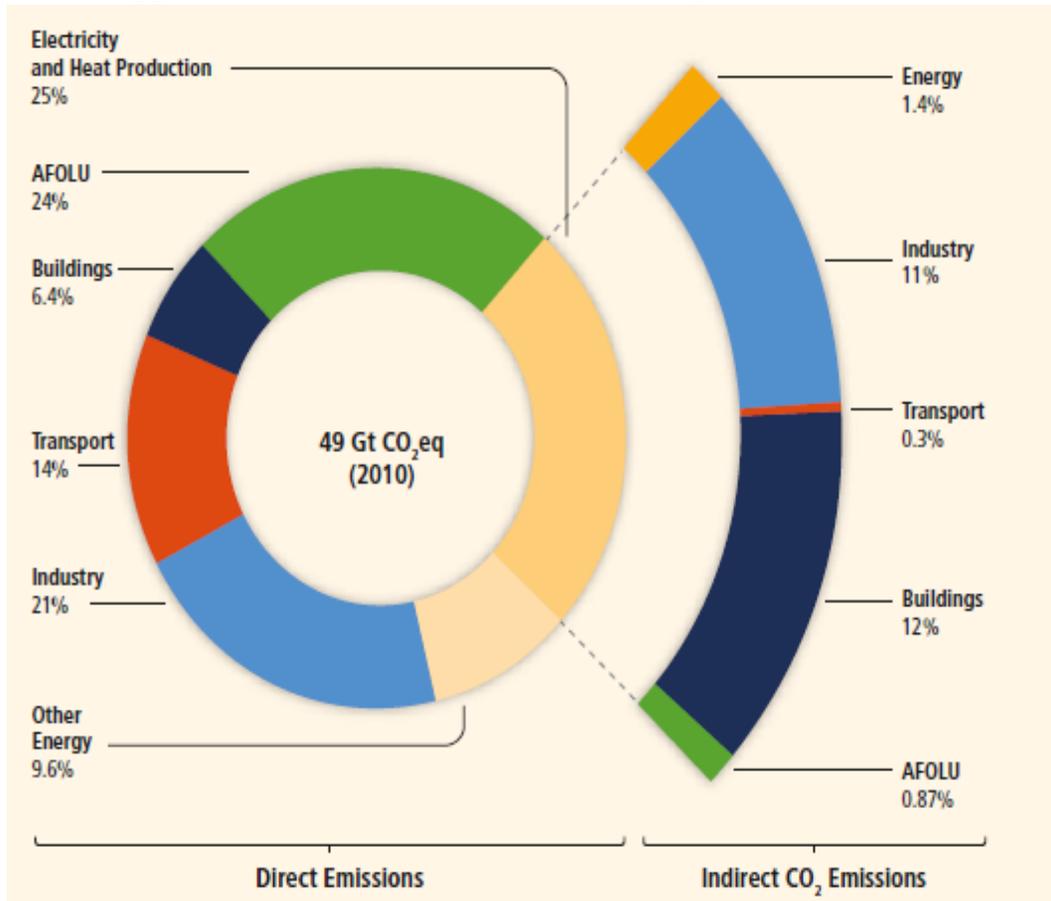
WHERE YOUR TAX DOLLAR GOES 2016-17



CBCnews.ca source: Department of Finance Canada

Source: Adapted from: Peter Armstrong. (2018). Where your tax dollar goes. *Canadian Broadcasting Company*. Retrieved from: <http://www.cbc.ca/news/business/tax-dollars-1.4545415>.

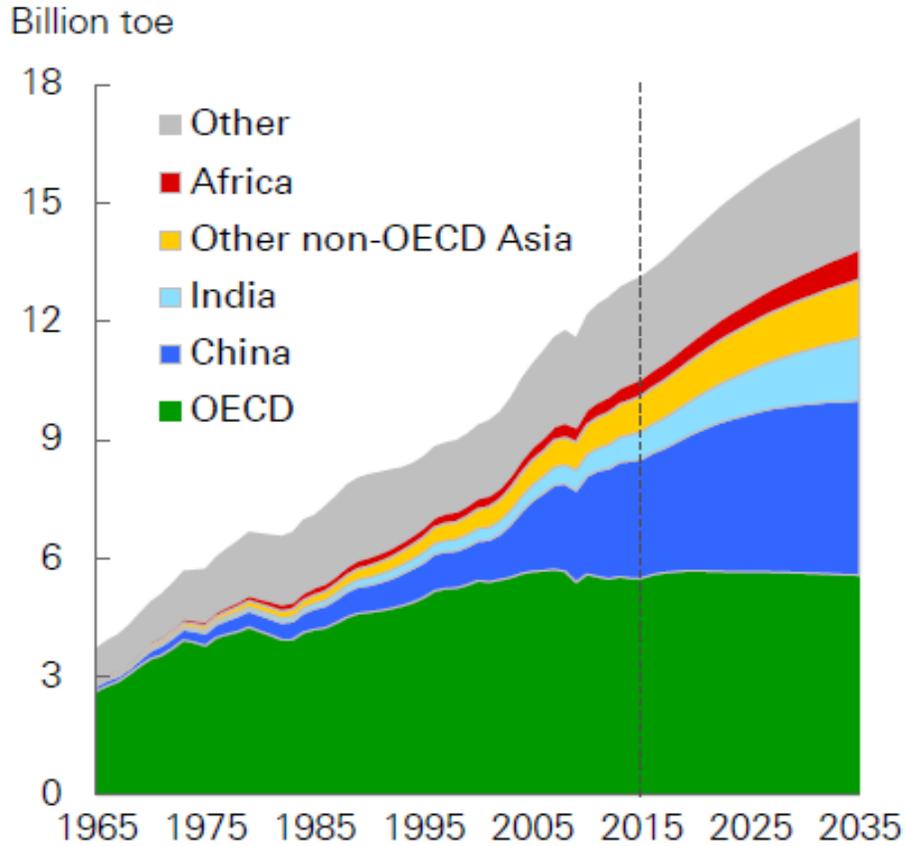
Appendix M: Greenhouse Gas Emissions by Economic Sectors



Source: Adapted from Ottmar Edenhofer, Ramón Pichs-Madruga, Youba Sokona, et. al. (2014). *Technical Summary. In: Climate Change 2014: Mitigation of Climate Change.*¹⁷⁴ Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change: p. 8. Retrieved from: https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_technical-summary.pdf.

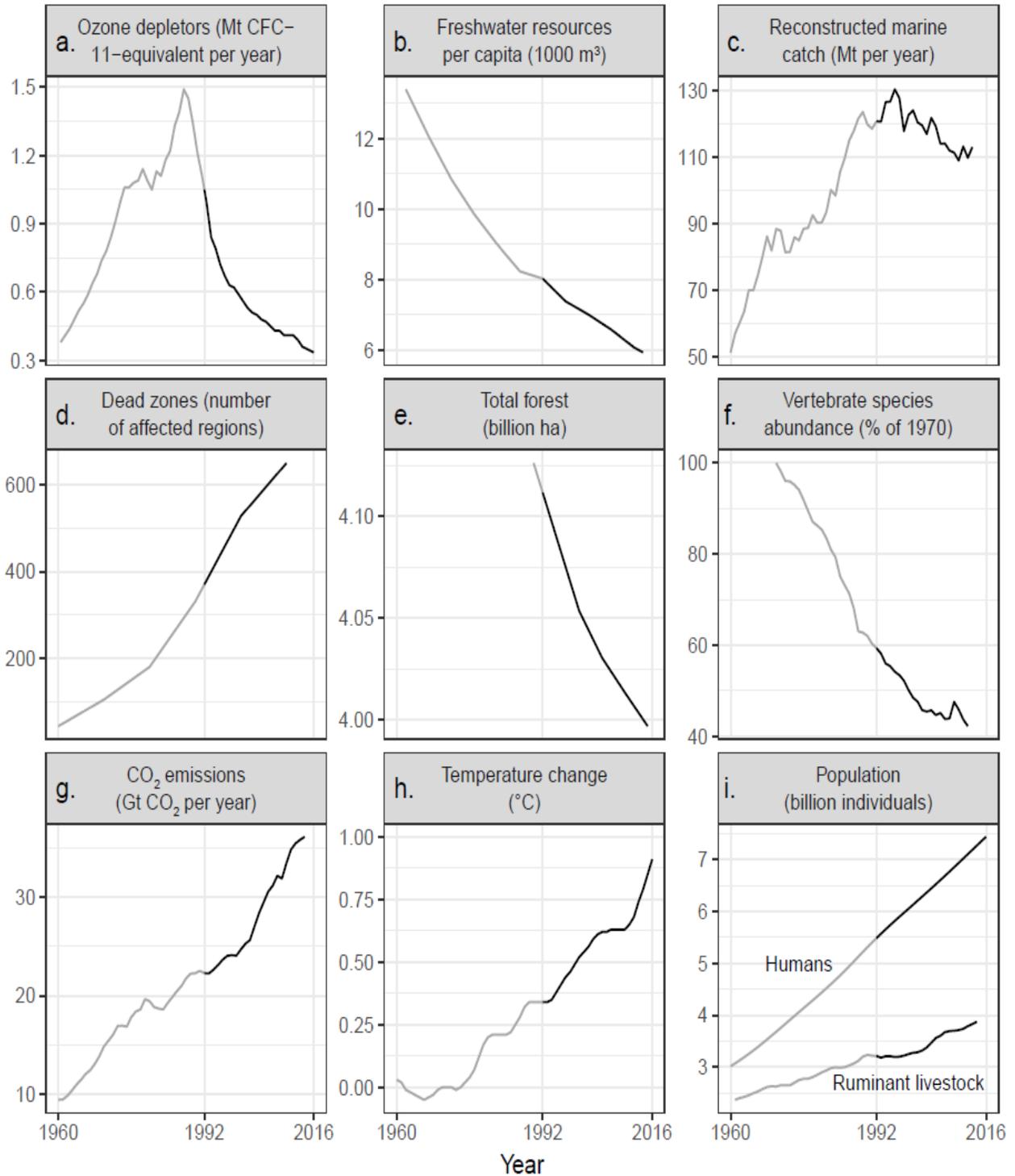
¹⁷⁴ AFOLU stands for Agriculture, Forestry and Other Land Use this includes land-based CO₂ emissions from forest fires, peat fires and peat decay (Edenhofer et. al. 2014: p. 9).

Appendix N: Energy Consumption by Regions



Source: Adapted from British Petroleum. (2017). *World Energy Outlook*: p. 12. Retrieved from <https://www.bp.com/content/dam/bp/pdf/energy-economics/energy-outlook-2017/bp-energy-outlook-2017.pdf>

Appendix O: Trends over time for Environmental Issues



Source: Adapted from: W. J. Ripple, C. Wolf, T. M. Newsome, et. al., and 15,364 scientist signatories from 184 countries. (2017). 'World Scientists' Warning to Humanity: A Second Notice. *BioScience*, Vol. 67(12): p. 1027.

**Appendix P: Top 50 Public and National Fossil Fuel Firms Cumulative GHG Emissions:
1988 – 2015**

Producers	Cumulative 1988 – 2015 GHG, MTCO ₂ e by fossil fuel industry related activities and use of sold products	Cumulative 1988 – 2015, industrial GHG, Percentage
China (Coal)	128,933	14.3
Saudi Arabia Oil Company (Aramco)	40,561	4.5
Gazprom OAO	35,221	3.9
National Iranian Oil Co	20,505	2.3
ExxonMobil Corp	17,785	2.0
Coal India	16,842	1.9
Petróleos Mexicanos (Pemex)	16,804	1.9
Russia (Coal)	16,740	1.9
Royal Dutch Shell PLC	15,017	1.7
China National Petroleum Corp (CNPC)	14,042	1.6
British Petroleum PLC	13,791	1.5
Chevron Corp	11,823	1.3
Petróleos de Venezuela (PDVSA)	11,079	1.2
Abu Dhabi National Oil Co.	10,769	1.2
Poland Coal	10,480	1.2
Peabody Energy Corp	10,364	1.2
Sonatrach SPA	8,997	1.0
Kuwait Petroleum Corp.	8,961	1.0
Total SA	8,541	0.9
BHP Billiton Ltd	8,183	0.9
ConocoPhillips	7,463	0.9
Petroleo Brasileiro SA (Petrobras)	6,907	0.8
Lukoil OAO	6,750	0.8

Rio Tinto	6,743	0.7
Nigerian National Petroleum Corp	6,491	0.7
Petroliam Nasional Berhad (Petronas)	6,185	0.7
Rosneft OAO	5,866	0.6
Arch Coal Inc	5,696	0.6
Iraq National Oil Co	5,362	0.6
Eni SPA	5,287	0.6
Anglo American	5,135	0.6
Surgutneftegas OAO	4,904	0.5
Alpha Natural Resources Inc.	4,901	0.5
Qatar Petroleum Corp	4,857	0.5
PT Pertamina	4,735	0.5
Kazakhstan Coal	4,695	0.5
Statoil ASA	4,526	0.5
National Oil Corporation of Libya	4,495	0.5
Consol Energy Inc	4,429	0.5
Ukraine Coal	4,201	0.5
RWE AG	3,560	0.4
Oil & Natural Gas Corp Ltd	3,387	0.4
Glencore PLC	3,387	0.4
TurkmenGaz	3,217	0.4
Sasol Ltd	3,195	0.4
Repsol SA	2,996	0.3
Anadarko Petroleum Corp	2,991	0.3
Egyptian General Petroleum Corp	2,827	0.3
Petroleum Development Oman LLC	2,769	0.3
Czech Republic Coal	2,706	0.3
Total:	568,035	63.2

Source: Adapted from Dr. Paul Griffin (July 2017) *The Carbon Majors Database: CDP Carbon Majors Report 2017*. Climate Accountability Institute: p. 14. Accessed at: <https://www.cdp.net/en/articles/media/new-report-shows-just-100-companies-are-source-of-over-70-of-emissions>.