Department of Management

Whose game, whose rules: Neoliberal hegemony and corporate power in climate change governance

Exploring the outcome in the energy sector

Lotta Aho

Aalto University

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Abstract

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Abstract

Climate change is a serious global threat needing an urgent global response. For some time now climate change has not been considered to be only a subject of environmental politics, but more and more a pressing concern in economic policies.

Consequently, the problem of climate change has largely been reduced to an economic question. While climate science demands radical reduction of emissions to avoid the most catastrophic consequences, the policies are based on the quest for eternal economic growth, even though economic growth has been identified as the primary reason for the increase in greenhouse gas emissions.

This thesis is concerned with the *reasons* for the lack of ambitious climate change mitigation policy despite the urgency of the problem. I analyse the power relationships that have given rise to carbon markets, while critically investigating their shortcomings, particularly in reducing emissions. The aim of this thesis is to improve understanding of how ideology and power influence contemporary climate policies. An improved understanding can facilitate a change in policy direction.

The first essay analyses the formation and maintenance of hegemony in international climate change policies. Moreover, it examines the political power of MNCs and its impact on institutionalizing market-mechanisms as the primary instrument in combatting climate change. Carbon markets are seen as manifestations of the neoliberal hegemony and corporate power to maintain *status quo*.

The second and third essays empirically explore the outcome of the neoliberal hegemony and corporate political power in the energy sector. In the essays, I use quantitative methods to analyse several years of company specific emissions and financial data from the world's largest oil and utilities companies. The results indicate that corporate power can be used to block regulations, and place emphasis on economic efficiency instead of emissions reduction in the design and implementation of market-mechanisms.

My thesis argues that one of the main reasons for the gap between science and policies is that reducing global GHG emissions has been placed in the dominant framework of neoliberal ideology. This privileges free markets, profits, and economic efficiency over emissions reduction. To demonstrate how the prevailing neoliberal agenda constrains radical action on climate change, the thesis illustrates the influence of multinational energy companies in legitimizing a market-based solution to climate change. Moreover, it proclaims the ineffectiveness of this approach in reducing emissions, and how corporations can end up profiting from carbon markets. The neo-Gramscian theoretical framework, with emphasis on the role of ideas, institutions and material power is used to explain the persistence of the neoliberal approach to climate change despite the poor results in achieving emissions reduction.

Keywords Climate change, corporate political power, emissions reduction, hegemony, neoliberalism, carbon markets, political economy

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Tekijä
Lotta Aho

Väitöskirjan nimi
Kenen säännöillä pelataan: uusliberaali hegemonia ja yritysten poliittinen vaikutusvalta ilmastopolitiikassa

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Tiivistelmä

Ilmastonmuutos on globaali uhka, jonka torjuminen vaatii välittömiä maailmanlaajuisia toimenpiteitä. Ilmastonmuutos on laajuudeltaan ja vaikutuksiltaan ennennäkemätön ongelma ihmiskunnan historiassa. Ongelman laajuus on nykyään hyvin käsitetty, eikä ilmastonmuutoksen torjuminen ole enää vain ympäristöpoliittinen, vaan enenevässä määrin myös talouspoliittinen kysymys.

Ilmastotiede on jo pitkään vaatinut merkittäviä kasvihuonekaasujen päästövähennyksiä ilmastonmuutoksen vakavimpien seurausten välttämiseksi. Vaikka talouskasvun ja päästöjen yhteys on selkeästi osoitettu, on ilmastopolitiikankin päätavoitteena talouskasvu. Ongelman taloudellinen ulottuvuus onkin johtanut osin sen kutistumiseen taloudelliseksi kysymykseksi, jossa talouskasvun vaatimus estää päästöjen radikaalin vähentämisen.

Väitöskirjani tarkastelee syitä päästöjä kunnianhimoisesti vähentävän ilmastopolitiikan puuttumiselle. Analysoin työssäni valtasuhteita, jotka ovat johtaneet markkinapohjaiseen ilmastopolitiikkaan, sekä päästökaupan heikkouksia ilmastonmuutoksen torjunnassa - erityisesti päästövähennysten saavuttamisessa. Tutkimukseni tavoite on edistää ymmärrystä ideologioiden ja vallan merkityksestä ilmastopolitiikassa. Parempi ymmärrys voi vauhdittaa muutosta kohti ilmastopolitiikkaa, jossa päästöjen vähentäminen olisi politiikan päätavoite.

Työni ensimmäinen essee analysoi uusliberaalin hegemonian muodostumista ja ylläpitoa kansainvälisessä ilmastopolitiikassa. Lisäksi se tutkii monikansallisten yhtiöiden poliittisen vaikutusvallan osuutta päästökaupan valinnassa ilmastopolitiikan pääasialliseksi välineeksi. Päästökauppa nähdään hegemonian ja yritysten poliittisen vaikutusvallan ilmentymänä *status quo*n varmistamiseksi.

Tutkimukseni toinen ja kolmas essee tarkastelevat uusliberaalin hegemonian ja energiayhtiöiden poliittisen vaikutusvallan tuloksia. Käytän näissä empiirisissä esseissä tilastollisia menetelmiä ja aineistoni kattaa maailman suurimpien öljy- ja sähköyhtiöiden päästö- ja taloustiedot usean vuoden ajalta. Tulokset osoittavat, että yritykset voivat käyttää poliittista valtaa sekä estämään lainsäädäntöä, että priorisoimaan taloudellista tehokkuutta päästöjen vähentämisen sijaan päästökaupan suunnittelussa.

Väitöskirjani esittää, että yksi pääasiallisista syistä kasvavaan kuiluun ilmastotieteen ja -politiikan välillä johtuu vallitsevasta uusliberaalista ideologiasta, joka priorisoi vapaita markkinoita, yritysten voittoja ja taloudellista tehokkuutta päästövähennysten sijaan. Tutkimukseni havainnollistaa energiayhtiöiden vaikutusvaltaa päästökaupan valinnassa ilmastopolitiikan pääväline eksi, sen tehottomuutta päästöjen vähentämisessä, sekä sitä, kuinka energiayhtiöt voivat hyötyä päästökaupasta taloudellisesti. Teoreettisena viitekehyksenä käytetty gramscilainen teoria korostaa ideoiden, instituutioiden ja taloudellisen vallan merkitystä. Teoria auttaa selittämään uusliberaalin lähestymistavan sitkeyttä ilmastopolitiikassa, vaikka sillä saavutetut tulokset ovat parhaimmillaankin täysin riittämättömiä ilmastonmuutoksen torjumiseen.

Avainsanat Ilmastonmuutos, yritysten poliittinen vaikutusvalta, päästökauppa, hegemonia, uusliberalismi, poliittinen taloustiede

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To Cecilia, Emilia and Annamaria.

I hope you will see the day when the world has overcome this economic madness.

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be a business scholar and be critical of the current economic order and corporate political power.

Throughout this process I have received financial support from Jenny and Antti Wihuri Foundation, Helsingin Kauppakorkeakoulun tukisäätiö, and Fortum Foundation. I wish to thank these entities for their generous support of my work.

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And finally, I have my family to both thank and to "blame". Often as a kid when I asked my father to read fairy tales to me, instead of picking up the book I had, he suggested he can read out loud to me the Finnish equivalent of the Economist he was reading. Even though I never listened for very long, I am absolutely convinced that this early childhood exposure left a permanent mark that eventually led me to writing my thesis. But on a more serious note, I was brought up in a supportive environment that encouraged intellectual curiosity and debates about a variety of topics. I really owe a big thanks to my parents for everything. You may not always understand my choices, but you have always backed me up in everything I do.

Christchurch, 23 May 2020
Lotta Aho

Contents

List of Essays

This doctoral dissertation consists of a summary and of the following essays which are referred to in the text by their numerals:

1. Aho, Lotta. How climate became a peripheral issue in climate change policies. *Unpublished Essay*.

2. Aho, Lotta. Efficiency of market mechanisms in climate change mitigation. *Unpublished Essay*.

3. Aho, Lotta. Does the polluter pay or does it pay to pollute. *Unpublished Essay*.

1. PREFACE

Mainstream approaches dominate the social sciences field and the alternative views must justify their existence, part of which is self-reflection expected from critical researchers. Despite the normative and value-laden elements of the mainstream approaches, it is mainly critical researchers that are required to set forth their values consciously and explicitly (Steffy & Grimes, 1986). As my study belongs to the critical sphere, I am willing to engage in self-reflection to illuminate where my critical approach stems from.

When I started writing this thesis, I already had relatively long professional experience with EU emissions trading and Kyoto Mechanisms. My first job as a recent graduate was in the Energy Department of the Ministry of Trade and Industry. I was a member of the committee drafting the first Finnish emissions trading law, and one of my tasks was to write the associated government's proposal for the law, which lays the foundations and justifications for the proposed law. In this group, along with the representatives of different ministries, the industry was well represented. The Confederation of Finnish Industries (Elinkeinoelämän keskusliitto) and Finnish Energy (Energiateollisuus) both had permanent representatives in the committee. At the time this seemed normal to me, because as a young civil servant this setting was presented to me as the way things are supposed to be. Finland is a democracy, and therefore the committee had hearings from several stakeholders, including NGOs and energy companies. Not officially, but in the coffee room discussions, the industry representatives referred to the NGO hearings as a necessary evil. They were portrayed as alarmists who wish to destroy the Finnish economy and industries with their 'ridiculous' demands of setting stricter limits to GHG emissions in the upcoming emissions trading law and national allocation plan. The energy companies' concerns were, however, taken seriously and duly noted in the minutes. In hindsight, this of course was an indication of corporate power over civil society concerns, but in that particular setting it was portrayed as how the legislation drafting process is supposed to work.

I left the ministry to start work for the UN Population Fund (UNFPA) in development cooperation stationed in Nicaragua. My three years spent there truly broadened my perspective and made me question some of the economic dogmas that I had been taught at the Helsinki School of Economics. Living in Nicaragua was my first-hand experience of how the neoliberal reforms imposed by the World Bank and IMF had an impact on the lives of ordinary citizens. The reforms of the energy sector in Nicaragua had awarded a monopoly to the Spanish Union Fenosa

in electricity distribution and also in generation to a large extent. As a result, this company was running a natural monopoly and imposing electricity tariffs that especially the poor population was struggling to pay for. Furthermore, they had no interest in bringing electricity to rural areas or securing energy supply. This cast some doubts in me about the perceived rationality of these reforms, and whose interests they were really serving.

Upon my return to Finland, I took a position in the Finnish Environment Institute (SYKE) working for the Finnish Procurement Program (FPP) for Kyoto Mechanisms. This program was well intentioned, although restricted with the cost-efficiency requirements of the offsetting projects. However, some good projects like financing solar cookers to the Ningxia rural region in China did gain approval. That program, like so many governmental programs, was outsourced. Even though outsourced to another government agency, there were the constant questions of financing, overheads, cost-efficiency and so forth. At the end of the then current contract it was subject to another bidding process with external competition. As my contract was temporary, I looked for more permanent employment. I found this in the Nordic Environmental Finance Corporation (NEFCO) as a legal counsel for their Carbon Finance and Funds unit. Their carbon procurement program included the Nordic governments and some private corporations that had invested in a fund to buy carbon credits from Kyoto Protocol offset projects. It was essentially a very similar job to the one at SYKE, although with much more funds available for the purchase of the carbon credits. This meant more volume and projects than in the Finnish Procurement Program. I noticed even more a trend that had started to emerge when bidding for projects in FPP – we were increasingly bidding for projects and their carbon credits against big US investment banks like Goldman Sachs and Lehman Brothers. It was quite curious to see these banks in the Kyoto compliance markets, because the US had no Kyoto commitments due to its non-ratification of the Protocol. But, as I soon found out, the investment banks were not in the market for compliance purposes, or even offsetting their own emissions; they were selling the credits on in a forward market. In essence, the US-based banks were in the market to make a profit from an international agreement that their home country was not participating in. However, as the Kyoto Protocol had authorized private business participation in the Kyoto Mechanisms, they saw a business opportunity. This attempt to conquer a new market in a new policy arena was, however, short lived. The global financial crisis in 2008 collapsed the carbon market and prices, and the investment banks disappeared from this market. Although I have not seen their involvement in the carbon markets being discussed in the context of the Lehman Brothers' bankruptcy, it would not surprise me if their speculative pricing of the carbon credits and the obligations from these contracts that collapsed in value had some part in the bankruptcy. Nevertheless, the involvement of these banks in the Kyoto carbon market showed that the carbon market had drifted away from its original purpose of providing cost-efficient means to comply with binding targets of an international agreement into a profit-making constellation for financial incumbents.

This change was also notable in NEFCO, which was founded by the Nordic governments as a non-profit organization to finance environmental projects with government funds. The Carbon Finance and Funds, however, allowed participation of private businesses, and it soon turned out to be a profitable extension of NEFCO's core operations. The management took this as a sign to demand even more profitability from the Fund. Soon the projects were no longer evaluated and ranked according to their potential to provide emission reductions and contribute

to sustainable development, but instead for their business potential. Naturally the projects still had to comply with standards set by the organization; however, the long-term climate and other environmental benefits of projects started to be secondary to their potential to bring short-term profits. This shift in the organization's policy and orientation alienated me and some other colleagues who wanted the emphasis to be on the long-term climate and environmental benefits of the projects from the management's goals. Some colleagues changed workplaces or transferred to other departments within the organization. My intellectual curiosity regarding climate change governance led to a decision to leave my position and join academia to research the topic more profoundly in a PhD thesis.

Largely due to my professional background and education, including law and economics studies in the faculty of law at the University of Helsinki and more economics and business studies at the Helsinki School of Economics, I was still under the impression that market mechanisms correctly applied through binding regulation would provide emission reductions to mitigate climate change. Therefore, I decided to take a comparative approach to energy sector business activities in emission reduction. In hindsight, I was well indoctrinated to the primacy of market solutions over command and control, and to the necessity of economic growth to maintain welfare, as well as private sector efficiency in providing innovative solutions to climate change with the right incentives. On the other hand, what else could I have been thinking, given that my education was based solely on mainstream approaches to economics as well as environmental protection? Cost-efficiency of legislation or projects had been the guiding principle in all institutions I had worked in, including the UN. It had become a naturalized state of affairs that all decisions need to be based on their cost-efficiency. I really was a product of the mainstream, someone oriented toward problem-solving theorization taking "the world as it finds it, with the prevailing social and power relationships and the institutions into which they are organized, as the given framework for action" (Cox, 1981, p. 88). Although I would never have identified myself as supporter of neoliberal policies, in Gramscian terms I was a neoliberal subordinate to some extent. While I had always been sceptical about the view that humans have a right to exploit nature for their purposes, I clearly lacked the understanding and methods of how to question the whole system and the prevailing power structures that enabled policies based on this view to become institutionalized.

Given my problem-solving orientation and view of regulation with market mechanisms being able to provide a solution to climate change, it was surprising when the first empirical results from my data analyses indicated that market-based regulation does not result in meaningful emission reductions, or even more emission reductions than no regulation at all. To explain this, I needed to change my whole theoretical approach and find possible explanations from a previously uncharted territory for me – critical literature. With an extensive reading of this whole new literature that was never introduced to me in the academic curricula, I started exploring the notions of corporate power and ascendancy of neoliberalized climate change policies. I found this literature provided much more plausible theories and evidence regarding the climate change catastrophe and the inaction surrounding it than the mainstream theories. I realized I needed to assume a critical approach to explore deeper into the foundations of the prevailing world order, international relations, changing power relations between states and corporations, and the impacts of globalization and global economic institutions, as well as

economic discipline, to provide a coherent theoretical account that could explain the empirical results from my study.

Therefore, the critical approach employed in this thesis was not my original approach, but I needed to assume this approach primarily as a result of not being able to explain my findings within mainstream theories. Slowly, I also started to connect the dots from my education and work experience. I realized they reflected a similar story of a naturalized state of affairs that is actually the result of a deliberate political project. This political project may not be ill-meaning as such, but it has gained a hegemonic position with catastrophic environmental consequences already for non-human species and increasing adverse effects also on human species. For a researcher, the anomaly between the recognition of the magnitude of climate change and stated need to take action, and the total inefficiency and increasingly voluntary nature of the activities on the international level, is especially challenging not only to explain, but also to understand. In this thesis, I try to illuminate one part of the story, but naturally the whole picture is too complex to capture in one thesis.

2. INTRODUCTION

2.1 BACKGROUND

Only 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)

This modern version of an old Native American proverb describes the situation with environmental governance today – economic growth is seen as a priority, and the environment has only an instrumental value that is measured in economic terms. Especially with climate change, economic reasons have been prominent in delaying emission reductions. Economic reasons, however, are only one normative element among others. Climate change entails a bundle of other normative and moral elements like environmental and intergenerational justice, human rights, equality and global justice. Nevertheless, economic growth is presented as a solution to climate change, even though economic growth has been identified as the primary reason for the increase in greenhouse gas (GHG) emissions that is accelerating anthropogenic climate change. Following Lewis (2000), economic growth and reduction of GHG emissions are logical policy targets in isolation of each other but applied simultaneously constitute a paradox. The motivation for this study stems from this paradox.

Nowadays there seems to be little disagreement about the climate change phenomenon. It is widely recognized and understood that the amount of GHG concentrations in the atmosphere is now rising to a level where the amount of heat leaving the atmosphere is lower than the incoming solar energy (IPCC, 2012) and that human influence on the increasing greenhouse gas concentrations is clear (IPCC, 2018). With the current trajectory temperatures will continue to rise and limiting the warming below 2°C to prevent catastrophic consequences will require radical reductions of GHG emissions.

Climate change is thus considered to be a serious global threat needing an urgent global response. The problem of climate change is unforeseen in the history of humankind in terms of how wide and all-encompassing it is, posing a threat to the survival of both human and non-human species. Therefore, the challenge it poses is also the broadest possible. For some time

now climate change has not been considered to be only a subject of environmental politics, but more and more a pressing concern in economic policies.

Whereas understanding of the wider societal nature of this problem has certainly been a welcomed development, it does have the pitfall of conceptualizing climate change in terms of the economy and therefore reducing the range of solutions into economic ones and commodification of nature. The problem of climate change has largely been reduced to an economic question, as if climate was a part of the economy. However, the climate change problem is political, institutional, social, economic and cultural, requiring not only reconsideration of the prevailing values, but furthermore restructuring of energy production and how societies, economies and international relations are currently organized (Okereke, Bulkeley, & Schroeder, 2009; Wittneben, Okereke, Banerjee, & Levy, 2012; Wolf, 2014).

Overall, 90 per cent of the CO2 emissions, and 68 per cent of all GHG emissions result from fossil fuel burning, and, moreover, the scenarios for the future are based on growing energy demand (IEA, 2016). However, growing energy demand does not equal growing demand for pollution, even if the current climate change governance is constructed based on this assumption, which mostly reflects the interests and political power of the fossil fuel industry. Whereas the argument of energy companies has been and continues to be that energy is the most demanded commodity in modern society and the demand of energy is still increasing, the equally valid counter-argument to this is that it does not have to be produced with fossil fuels. Significant issues of environmental, distributive and intergenerational justice arise out the current framework, where mainly private producers gain the profits from their production, generating unsustainable amounts of GHGs, and society has to bear the costs.

The need to reduce fossil fuel-related emissions is stated in various international political and business forums. A worldwide shift to a low-carbon economy is called for, and neoclassical economics has declared it can provide tools to design national and international responses to mitigate emissions (Stern, 2007). However, reflecting the dominating neoliberal political approach based on the tools neoclassical economics provides, the debate mostly focuses on the choice between voluntary and compulsory market mechanisms to mitigate GHG emissions, not on how to achieve the radical emission reductions needed. Whereas the seminal Stern review (Stern, 2007) argued convincingly that benefits from early, strong global action to mitigate climate change will outweigh the costs of it, the focus on economic growth and a belief that by technological progress we can gradually phase out a large part of energy related GHG emissions, has delayed any meaningful action on mitigation (Wright & Nyberg, 2015).

Climate change policies in general tend to favour incremental change, such as improvements in energy efficiency and the application of market mechanisms. Furthermore, international political conferences on climate change have not demonstrated much political will for more structural and transformative change either, but rather reaffirm the existing approach to the increasing problem (Blühdorn, 2016; Ciplet & Roberts, 2017). The current international commitments of the 2015 Paris Agreement based on voluntary reductions and relying on market solutions exemplify the reluctance for radical change.

Moreover, the solutions based on neoliberal ideology and neoclassical economics have not proven to be highly successful. About half of the total anthropogenic GHG emissions since the beginning of the industrial revolution have been released in the past 30 years and global energy-related emissions reached yet another historic high in 2018 (IEA, 2019; Le Quéré et al., 2018). Global emissions from carbon dioxide (CO_2) as a result of burning fossil fuels have increased by almost 50 per cent since 1990, and emissions grew more quickly between 2000 and 2010 than in any of the three previous decades.

Hence, there is a widening gap between what the scientific community is saying about the need to reduce emissions radically to avoid catastrophic climate change and the policies applied (Anderson & Bows, 2012; Steffen et al., 2015), and also on the political level between what is said and done. There is a similar gap between the climate science and economics, which the Intergovernmental Panel on Climate Change (IPCC) Working Groups I and III reports regarding science and mitigation policies proclaim.

Working Group (WG) I focuses on the physical science side of climate change, and in its latest report argues for urgent and additional action in GHG mitigation given the pace and scale in which the GHGs are accumulating in the atmosphere, and the associated risks (IPCC, 2013). Working Group III for its part focuses on climate change mitigation. It consists largely of economists, uses economic evaluation and neoclassical methods, like cost-benefit analysis, cost-efficiency and expected utility, to inform climate policy design (IPCC, 2014). The overrepresentation of economists in WG III is reflected in its tendency to emphasize the costs of additional emission reductions and its work has further centred the discussion on climate change mitigation around the economic dimension.

The work of WG III illustrates the dominance of neoclassical economics in academia, politics and society at large (Ferraro, Pfeffer, & Sutton, 2005), and how economics has a greater influence on politics than any other social sciences (Bazerman, 2005). Neoclassical economics currently dominates the way environmental problems are discussed and decided upon and consistent with the neoliberal political paradigm, regulation is kept to a minimum and left for market mechanisms where possible (Newell, 2008). The alliance between this particular ideology and economics constitutes the ‘rules of the game’, meaning it is institutionalized and forms the mainstream of policy making (Barry, 1999). The commanding influence of neoclassical economics merits the question of why is society basing climate change mitigation policies on economic assumptions instead of physical realities regarding the planet’s capacity to absorb GHGs?

The recent surge of school strikes, climate marches and lawsuits against polluters indicate that there is a growing number of people asking the same question and expressing their discontent with the current climate change policies. These public demonstrations of discontent challenge the prevailing social order and have a potential to initiate a wider transformative change.

2.2 RESEARCH QUESTIONS AND PURPOSE OF THE STUDY

Owing to the primacy of neoliberal ideology and neoclassical economics in the climate change mitigation policies, there has also been a growing concern about the influence of multinational corporations (MNCs) in the international policy-making (Clapp & Dauvergne, 2011; Wittneben et al., 2012) and especially how corporations affect the institutional framework by exercising their political power (Barley, 2007; Levy & Prakash, 2003). However, there are still relatively few studies about the extent of MNC involvement in the institutionalization and institutional maintenance of the neoliberalized climate policies and associated market-based solutions to the problem. Many scholars have argued for the significance of studying the reciprocal relationship between corporations and society and called for more attention to it. For example, Barley (2007) reminded scholars of the importance of looking into how organizations shape their environment, and Hymer (1979) recognized the importance of MNCs in maintaining the *status quo*. Strange (1993) noted that international business and particularly the study of MNCs is central to understanding international political economy and the institutional environment. Several scholars have, however, pointed out the lack of specific attention to the interplay between power and politics in the context of specific policy design and implementation (Geels, 2014).

International business (IB) scholars have addressed the political power of MNCs in general (Boddewyn & Brewer, 1994; Dunning, 2002), and also in the contexts of environmental (Rugman & Verbeke, 1998, 2009) and climate change policies (Kolk & Pinkse, 2007; Pinkse & Kolk, 2012). However, the focus has largely been on improving the economic performance of MNEs, firm-state level bargaining, establishing the rules within the institutional context, and managing political risks associated with a foreign operating environment (Böhm, Spicer, & Fleming, 2008; Kolk, 2016). This can be characterized as a denial of politics (Boddewyn, 2016), a functionalist perspective to corporate political power and activity conceiving it as apolitical (Fuchs & Lederer, 2007). Barley (2007) sees this as "particularly troubling, given that organizations, in general, and corporations, in particular, now wield inordinate political power" (p. 201). The apolitical approach and narrow functionalist focus may be among the reasons why IB has not significantly contributed to other social sciences or in solving broader public policy challenges (Buckley, Doh, & Benischke, 2017) like climate change.

Reflecting the above, and the aforementioned paradox of climate change mitigation policies, leads to my overarching research question:

Why does the contemporary climate change governance continue to rely on neoliberal ideology and corollary market mechanisms and what are the implications of these to the energy sector?

Considering that this thesis focuses on the mitigation aspect of climate change governance and to better address the broad overarching research question in the context of this study, the essays are founded on three more specific research questions, which each contribute to the main research question:

1. *How has the neoliberal hegemony contributed to the dominance of market mechanisms in climate change mitigation and marginalized alternatives that could result in more efficient emissions reduction?*
2. *What kind of results have been obtained with the use of market mechanisms in the energy sector emission reduction?*
3. *What are the implications of neoliberal climate change policies to the profitability of the energy corporations?*

I investigate these questions in the individual essays and the theoretical foundations of this thesis using a neo-Gramscian[1] framework. I'm drawing from the Gramscian writings in the Prison Notebooks (Gramsci, 1971) and more contemporary neo-Gramscian literature in management and IB-allied sciences of political economy and international relations to develop a conceptual framework within which my research questions can be investigated. The neo-Gramscian approach focuses broadly on the economy, state and civil society conceptualizing international business embodied by powerful MNCs as an integral part of the contemporary hegemony (Böhm et al., 2008). Hegemony is understood as economic and political leadership, which turns ideology into a practical instrument of government (Bates, 1975; Gramsci, 1971). Though the concept of hegemony as a political goal of MNCs has been touched upon in IB studies (Boddewyn, 1988; Hymer, 1979), it has received more attention within the management and international political economy (IPE) disciplines. However, it can also inform a critical theory of corporate power in IB, addressing the concern of how IB activities impact the environment across the globe (Roberts & Dörrenbächer, 2016).

A neo-Gramscian approach offers theoretical insights for analysing climate change governance in a broader perspective, with a critical conception of power and politics, and ensuing analysis of interests and authority in, and legitimacy of, climate change policies (Cox, 1981, 1987; Gramsci, 1971; Levy & Newell, 2005). This approach is sensitive to the complex relationship between structure and agency, illuminating the intricate connections between the state, corporations and institutions, as well as the transformative potential of collective action (Bernstein, 2001; Okereke et al., 2009). Furthermore, a neo-Gramscian perspective is useful in locating regimes within broader governance structures of neoliberal ideologies, institutions and policies where dominant interests are accommodated, therefore providing a site for their political contestations (Cox, 1987, 1995; Mouffe, 2008; Wittneben et al., 2012). Considering that Gramsci was an ardent critic of 'economism' for its separation of economics from politics and reductionism, a neo-Gramscian approach presents a framework for investigating contemporary 'economism'. This involves the reduction of climate change to an economic problem where the responses to the problem are also determined by theories and methods of neoclassical economics.

[1] The prefix 'neo' here implies that the intent is not to offer a correct or definitive interpretation of Gramsci's writings but rather to build a framework that draws on Gramsci's useful insights (Block, 2007).

Supplementing the critical political economy (CPE) and neo-Gramscian literature (Böhm & Dabhi, 2009; Levy & Egan, 2003; Levy & Newell, 2005; Levy & Prakash, 2003; Newell, 2012; Paterson & P-Laberge, 2018; Wright & Nyberg, 2015) this thesis seeks to identify the main political and institutional framework associated with the hegemony of the neoliberal climate change governance, and the mutually reinforcing interconnections between ideology, institutions, corporate power and intellectuals in this process.

The aim of this thesis is to improve the current understanding of the ideological and power dimensions of different factors influencing contemporary climate policies and governance. An improved understanding can help the contesting of these policies and facilitate a change in policy direction. To elucidate the role of power in climate change policies, I apply a dualistic approach in this thesis to investigate how energy sector MNCs influence climate policies, and how these policies in turn impact the most critical outcome – energy sector GHG emissions.

2.3 FRAMING THE RESEARCH

2.3.1 ENERGY SECTOR AND CLIMATE CHANGE

This thesis focuses on fossil fuel dominated energy sector MNCs, and how the chosen policies have impacted their GHG emissions and profitability in different regulatory environments. As explained before, my thesis employs a dualistic perspective. It also investigates how these energy sector MNCs have influenced the policies and instruments that have been implemented in the climate change framework. This perspective allows the simultaneous investigation of how institutions shape MNCs, how MNCs shape the institutional environment and how this interrelationship can impact the outcome of climate change mitigation policies.

The energy industry is not only vital for the goals and functioning of modern society, but is also a vital industry when combatting climate change. Historically, fossil fuel combustion is the most important source of anthropogenic CO2 emissions, amounting to about 75 per cent of global emissions from the beginning of the industrial revolution, and since that time economic growth has been based on the systematic use of fossil fuels (IEA, 2017; IPCC, 2007). According to IEA (2009), controlling energy related GHG emissions is fundamental because unregulated emissions from the electricity sector alone greatly reduce the chances of mitigating climate change. The emission reduction potential of the whole energy industry is estimated to be about 10 gigatons of CO2e (UNEP, 2017a). Currently about 85 per cent of world primary energy is still generated with fossil fuels. Moreover, the fossil fuel industry is currently not only burning its reserves, but also continuously expanding its search for new oil and gas sources to previously uncharted territories. This includes nature reserves, and Arctic and Antarctic sea areas, and thereby significantly undermining the efforts to mitigate climate change (McCauley, Heffron, Pavlenko, Rehner, & Holmes, 2016; Wittneben et al., 2012). In the utilities sector, the continued investments in traditional technologies have a similar impact due to commitment to high emissions of these technologies (UNEP, 2017a).

A multinational corporation is an enterprise "which engages in foreign value-added activities and internalizes intermediate product markets across national boundaries" (Dunning, 2002, p. 174). The energy sector consists of two major groups, the oil industry and electric utilities. Whereas almost all oil companies are multinational corporations by nature, electric utilities have been internationalizing rapidly since the 1990s largely due to the deregulation of this industry. What they have in common though is that production strategies of fossil fuel energy sector corporations depend heavily on international trade for profitability. Energy companies tend to be capital intensive and fossil fuels are traded in global markets, for which it is natural that the energy companies are proponents of trade and capital liberalization, tenets of the economic globalization. Despite these commonalities, and although fossil fuel companies are mostly conceptualized as a unitary, cohesive actor, it is naturally a simplification for analytic purposes. Their approaches to climate change and policies have varied across time and regions, and this study also explores and points out these differences where necessary for the present analysis.

The formation of the sector today, including its capital intensity, centralized nature and few large corporations with a very large market share, is dependent on its history. Granovetter and McGuire (1998) argue that the mainstream economic approach usually treats industrial structures as inevitable and efficient outcomes of the combination of markets and technology, neglecting human agency. They found that the electricity industry in the US was developed by powerful actors using their contacts to frame the market and political system surrounding it. Therefore, this development was only one of the possible outcomes and not necessarily the most efficient technically or economically. In fact, the history of utilities is also a history of the exercise of political power in the US (Lambert, 2015). The basic centralized structure still continues to exist today, even though the environmental problems created by the technology and a certain incapability to renew from within have been evident for quite some time.

However, whereas the majority of oil and utilities companies in the US have been traditionally largely privately owned, constituting a private energy regime (Legare, 1994), this has not been always the case outside the US. For example in Western Europe, Canada and Australia, oil and utilities companies were almost exclusively state owned from after World War II to the 1980s when privatization first started in the UK, expanding from there to other countries (Megginson, 2005). Megginson and Netter (2001) note how the novel policy of privatization became a global economic orthodoxy and legitimate policy tool in less than two decades. In Europe, the European Commission was the main driver of these reforms. This was largely due to the belief the Commission had unfettered competition in deregulated markets – neoliberal beliefs that had previously gained academic and political support in the UK and US (Cambini & Rondi, 2010; Scharpf, 2015).

Specifically in the electric utilities sector in the EU, the aim was to fully restructure the sector: to liberalize and deregulate the market and privatize the publicly owned assets to increase the competitiveness of the sector (Cambini & Rondi, 2010). The deregulatory EC Directives and the US Energy Policy Act allowed electric utilities to expand their business to other states and overseas (Haar & Jones, 2008). As a result of this, some of the companies became global giants (Chari, 2015), whereas before they were largely natural monopolies in specific geographic areas (Megginson, 2005). Privatization was not carried out to a full extent in all countries, and

central and local governments still hold majority or controlling shares in many oil and utilities corporations (Cambini & Rondi, 2010; Megginson, 2005). However, the change of the legal form of the company from a public enterprise to a private limited company subjects them to market logic and a profit-maximization imperative despite their ownership. This was further exacerbated by the legal colonization where ideology originating from the US that the *main* function of corporations is profit-making was introduced to legislations in several European countries (Aho & Laihonen, 2015).

Therefore, in the context of this study, privatization and deregulation of the energy sector are particularly relevant, not only as part of the greater transformation to a neoliberalized global governance, but also as having a potential undesired impact on energy sector emissions. Following Megginson (2005), one can identify four possible caveats of privatization of the energy sector as compared to public ownership in the context of climate change:

1. A basic theoretical assumption behind competitive equilibrium regarding privatization includes that there are no externalities from production and the product is not a public good.
2. State ownership is seen as a method for internalizing production externalities like pollution especially in natural monopolies because output prices can be adjusted to better reflect the cost of externalities.
3. Public ownership allows commercial enterprises to pursue socially desirable noneconomic objectives like pollution control.
4. State owned enterprises are subject to democratic political control and not constrained to maximizing profits and answering to markets.

Naturally, one can argue that energy is not a 'true' public good, however its vitality in modern society and the importance attached to it in the climate change debate cannot be overlooked. Moreover, the privatization of the energy sector has not only reduced the power the governments have to control it, but also the possibilities of the corporations to sign into any objectives other than those dictated by the market economy. Therefore, the ideologically driven privatization of the energy sector on a global scale can be argued to be another contributing factor to the form the climate change governance has taken in the contemporary world.

Other government policies also contribute to the impact of energy sector. According to IEA (2016) subsidies on renewables in 2015 were around 150 billion USD, whereas corresponding subsidies on fossil fuels were 325 billion USD. Together with their modest climate pledges, these subsidies send a collective signal from governments that fossil fuels continue to be the cornerstone of global energy production for decades on (IEA, 2016). Governments claim to be looking for a transition to renewable energy production, but the heavy subsidies on fossil fuels are in stark contrast with the politically stated objective. Governments therefore act, on their own accord or as a result of heavy lobbying, according to neoliberal ideals as self-interested entities (Ciplet & Roberts, 2017), with short-term economic interests in mind that are perceived to be the rational ones. This is another indication of the hegemony of neoliberal policies on a global scale in energy and climate change policies. Furthermore, the economic power of the energy sector has allowed it to engage in heavy political lobbying along with funding of conservative think tanks, political campaigns and mobilizing its own economic analyses and

public relations campaigns (Dryzek, 2013; Levy & Egan, 1998; Levy & Spicer, 2013). These activities have further empowered the 'fossil fuels forever' discourse that has been very resilient and favoured by oil, coal and natural gas producers (Levy & Egan, 1998; Levy & Spicer, 2013; Newell & Paterson, 1998, 2009).

The urgency of the climate should be the primary concern, since incremental change and an instrumental approach have not resulted in GHG reductions that are needed to stop or even mitigate global warming. If economics, competition and price are the key arbiters of climate change policies, it is difficult to change the energy system (Mitchell, 2008). The attempt to transform the energy sector resembles Gramsci's (1971) conception of 'war of position', where the need for change is recognized, but dominant actors try to maintain their hegemonic position and *status quo*. They influence states and institutions with claims of the economic necessity and environmental viability of the current system to counter demands for more profound structural changes to the system (Levy & Spicer, 2013).

2.3.2 INTERNATIONAL CLIMATE CHANGE AGREEMENTS AND SCIENCE

The international climate change regime constitutes the cornerstone of all international climate change policies, and national policies are based on agreements on an international level. The climate change regime consists of the United Nations Framework Convention on Climate Change (UNFCCC) and the specific agreements negotiated in the Conferences of the Parties of this Framework Convention. There are 197 Parties to the UNFCCC, which makes it one of the most universal international conventions. The specific agreements with legally binding obligations, however, require separate ratification by the Parties, and these have not gained such universal acceptance as the Framework Convention. The work of the Intergovernmental Panel on Climate Change (IPCC) provides science and policy recommendations regarding climate change for the negotiations taking place under the UNFCCC. The IPCC does not undertake research itself but reviews and assesses relevant studies regarding climate change and its different aspects. The main body of IPCC work is divided between the three working groups: Working Group I (WG I) assesses the physical science, Working Group II (WG II) focuses on adaptation, and Working Group III (WG III) focuses on mitigation of climate change.

UNFCCC and IPCC First Assessment Report

The international intergovernmental climate change regime was founded in 1992 with the adoption of the UNFCCC. The establishment of the Intergovernmental Panel on Climate Change in 1988 and its scientific first assessment report in 1990 preceded negotiations about the UNFCCC. The role of the panel was to produce scientific information about climate change and its potential impacts on the planet, options for mitigating climate change and adapting to it. The IPCC First Assessment Report in 1990 asserted certainty that "emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases ... These increases will enhance the greenhouse effect, resulting on average in an additional warming of the Earth's surface" (IPCC, 1990, p. xi). However, the report also referred to uncertainties in the science including the sources and sinks of GHG emissions, and about the timing and magnitude of climate change.

Article 2 of the UNFCCC states (emphasis added):

> The ultimate objective of this Convention and any related legal instruments (that the Conference of the Parties may adopt) is to achieve (in accordance with the relevant provisions of the Convention), stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. (Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to *enable economic development to proceed* in a sustainable manner.)

According to Article 3.5:

> The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties … Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or disguised restriction on international trade.

The priority of economic growth outlined in the World Commission on Environment and Development (WCED) report in 1987 for sustainable development was re-established in the UNFCCC. This prioritization of economic growth over mitigation of climate change thereby became a consideration that could not be omitted in the following negotiations unless a new Framework Convention was agreed on climate change. Furthermore, it cemented an anthropocentric perspective to climate change, emphasizing the instrumental view of nature and the ecosystem for humans to gain maximum economic benefits from.

Second Assessment report of IPCC and the Kyoto Protocol

The second assessment report of the IPCC was completed in late 1995. The physical science of this report asserted more strongly than its predecessor the discernible impact of human activities on climate change and the continued increase of GHG concentrations in the atmosphere. However, the report included a new section from Working Group III evaluating the socioeconomic aspects of climate change mitigation and adaptation. The contribution of WG III to the report argues in favour of using a high discount rate in cost-benefit analysis of climate change policies and therefore less spending on GHG mitigation to maximize consumption and economic growth. The authors of the report justify this position with a mainstream economic view that future generations can be compensated for the decrease in environmental goods with accumulation of other goods that economic growth can provide. The report reflects the primacy of markets over a command and control approach and relies heavily on neoclassical economic analysis. Furthermore, the analysis focusing on technological aspects aligned with ecological modernization discourse highlights the role of private actors and legitimizes the presence of corporations in climate negotiations as “benign stewards of the earth with will and resources to solve environmental problems” (Levy & Egan, 1998, p. 354).

Corporations were well represented in the following international climate change agreement negotiations. Three 'flexible' market mechanisms were included in the resulting Kyoto Protocol. Under the 1997 Kyoto Protocol, developed countries, so called Annex I countries (e.g. EU countries, Economies in Transition, Japan, USA), were assigned mutually agreed amounts of greenhouse gases they are allowed to emit. Article 2.3 states that: Annex I parties "shall strive to implement" their policies and measures "in such a way as to minimize adverse effects, including adverse effects of climate change, effects on international trade, and social, environmental and economic impacts on other Parties", especially on developing countries. In other words, international trade has been listed in Article 2.3 as one of the several areas potentially affected by the implementation of the Kyoto Protocol.

Overall, the Kyoto targets were framed in economic discourse, giving priority to economic efficiency and thereby turning into protection of the profits of polluters (Spash, 2010). With its focus on markets and economic efficiency, the Kyoto Protocol cemented the hegemonic economic ideology in international environmental policy (Grubb, 2004). The commodification of carbon is an inherently neoliberal solution to climate change. It hinders both the discussion and implementation of the more radical structural change in energy production needed to mitigate climate change (Lohmann, 2010, 2011). While the underlying neoliberalism of the Kyoto Protocol has been well investigated and documented (Bernstein, 2001; Böhm, Misoczky, & Moog, 2012; Driesen, 2008a), the ontological presupposition behind the market mechanisms that the corporations own the atmosphere and therefore can gain property rights to emit GHG emissions to it has received much less attention (Parr, 2016). However, Saurin (1993) argues that it is exactly the commodification and privatization of GHG emissions that "redefines how the environment is managed, by whom and for whose benefits" (p. 51).

IPCC reports leading to the Paris Agreement

The third IPCC report in 2001 continued to confirm the role of human activities in climate change and the irreversible damage climate change could cause. While making notable progress on the scientific side, the policy recommendations of Working Group III affirmed the continuance of the deeply rooted mainstream economic thinking, with ecological modernization and flexibility that market mechanisms provide for stabilizing GHG emissions dominating the discourse. Furthermore, the focus had shifted even more clearly to managing climate change instead of preventing it. Charlesworth and Okereke (2010) argue that, by discussing more of the inertia in economic systems than in the climate or ecological systems, the report assumes a normative position favouring economic utilitarian logic over ethical concerns and omits physical realities.

The IPCC fourth assessment report was released in 2007. The report concluded that the probability of human activity being the cause of climate change was now 90 per cent, a notable increase from the 66 per cent probability reported in 2001. GHGs accumulations were confirmed to have increased significantly since the industrial revolution and that the rapid global increases in GHGs were primarily resulting from fossil fuel burning in the energy supply sector. Working Group III noted that, under current policies, GHG emissions would continue to grow significantly. They estimated that the growth from energy use alone would be from 40 per cent to 110 per cent between 2000 and 2030. However, again WG III paid considerable attention

to the substantial costs of additional GHG mitigation. Attempts to stabilize the levels of GHG emissions were estimated to decrease the global GDP by up to 3 per cent. While the Group identifies the inadequacy of current policies and criticizes some government decisions to promote coal-fired generation or open tar sands for exploitation, it omits the corporations' possible role in these policies and decisions. The group commends rather uncritically all corporate activities, even though there is some contemplation regarding the motives. Furthermore, it pays considerable attention to how to secure the special interests of those who might lose from stricter policy implementation, and how to create economic opportunities from climate change. The win-win discourse of WG III indicates full embracement of ecological modernization and climate capitalism.

The fifth science report of WG I released in 2013 posited strong confidence in the scientific agreement on human impact on climate change. It warned about the consequences of GHG accumulation in the atmosphere and the possible catastrophic consequences, arguing for immediate action to radically reduce GHG emissions. The WG III report released a year later continued to contemplate economically efficient ways to reduce GHG emissions and the costs of reductions. However, this report introduced the criteria of environmental efficiency for policies and mechanisms – if only after the criterions of economic efficiency and cost-efficiency.

The Paris Agreement was reached in December 2015, and it entered into force in November the following year, when the threshold for ratifications of the agreement by the Parties was achieved. It took a demonstrably shorter period for the Paris Agreement to enter into force than its predecessor, the Kyoto Protocol. This might indicate that the importance of international commitments and cooperation to mitigate climate change is recognized, and the urgency to act upon these commitments is understood on a wider scale than before. Nevertheless, the Paris Agreement is based on Nationally Determined Contributions that are voluntary and cannot be enforced, thereby making the Agreement essentially a voluntary mechanism.

In the Paris Agreement, countries agreed to work on limiting the global temperature rise to 2°C, and to endeavour to stop the warming at 1,5°C because of the serious risks associated with the 2°C goal. However, even if the countries adhere to their non-binding pledges in the Paris Agreement, it will only slow down the projected energy-related GHG emissions growth, but it will not be even close enough to actually limit global warming to less than 2°C (IEA, 2016). Furthermore, the Paris Agreement continues along the lines of the previous climate change agreements in relying on market mechanisms, especially International Emissions Trading (IET). Article 6.2 of the Paris Agreement stipulates that Parties to the agreement can use "cooperative approaches that involve the use of internationally transferred mitigation outcomes" to meet their respective NDCs.

The Parties recognized in the preamble of the Agreement *"*... that deep reductions in global emissions will be required in order to achieve the ultimate objective of the Convention and emphasizing the need for urgency in addressing climate change". However, even in the face of a climate catastrophe, economic matters still override the need to reverse climate change. This is outlined in Article 4.15: "Parties shall take into *consideration* in the implementation of this Agreement the concerns of Parties with economies most affected by the impacts of response measures, particularly developing country Parties." Even though written to especially address

the concerns of developing countries, nothing in this paragraph precludes developed Parties to back out from their NDC in the face of 'economic concerns'.

The successive IPPC reports and climate change agreements have clearly demonstrated the growing gap between science and policies. On the scientific side, the IPCC reports are able to establish the human impact on climate change and the role of fossil fuels in it. The science is calling for radical reductions in emissions before the consequences become catastrophic. But the policy side of these reports rests firmly within ensuring economic growth and the hegemonic discourse of ecological modernization. There is an evident discrepancy between science warning of the potentially catastrophic outcomes of climate change, and economics claiming that the radical activities needed to mitigate climate change are too costly (Ackerman, DeCanio, Howarth, & Sheeran, 2009).

Furthermore, apart from the Kyoto Protocol in 1997, there has been no success in setting binding limits for global GHG emissions. The climate change regime and international agreements form an increasingly obsolete framework without enforcing mechanisms. Linked through this framework there are incremental national or regional policy adjustments bargained with powerful economic actors that, even according to some of their proponents, will be inadequate to limit global warming to 2°C. It seems ever more unlikely that the current fragmented climate change regime with economic priorities can respond to accelerating climate change. Therefore, this study investigates the epistemological, ontological and political foundations of the current regime, and seeks to provide elements for an alternative climate change regime.

2.4 KEY CONCEPTS

2.4.1 SUSTAINABILITY, ECOLOGICAL MODERNIZATION AND CLIMATE CAPITALISM

Sustainability and ecological modernization may not be at the core of this research; however, they are important concepts in the framework of this study. This is because of their mutual relationship and significance in framing climate change discourse in the terms of an economic growth imperative. Their hegemonic position has largely marginalized all other perspectives of nature, development and society (Blühdorn, 2016). The term 'sustainable development' was first coined in the 1987 WCED report that asserted more rapid economic growth is needed to "avert economic, social, and environmental catastrophes" (p. 78) and MNCs are seen to have a positive role in this. Essentially, the report conceptualized environmental problems as resulting from inefficient resource use. Technological innovation and markets could correct this along with economic growth (Blühdorn, 2016). Corporations favour this version of sustainable development, based on continuous economic growth. It promises the necessary resources to tackle climate change and the constant expansion of these resources through technological innovation to guarantee future high levels of consuption and wealth accumulation (Boddewyn, 2016). Moreover, the report challenged the notion of 'Limits to growth' that had been a central theme in the Club of Rome report in 1972. On the contrary, the WCED clearly placed economic growth as the priority for the future: "We have in the past been concerned about the impacts

of economic growth upon the environment. We are now forced to concern ourselves with impacts of ecological stress … upon our economic prospects" (p. 14). The report calls for integration of economic and ecological concerns in decision making; however, in practice this has meant giving economic concerns prevalence. Whereas in the 1960s and 70s sustainability was a philosophy of social stability and an antithesis for the environmentally destructive economic growth, the Brundtland report redefined sustainability as environmentally sustainable economic growth, which did not challenge the ascending neoliberal ideology because this definition did not pose restrictions to economic growth or globalization (Blühdorn, 2016; Clapp & Dauvergne, 2011). Thereby sustainability has become somewhat of a fuzzy concept that has been used instrumentally to achieve different ends. However, currently sustainability is the key concept when discussing global environmental problems and solutions to those, and ecological modernization is the policy strategy to achieve sustainable development (Blühdorn, 2016). As climate change policies are based on the sustainable development paradigm, the principles have remained largely the same.

The idea that economic growth and climate change mitigation can become mutually supportive with technological progress is the core idea of ecological modernization. It echoes the notions of the Renaissance philosopher and scientist Francis Bacon (1561–1626) about the subjection of nature through breakthroughs in science and technology. In the context of sustainable development and climate change, ecological modernization claims to reconcile environmental and economic concerns by simultaneously decarbonizing the economy and ensuring economic growth (Böhm et al., 2012). Ecological modernization entails a belief that reduction of greenhouse gas emissions provides a win-win opportunity for efficient market liberal economies in which green technologies can stimulate economic development. The competing view critically rejects the view that business can unproblematically contribute to sustainable development. It sees economic growth as environmentally unsustainable and demands incorporating non-economic goals for a post-growth world where eco-efficiency would provide intergenerational justice even if it requires decreases in material wealth in the developed world (Boddewyn, 2016).

Nevertheless, the win-win paradigm is a key discursive concept in the current climate change governance (Levy & Egan, 2003). It is assumed that recognizing the benefits of pollution reduction will initiate a shift away from emissions-intensive production towards technologies such as renewable energy (Dryzek & Stevenson, 2011). In accordance with ecological modernization discourse, corporations tend to rationalize sustainability with self-interest. For example, energy corporations have defined sustainability in their own terms of interest – supporting *status quo* and incremental technological changes and shown considerable success in defending this position (Ihlen, 2009; Ketola, 2007). Focus on ecological modernization obscures the need for a structural transition to renewable systems and keeping fossil fuels in the ground (Lohmann, 2010; Wright & Nyberg, 2015). The different win-win approaches also dominate academic research on sustainability and climate change (Van der Byl & Slawinski, 2015). This approach awards the private sector a primary role in climate change mitigation, with new market opportunities leading to economic growth without further regulation. It therefore distracts attention from the radical change needed in the energy sector (Levy & Spicer, 2013; Spash, 2010). Regarding climate change, ecological modernization and sustainability have merged into climate capitalism. In this concept, corporations, through carbon markets, are assumed to

lead the transition into a low-carbon society, resulting in a win-win situation. Due to its instrumental approach, climate capitalism does not challenge the prevailing discourses of economic growth and profit maximization. Rather, it supports and reproduces corporate power and dominant market solutions (Wright & Nyberg, 2017).

The concept of sustainability has gathered wide acceptance, and virtually all governments, institutions and economic actors express their full commitment to sustainability. Corporations publish separate sustainability reports to highlight their commitment to the cause. However, in reality, commitment to sustainability as it is currently understood means mostly sustaining the prevailing socio-economic order, "however self-destructive it is now widely acknowledged to be, ecologically, economically, socially, and also for democracy" (Blühdorn, 2016, p. 260).

2.4.2 INSTITUTIONALIZATION AND LEGALIZATION

Formalized structures like the state, the market and the firm are the main institutional structures. Institutional theory has emphasized the lasting nature of institutions and institutionalization is a form of transmitting social order to new generations (Bitektine & Haack, 2015). Institutionalization refers to a state where societal expectations of appropriate organizational form and behaviour have come to take on a rule-like status in social thought and action, and actors have come to accept shared definitions of reality (Martinez and Dacin, 1999). In other words, institutionalization is a means of maintaining a particular order. Institutionalization resembles the concept of hegemony, where in the dominance of the strong the subordinates accept the prevailing power relations as legitimate (Cox, 1981).

However, in the context of climate change, it is questionable if the current social order takes into account the needs of future generations, and, therefore, whether it is desirable to pass on the current social order. Adopting a neo-Gramscian approach in the analysis of the prevailing social order will reveal the ideological dimension behind its formation and furthermore how it is maintained (Gale, 1998). Institutions can be seen as amalgams of ideas and material power, which in turn influence the development of ideas and material capabilities (Cox, 1981). Therefore, institutions become a self-enforcing framework for the dominant ideas, further stabilizing a particular world order. However, even though a world order consists of relatively persistent ideas, institutions and material forces that form a seemingly coherent historical structure, no world order is fully stable (Cox, 1995; Gill, 1995). These structures also contain elements of contradiction, making them susceptible to contestation.

Within the framework of international agreements, legalization refers to a special form of institutionalization, which has three dimensions: obligation, precision and delegation (Abbott, Keohane, Moravcsik, Slaughter, & Snidal, 2000). Obligation is synonymous with legally binding; precision refers to the accuracy of rules defining the conduct or action they require; and delegation that third parties, like domestic authorities, have been granted the power to implement and enforce these rules. These dimensions are not dichotomous, and each of these can vary independently of the others, making legalization a multidimensional concept (Abbott et al., 2000). Whereas neoliberalism and economic efficiency have been institutionalized into climate change policies, market mechanisms as the principle method for emission reductions

have been furthermore legalized in the UNFCCC, Kyoto Protocol and Paris Agreement. This reflects the hegemonic consensus behind these policies and mechanisms.

Institutionalization and legalization do not automatically bring legitimacy, although the concepts are closely aligned. Legitimacy can be defined as "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995, p. 574). An aspect of institutionalization is therefore to legitimize certain ideologies, assumptions and norms (Fleming & Spicer, 2014). For example, this may be the assumption of prioritizing economic rationality over other values. An institution's right to rule over something is a normative contention, and its perceived right to rule gives an institution and its values a sociological legitimacy (Keohane, 2011).

Just as institutions need legitimacy, organizations and corporations also seek legitimacy for their actions. Bitektine and Haack (2015) suggest that the institutionalization of legitimacy judgements operates through rhetoric, discursive construction and, moreover, coercion, inducement and selective diffusion of information. Therefore, the institutionalized judgement of legitimacy at a macro level is driven by the consensual hegemonic ideas and value systems and, furthermore, by greed, fear and ignorance. Moreover, institutionalization, legitimization and legitimacy are all socially constructed concepts, thus belonging to the same social order. Thereby, operating within this framework, within the rules that are largely constructed or influenced by incumbent corporations, tends to create legitimacy for corporate activities.

However, justice does not result from legalizing an activity or the perceived legitimacy of that action. Emitting vast amounts of GHGs that induce climate change may be legalized and even perceived as legitimate. However, it does not mean that the process leading to the legalization of this activity, whereby it has gained legitimacy, necessarily fulfils the criteria of input legitimacy. Nor does it directly imply that the activity fulfils the criteria for environmental or intergenerational justice, or output legitimacy. Input legitimacy concerns the evaluation of the design of policies and regulations, their transparency, democratic inclusiveness and accountability (Scharpf, 1997). Output legitimacy focuses on the outcome of policies and regulations, and their effectiveness; whether they result in solving the collective problem (Scharpf, 1999). Both input and output legitimacy are seen as necessary elements for democratic legitimacy.

Corporations especially are currently able to largely escape democratic accountability of their political power (Dawkins, 2015) and, therefore, there is a need for a critical and agonistic approach to assess the democratic dimension of this 'unaccountability'. Scharpf (1997) emphasizes that input legitimacy is grounded on political choices derived from the "authentic preferences" (p. 15) of citizens and, therefore, governments need to be accountable to the governed. Corporations participate in the design of climate policies. However, they are not democratically accountable like governments, and their participation in the policymaking is seldom transparent. Agonistic critique engages with the legitimacy of current policies and institutions and the power relationships they are based on (Mouffe, 2008). This is in an attempt to build counter-hegemony compatible with democratic values (Glover, 2012) – and thus with input legitimacy. Scrutinizing the democratic deficiency of current policies is important, and in fact

deinstitutionalization and paradigm shifts can be invoked from the injustice that institutionalized policies cause, which agonistic critique can help to reveal.

2.4.3 NEOLIBERALISM

Neoliberalism is a term often contested especially by those who support neoliberal policies. Moreover, neoliberalism goes often unrecognized by those who have started to accept a neoliberal world order as a natural state of affairs. However, neoliberalism is the term that was agreed upon by the Mont Pelerin society in the 1940s to promote the values of free trade, globalization, economic growth, private property rights, market economy and deregulation (Plehwe & Walpen, 2007). The central tenets of neoliberalism include the unquestioned premises of world market liberalization and freedom of transnational capital, articulated commonly as economic freedom. Economic freedom for neoliberals includes the freedom to exploit natural resources for financial gain, and polluters are simply obeying the laws of the market to achieve private financial gain. Therefore the best way to protect the environment is to put a price on nature, assign property rights to pollute, and then trade these rights in global markets (Sonntag-O'Brien & Usher, 2006). Neoliberals claim that markets are more efficient in resource allocation than government planning. They justify this argument with the notion that governments cannot obtain all the relevant information that is required for decision-making (Plehwe & Walpen, 2007).

Neoliberal ideology is oriented towards creating antipathy to government and regulation, and creating faith in privatization and markets with the empowerment of private actors in the agenda of 'rationalizing' government (Weiner, 2001). Neoliberal politics and policies started to gain a foothold in the 1970s, and became hegemonic in the 1990s with advancing economic globalization featuring deregulation, privatization, high corporate profits and the all-encompassing economic growth dogma (Antonio & Brulle, 2011). International economic institutions like the World Bank, IMF and WTO are engaged in the legal and political reproduction of neoliberalism, locking-in the reforms that implement these features (Gill, 1994).

Whereas all the above are contributing factors to the contemporary neoliberalized climate change governance, within climate change policies especially the central tenets of deregulation, privatization, commodification and marketization are of importance. Market solutions and commodification of carbon reflect the hegemony of neoliberalism in climate change policies and governance (Wright & Nyberg, 2015). The neoliberal market ideology is inherently antithetical to democratic principles. Carbon markets indicate that the climate can only be protected through marketization, turning the agenda into a profit-seeking one instead of one of reducing emissions (Birchfield, 1999; Wright & Nyberg, 2015). This connection can be found in how corporations favour the neoclassical economics market solutions to climate change over binding regulation. The traditional neoclassical economic solution to environmental problems, including global warming, is to 'get the prices right', reflecting a strong belief that environmental problems are caused by externalities resulting from economic output. By internalizing these externalities, or rather letting markets do that, the environmental problem will diminish or disappear. Whereas the foundations of neoclassical economics are not neoliberal, in the current hegemony neoclassical economics provides unquestioned support for deregulation, privatization, commodification and marketization. However, a system cannot be understood

simply by identifying the neoliberalism of actors. They are dominant elements of the system, "but the system as a structure is more than their sum" (Cox, 1981, p. 144). Therefore Peck (2010) suggests that best way to understand neoliberalism is to "triangulate between its ideological, ideational, and institutional currents, between philosophy, politics, and practice" (p. 9). In the context of this study, it means examining the constitution of the neoliberal ideology in climate change policies, its institutionalization and the outcomes of these policies in attempts to mitigate climate change.

2.4.4 HEGEMONY

Ideology, especially under hegemony, turns into a practical instrument of government (Gramsci, 1971). Ideology creates shared assumptions about what is desirable, rational and feasible, and therefore also limits the possibilities of action deviating from the ideology. Following Gramsci (1971), I am looking at hegemony as political power exercised with the participation and consent of the ruled, where with the formation of coalitions and making necessary compromises, different social forces are integrated into a historical bloc.

A historical bloc is a politico-economic alliance, formed between social groups, material forces and institutions, aimed at establishing and maintaining hegemony (Gill, 1995; Gramsci, 1971). Hegemony is based on common ideology, where ideology is understood as a coherent set of ideas, sponsored by dominant groups to stabilize and legitimize their control, domination and the prevailing world order (Steffy & Grimes, 1986). Ideology is the determining sphere of action that is understood in its connection with material power (Cox, 1981).

Hegemony then manifests itself as a consensual order and dominance of economic power where a historical bloc succeeds in maintaining hegemony over society (Gramsci, 1971). Hegemonic stability is rooted in consensus as manifested in the everyday operation of the institutions of society. In the context of climate change, hegemony and the associated historical bloc involve both the consensual diffusion of a particular cultural and moral view throughout society (Gramsci, 1971), and its interconnection with latent economic coercion to intimidate and fragment opposition (Cox, 1983; Morton, 2007). Gramsci further qualifies economic coercion as a form of "domination", subjugation by force and "intellectual and moral leadership" (p. 57) of civil society. This is possible because the general public in their macro level judgement have come to accept the hegemonic project as their own, even though in critical terms the project serves the narrow interests of the ruling elite and reproduces their dominance (Okereke et al., 2009). In its attempt to objectify reality, the interests expressed by the historical bloc must be viewed as legitimate, and economic rationality represents itself as the highest form of thought (Ashley, 1986).

Hegemony is made with a vision and the will and means to pursue it (Agnew, 2005). Neoliberal hegemony is produced and reproduced through a wide field of institutional arenas, included but not limited to politics, academia, media, think tanks, industry associations and business (Plehwe & Walpen, 2007). However, in hegemonic world order, these power relations and powerful actors producing the foundations for this order fade or are faded into the background by naturalizing the prevailing order (Cox, 1981). Therefore hegemony leads to the incapacity to imagine alternative responses (Wright & Nyberg, 2015). The strength of the current

hegemonic bloc lies in its ability to promote the values of the market society (Agnew, 2005). Hegemony thus represents a fit between material power, a collective image of desirable world order and a set of institutions to administer this world order (Cox, 1981). However, hegemony is not primarily economic or political, but, rather, "world hegemony is describable as a social structure, an economic structure, and a political structure; and it cannot be simply one of these things but must be all three" (Cox, 1983, pp. 171-172).

However, every hegemonic order is also susceptible to counter-hegemonic challenges (Mouffe, 2008), because institutional maintenance is essentially a question of interaction of social forces within this system and consensus about its perceived legitimacy (Bitektine & Haack, 2015). Contestation begins by creating 'dissensus', because consensus tends to silence the struggles and disagreements over moral issues (Glover, 2012). The deinstitutionalization of the current climate change regime would require the building of a new historical bloc with large segments of societies from different countries and social institutions. These need to be resilient enough to sustain a long war of position to gather the momentum to become the alternative basis for a contemporary neoliberal hegemony (Cox, 1991).

2.5 SUMMARY OF ESSAYS

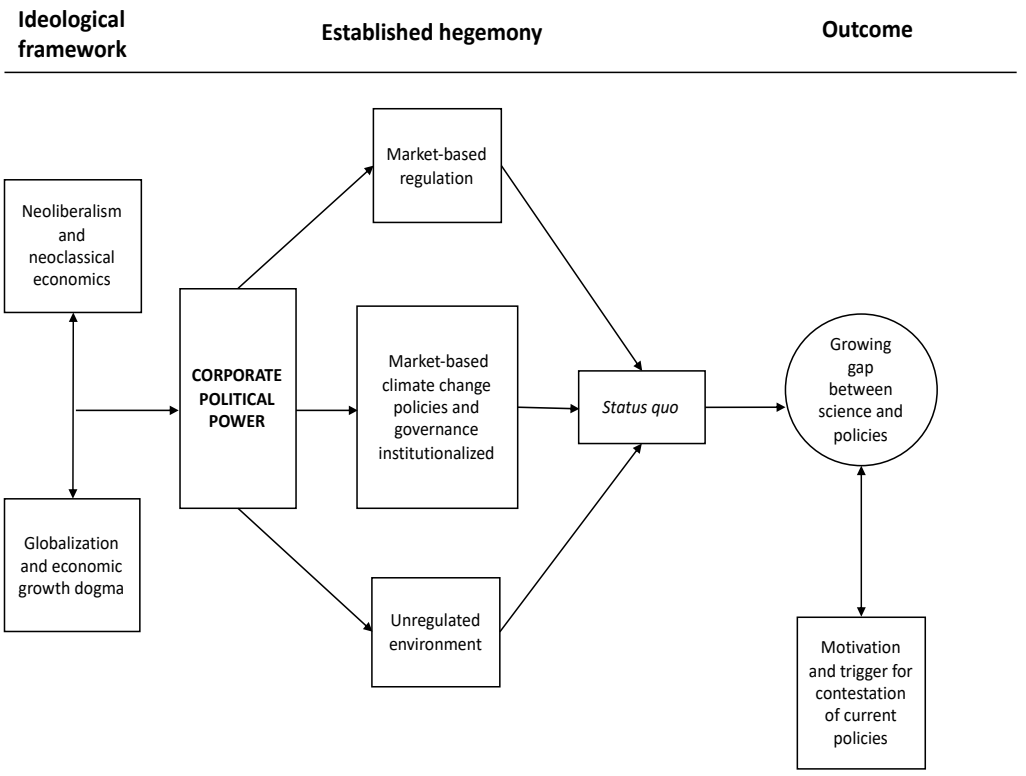
2.5.1 OVERVIEW

The first conceptual essay analyses in detail the formation and maintenance of hegemony in international climate change policies. Moreover, it examines the growing political power of MNCs and its impact on institutionalizing market-mechanisms as the primary instrument in combatting climate change. Carbon markets are seen as manifestations of the neoliberal hegemony and corporate power to maintain *status quo*. The second and third essays further conceptualize and empirically explore the outcome of the neoliberal hegemony and corporate political power in the energy sector. The energy sector is viewed as a powerful political actor who is able to wield this power in climate change policies to further its economic interests, which for its part helps to explain the modest results of current climate change policies in the energy sector. The results indicate that corporate power can be used to block regulations and place emphaisis on economic efficiency instead of emissions reduction in the design and implementation of market-mechanisms.

Each of the Essays illustrate how neoclassical economics rationalizes neoliberal ideology and its motivations that are deployed through economic globalization and economic growth dogma. This mutually reinforcing ideological framework increases corporate political power vis-á-vis nation states and allows them to influence climate change policies both directly and indirectly. Corporate political power is seen as an instrumental factor in institutionalizing market-based climate change policies and governance at the international level, and in the choice between market-based regulation and no regulation at all at the national level. The aforementioned elements separately and altogether contribute to a relative *status quo*, where the emissions are not reduced but the economic interests of fossil-fuel corporations are protected. This in turn leads to a widening gap between climate change science and the outcome of the policies

implemented. The widening gap then provides grounds and motivation for the contestation of current climate change policies and governance.

Figure 1: Relevance of the Essays to the theoretical framework and research questions



The three Essays form the conceptual and empirical basis for my thesis. Complementing the essays, the ensuing theoretical framework extends beyond the propositions presented in Essay I to further investigate how current climate change governance could be contested and thereby deinstitutionalized. It also digs deeper into the foundations of the current hegemony and the role of different ideas and powers within it. Moreover, it considers what are the ontological and epistemological foundations of the current regime – factors that might have contributed to its inadequate response to mitigate climate change.

2.5.2 ESSAY I

My first essay employs a neo-Gramscian framework to analyse the growing gap between the need to reduce GHGs and the results of current climate change policies. I describe how the quest for economic growth, economic concerns of government and business, and the requirement for cost-efficiency have been dominating global climate change policies since the

foundation of the UNFCCC. Consequently, the mitigation of climate change has become a secondary issue in the debate when economic concerns have stolen the limelight. Using a historical method (Amoore et al., 2000; Burgelman, 2011), I analyse the relationships between ideology, institutions, material forces and intellectuals in the formation of current climate change governance and maintenance of the *status quo*. I provide an account of how the emergence of the neoliberal political paradigm has resulted in the inseparable integration of environment and economics in decision-making at international and national level. I use insights from system justification theory to enhance understanding of the motivation to defend and justify the hegemony and *status quo* even when it jeopardizes the interests of the public.

The ascendancy of neoliberal policies was pivotal in the formation of the international climate change regime, which became founded on the premise of market-based solutions being able to tackle the problem. Consequently, the Kyoto Protocol reflects the most widely applied neoliberal approach to an environmental problem. Hence, in this essay I argue that the institutionalization of the neoliberal political paradigm into climate policies, together with increasing corporate political power, has slowed down attempts to mitigate climate change.

This essay illuminates the interplay between politics, neoclassical economics, MNCs, institutions and states in forming current global climate change governance. It outlines how the political power of MNCs vis-á-vis governments has grown simultaneously as globalization and neoliberalization proceeded. Furthermore, it analyses the role of corporate political power in the formation and maintenance of current climate change governance. The political power of fossil fuel corporations is especially central in analysing climate change policies because they are the key contributors to climate change. Fossil fuel corporate lobbying in climate policies does not contribute to sustainable development, because profitability and competitive advantage are priorities for MNCs. However, they wield significant power over the design of climate change policies and institutions, creating a 'carbon lock-in' that reinforces and normalizes dependency on fossil fuels.

The neoliberal political and institutional framework developed throughout the years has assigned neoclassical economics the roles of both master and servant in global climate change policies. Neoclassical economists represent the traditional intellectuals that translate dominant interests into concrete policies. The policy goals are aligned with the economic growth imperative, and the instruments to mitigate climate change are chosen according to their perceived economic efficiency. Thereby the neoclassical economic models of climate change have been used to justify delays in emission reductions. Climate change mitigation has been deemed rational only if it does not slow down economic growth. However, it is only an unexamined presumption that economics can determine the correct level of regulatory stringency for GHG emissions. It reflects an ideological choice and value judgement rather than a physical science basis for GHG reductions. Therefore, I am looking at alternative approaches to climate change policies based on critical political economy. To this end, I investigate the differences between neoclassical and ecological economics concerning global environmental problems in general, and especially climate change.

When considering the wide consensus throughout science and political spheres that radical reductions in GHG emissions are needed to avoid the most catastrophic consequences of

climate change, the current laissez-fair policies reproducing *status quo* seem paradoxical. This essay addresses this paradox through analytical propositions that are necessary considerations for evaluating the reasons for the failure of current climate change governance. These propositions both diagnose the problem and arouse consciousness, thereby perhaps prompting action. Each of these propositions separately and altogether provide a framework for contesting the current climate change policies and governance in multiple sites.

A central contribution of this paper lies in its illustration of the multidirectional and diachronic links between the political paradigm, neoclassical economics, institutions and MNCs that reinforce the hegemony of neoliberalism and maintenance of *status quo*. A neo-Gramscian approach gives a better understanding of why certain policies have been implemented. With insights from system justification theory, this study helps to explain and understand why the current hegemony of neoliberal policies and power of MNCs seems to be a mainstay in international climate policies. Based on the analysis, I argue that a change in the political paradigm and institutional framework, and limitation of corporate political power is needed to enable radical reduction of global GHG emissions and mitigate climate change.

To find support for this argument, or to counter it, the second essay explores if the use of Kyoto Protocol market mechanisms has resulted in emissions reductions in the energy sector between 2008 and 2012. Moreover, to test the treatment effect of market mechanisms I compare the treated group to an untreated group.

2.5.3 ESSAY II

The second essay investigates what has been achieved with the use of market mechanisms in terms of emissions reductions in the energy sector during the Kyoto Protocol first commitment period 2008–2012. This study uses a neo-Gramscian framework to examine the use of market mechanisms in climate change policies as the main instrument for emissions reduction and explains the results with hegemony and power relationships. It reviews the literature on market mechanisms and develops a testable hypothesis to evaluate the empirical effectiveness of these in energy sector emissions reduction during the Kyoto Protocol first commitment period.

This study employs a Gramscian notion of hegemony (Gramsci, 1971) to provide an analysis of hegemony and corporate power to explain how corporations can wield their power to legitimate their preferred institutional approach to climate change. We are using a neo-Gramscian approach, which attempts to avoid economic reductionism and develop a more political explanation of the relationship between economic structure and political processes in domestic and global levels (Cox, 1983; Underhill, 1994). Intellectuals also have a key role in building and sustaining a hegemony, and in this study neoclassical economists represent the hegemonic intellectuals.

Neoclassical economists provide very straightforward policy recommendations for emission abatement, arguing that the competitive market on emission permits should be used in emission regulation, because this policy minimizes the aggregate abatement costs and guarantees economic efficiency (Caffera & Chávez, 2011). Economic efficiency, defined through cost-benefit analysis (CBA), is the leading principle when international institutions and governments

make decisions on climate policies and emission reductions. The emissions trading theory assumes that putting a price on carbon provides cost-efficient emission reductions and encourages transition to a low-carbon society, thereby reconciling environmental and economic concerns. However, even the most prominent early proponents of emissions trading did not envision it as a sole policy choice, but rather argued that environmental protection should consist of a mix of policy instruments (Hahn, 1989).

Nevertheless, market mechanisms have become the main instrument in climate change policies. Market mechanisms are also the instrument the incumbent energy corporations prefer, and they wielded their political power to include these in the Kyoto Protocol. These corporations have also been active in the design and implementation of market mechanisms on national and international levels. However, the energy corporations were also active in blocking the market-based regulation in US and Canada.

This essay addresses the question of the relative efficiency of these mechanisms in climate change policies in the energy sector. In the first place, I investigate whether binding international regulation based on market mechanisms reduces emissions more compared to a situation where there is no binding regulation. Secondly, the essay examines whether there are differences between directly legally binding market mechanisms like the EU ETS and offset mechanisms like the Kyoto flexible mechanisms. The study investigates the emissions of this key sector over the first Kyoto commitment period of 2008–2012 to test if the use of market mechanisms reduces emissions more than no regulation at all. The sample consists of 112 oil and utilities companies worldwide.

I find that the use of market mechanisms did not result in significant emission reductions in the energy sector in Kyoto-participating countries as compared to the non-Kyoto-participating countries. The findings first indicated that there is a statistically significant difference between the emissions of companies from countries that have a binding Kyoto target, and those that do not have a binding target. However, when taking into account the lower starting level of emissions in Kyoto countries in 2008, the findings showed no statistically significant difference in the development of emissions between regulated and unregulated country groups during the first Kyoto commitment period. Furthermore, the EU emission trading system (EU ETS) did not bring significant emission reductions in the EU compared to other Kyoto-participating countries.

Based on the findings, I argue that market mechanisms cannot provide radical emission reductions and other policies should be implemented to avoid dangerous climate change. The dominance of neoclassical economics in climate change policies contributes to prioritizing economic growth over climate change mitigation supporting the neoliberal hegemony. Market-based regulation is best explained in Gramscian terms as passive revolution, legitimizing fossil fuel corporate business model with some incremental changes instead of meaningful change. Moreover, corporate political power to stop and dilute regulation of CO_2 emissions contributes to the widening gap between what the natural sciences say about the need to reduce emissions and what is the outcome of policies.

Nonetheless, neoliberalized climate change governance with its market approach dominates climate policies. Where regulation exists, it is almost solely based on market mechanisms, and command and control type of regulation is practically ruled out. On the one hand, the traditional view of environmental regulation that requiring companies to reduce pollution will restrict their options, and thereby by definition reduce their profits, still largely prevails. On the other hand, much research argues that market-based regulation is designed to protect fossil fuel corporations' economic interests. These conflicting views of emissions regulation served as an inspiration for my third essay.

2.5.4 ESSAY III

In 1970, neoclassical economist Milton Friedman expressed his opinion in the *New York Times* that the primary purpose and social responsibility of a corporation is to maximize profits. This view is still widely endorsed by executives of MNCs and other private sector proponents. The third essay of this thesis focuses on the role of intellectuals and economic power, because for Gramsci (1971) "though hegemony is ethical-political, it must also be economic" (p. 161). Intellectuals, for their part, are conceptualized as agents of the dominant group that disseminate ideology and ensure the consent of subordinate groups to the prevailing social order. Every dominant group "creates" their own intellectuals (Gramsci, 1982a). In neoliberal hegemony these are neoclassical economists that transcend the politico-economic interests of dominant groups in climate change policies.

This essay first reviews the emergence of the economic argument against regulation: how free-market environmentalists disseminated the ideas of Ronald Coase, and how these were turned into policies emphasizing economic efficiency and favouring deregulation. According to this view, environmental improvements will naturally follow from the functioning of free markets because the market is an ideal model of rational action (Blumm, 1992). The free market environmentalists consider pollution to be an institutional failure to assign appropriate property rights to avoid harm from pollution (Dalby, Katz-Rosene, & Paterson, 2013). They use the Coasian argument that well-defined property rights to pollution are the key element in reducing harm. They further claim that the whole concept of externalities suggests that there is no need for government intervention, and that technological solutions brought on by free markets will correct all environmental damage.

Environmental economics also posits that market mechanisms are a cost-efficient and effective way to reduce emissions, but argues some regulation is needed to correct a market failure. Environmental economics thereby, although relying on the same concepts of commodification and marketization of pollution as free-market environmentalists, has a more accommodating position. It is able to absorb the demands to regulate pollution without compromising the premises of market-based solution and economic efficiency. This can be the reason why out of these closely related neoclassical economic strands environmental economics has achieved a hegemonic position in international climate change policies.

The idea that environmental regulation is overall welfare diminishing and hurts the economic performance of companies still largely prevails. Limiting the rights to emit CO_2 has been perceived as a risk (Kolk & Pinkse, 2004) enforcing change to the mode of production and an

obstacle to economic growth and company profit making. Moreover, fossil fuel energy corporations benefit economically from the carbon-intensive trajectory that allows them to exploit conventional fossil fuel reserves, and explore and develop more carbon intensive unconventional fossil fuel resources such as oil sands and shale gas (Frumhoff, Heede, & Oreskes, 2015; Seto et al., 2016). Fossil fuels remain heavily subsidized globally (Coady, Parry, Sears, & Shang, 2017) and there are no signs of removing these subsidies, which preserves the value of incumbent energy corporations' technological assets and fuel reserves.

Energy corporations have been more accepting of market-based regulations than other forms of regulation. However, energy sector support does not necessarily mean that they are moving towards carbon-neutral production strategies, but this can be a hedging strategy against stricter regulations. They can use their political power to lobby for their preferred mode of regulation and its level of stringency to secure their economic interests. In Gramscian terms, this can be understood as a passive revolution strategy to neutralize more radical demands for structural change that could force them to change their business model. The literature suggests that companies can pass the cost of emission trading and other market mechanisms to their customers. They can even increase their profits with an extensive free allocation of permits (Alexeeva-Talebi, 2011; Pearse & Böhm, 2014; Smale, Hartley, Hepburn, Ward, & Grubb, 2006; Spash, 2010).

Empirically, the essay examines the question of whether the polluter pays or if it pays to pollute. It investigates the relationships between regulation, profitability and CO2 emissions intensity in the energy sector to gain an understanding about their relationship globally and in different regions using global firm-level data. The sample consists of 148 oil and utilities companies, and the time series data covers the years 2011–2015.

The findings question the views presented in the literature that to maximize profits companies should be allowed to emit GHGs without limitations. My findings indicated a statistically highly significant negative relationship between the measure for profitability, EBITDA, and both emissions per profits and emissions per revenue.

My findings do not support the free-market environmentalist theories that emissions regulation reduces the profitability of companies by definition. Quite the contrary, in this sample the companies whose emissions were regulated consistently made more profits and were more profitable than their unregulated counterparties in developed countries. Our findings give more support to the views of environmental economists that market mechanisms are a cost-efficient way to regulate emissions. The findings did not show, however, any statistically significant emissions reductions between 2011–2015 in the energy sector or in the oil or utilities industry, thereby questioning the environmental efficiency of market mechanisms.

This essay illustrates the connection between corporate power and neoclassical economics. From a neo-Gramscian perspective energy corporations use their dominant economic position to shape and legitimate climate change policies. They receive support from neoclassical economists who can defend both, the lack of regulation or market-based regulation, with economic arguments. When neoclassical economic models prioritizing economic growth are applied in

climate change policies, they turn into a defence of private property rights and profit making of corporations and legitimation of polluting activities.

The neo-Gramscian analysis and the empirical findings of this essay suggest that regulatory capture and protection of the fossil fuel companies' vested interests are conducive to *status quo* and thereby to the widening gap between climate change science and policies.

3. THEORETICAL FOUNDATIONS

Critical theory stands apart from the prevailing order of the world and asks how that order came about. Critical theory, unlike problem-solving theory, does not take institutions and social power-relations for granted but calls them into question by concerning itself with their origins and how and whether they might be in the process of changing. (Cox, 1986)

3.1 FRAMEWORK

The current consensus on international climate change policies that economic growth must be secured corresponds to the concerns of first-generation critical theorists, mainly Adorno, Horkenheimer and Marcuse, about the domination of nature and instrumental rationality where nature is subjected to economic efficiency and utilitarian thinking (Biro, 2016). Therefore, the theoretical foundations of my thesis are built on the first-generation Frankfurt critical theorists' critique of the domination of nature and associated instrumental rationality, and the instrumental value given to nature. Although their focus is often understood to be on the potential of all human beings for emancipation, they were looking for a framework to analyse how the dominant exploitative power structures can be changed to provide collective emancipation. In the words of Horkenheimer (1972) critical theory seeks to be "a force within the concrete historical situation to stimulate change" (p. 215). In a similar vein for Gramsci (1971) the possibility for change lies in the realm of collective consciousness, in understanding the controversial nature of naturalized assumptions and power relations.

Gramsci and Frankfurt School also share a critical conception of rationality. Whereas the Frankfurt School argues that instrumental rationality underpins the exploitation of nature and supports the existing social order, for Gramsci rationality is defined by hegemony to serve a purpose. Marcuse (1969) does not use the term hegemony, however, his understanding of capitalism's success in persuading the public to accept the system's need as their own suggests a common analytical ground. This renders the analysis of hegemonic forces essential in pursuit of alternative developments. While the writings of Gramsci are not usually employed in relation to a critique of the domination of nature, Loftus (2013) argues that Gramsci's philosophy of praxis is best thought of as socio-ecological. It allows the extension of the concept of hegemony and domination from the social to the ecological sphere. Furthermore, the rejection of economism and economic determinism deviating from orthodox Marxist theorization unites the Frankfurt School and Gramsci. I recognize there are philosophical and methodological

differences between these thinkers and that the ideological divisions are not entirely unproblematic. However, broadly conceived, their theoretical constructs offer an intellectual framework for contesting the domination of nature, modernist science, market ideology and the underlying asymmetric power relations.

More specifically I am building on a neo-Gramscian concept of hegemony, which has been developed by Robert W. Cox. Cox's neo-Gramscian framework explores contemporary features of hegemony within the prevailing world order and Gramsci's work is central in understanding the linkages between power relations and their impact on the political dimension of hegemony. My study applies this framework to the global climate change governance. In this framework, hegemony appears as an expression of broadly based consent, embodied in the acceptance of ideas, and further supported by material power and institutions. According to Cox (1981) within a certain world order hegemony is "based on a coherent conjunction or fit between a configuration of material power, the prevalent collective image of world order (including certain norms) and a set of institutions which administer the order with a certain semblance of universality" (p. 139).

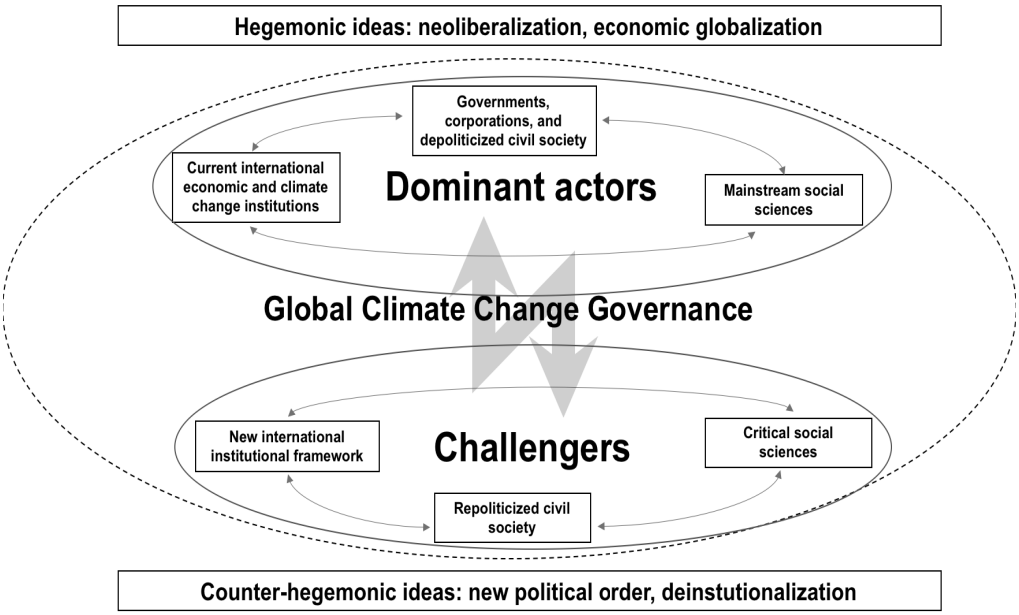
How does hegemony then relate to the research at hand? We are currently witnessing an era of naturalized hegemonic neoliberal world order, which is environmentally destructive and where market mechanisms have largely replaced state and political institutions (Gandesha, 2018). In climate change policies and governance, hegemony manifests itself as giving unquestioned prevalence to the economy over the environment as the accepted idea. This is supported by neoclassical economics and corporate political power in creating market-based governance and institutions to enable the functioning and maintenance of this ideology and associated mechanisms. Climate change governance is therefore an embodiment of neoliberal hegemony (Bailey, Gouldson, & Newell, 2011; Ciplet & Roberts, 2017). This hegemony in turn legitimates existing power imbalances, leading to a self-enforcing cycle of increasing commodification of nature and climate.

However, no hegemony is stable and critical theories look into social forces, which in a neo-Gramscian framework can be based on non-class issues like ecology – that can build counter-hegemony and transform the prevailing mode of governance (Cox, 1981, 1995). Contestation of the contemporary hegemony also requires demonstrating the social nature of economic relations (Birchfield, 1999), de-mystification of the market and revealing the power relations behind it (Newell, 2012). Therefore, it is important to look deeper into the foundations of current hegemony and reveal the ideology, power structures, key actors and institutions that have influenced the design and implementation of current climate change policies. Moreover, throughout the theoretical framework, I will analyse how the current governance responds to the requirements of input and output legitimacy (Scharpf, 1997, 1999) and consider how the lack of these may act as a catalyst for institutional change.

The figure below illustrates my theoretical framework, depicting the ideas and actors in relation to each other and their adversaries. In the centre is global climate change governance and policies. The upper half describes the hegemonic ideas and the actors forming a historical bloc currently dominating climate change governance. The hegemonic ideas are understood to reflect domination of nature and the instrumental value given to the nature in the pursuit of

economic growth. The lower half of the figure describes the ideas and actors that could contribute to formation of counter-hegemony and start a 'war of position' (Gramsci, 1971). These counter-hegemonic ideas also represent abandoning the inherent economic growth paradigm and giving environment intrinsic value.

Figure 2: Theoretical framework



Employing a critical approach and questioning many assumptions that are usually taken for granted, I aim to envisage how the current hegemony in climate change policies was established and maintained, how its institutionalization has given it a collective consensus about legitimacy, and lastly how the current structures can be contested, and alternative forms of climate change governance constructed. To describe and analyse current global climate change governance, I use different strands of literature from political science, political economy, economics, and management. What may seem an eclectic set of literature can, however, be situated in the study of international business. My thesis draws from these allied sciences to study the diachronic and synchronic interplay between institutions, ideologies and material powers in the formation and maintenance of climate change governance, while a neo-Gramscian approach is applied to critically analyse underlying politics and power relations. The historical perspective of this study allows me to go past the most obvious explanations of globalization and neoliberalism. I am able to ground the analysis deeper in all facets of current hegemony and some often overlooked ontological and epistemological questions characterizing this hegemony.

I will begin by investigating factors influencing climate change policies and governance, including economic globalization, transformation of the sovereign state, neoliberalized international institutions and corporate power. To locate all the above into the historical context that

is needed for understanding the outcome, the following section analyses the contemporary economic system and its relationship to the environment. It reviews the role of neoclassical economists in disseminating ideology and reinforcing hegemonic perception of rationality, and how this reproduces hegemony and shapes climate change governance. These different aspects are essential to gain a comprehensive view on how current governance has taken its form. This analysis provides deeper understanding why economic concerns dominate over environmental ones, and why the mechanisms chosen to mitigate climate change are predominantly market-based. I will then summarise the analysis of the previous sections, outlining the common denominators on which this governance is based. However, a critical analysis of the policies and governance does not fully reflect the debate regarding climate change. Therefore, I also investigate the currently marginalized alternative approaches, and lastly the emerging contestation of the current approach that could lead to the building of a Gramscian counter-hegemony.

3.2 CLIMATE CHANGE AND CHANGING POWER RELATIONSHIPS

3.2.1 ECONOMIC GLOBALIZATION

> *In an important sense, the fundamental problem of the future is the conflict between the political forces of nationalism and the economic forces pressing for world integration. This conflict currently appears as one between the national government and the international corporation, in which the balance of power at least superficially appears to lie on the side of the national government. But in the longer run the economic forces are likely to predominate over political, and may indeed come to do so before the end this decade.*
> *(Harry G. Johnson 1970, quoted in Gilpin, 1975, p. 39)*

It appears that Johnson's prediction was rather an accurate one. Economic globalization has taken place, and we live in a globalized world. However, there has been less juxtaposing of the economic and political – on the contrary, neoliberalization has blurred the lines between these. What has happened during the last decades is more of a consensual process between economic and political actors in building hegemony and constructing a global historical bloc. Naturally, globalization is inherently a political process. It consists of deliberate actions and non-actions of different political actors wielding political power. Hence, it is driven by states, international organizations and the private actors able to influence the political process (Newell, 2012). Consequently, economic forces have either predominated over, or persuaded, political forces to advance economic globalization. The actual process is embedded in broader global economic and institutional order, which has been largely dominated by the US (Fourcade & Savelsberg, 2006; Halliday & Osinsky, 2006). In this process the 'rule of law' ideology that originates from the US was conjoined with neoliberal economic policies. International institutions like the World Bank and International Monetary Fund then promoted and disseminated these policies to countries with different legal and economic policy traditions. Hence, the hegemony of neoliberalism and associated economic globalization started as traditional hegemony of one dominating state being able to impose rules on other states (Wallerstein, 2013), turning later into a consensual hegemony. This consent, or ideological leadership, around economic

globalization was not only exercised by states, but also by larger social groups constructing their hegemony beyond formal state institutions (Robinson, 2004). A concrete example of this in climate change policies is the introduction of emissions trading into the Kyoto Protocol by the US under the argument that it would be the only cost-efficient way to achieve emissions reductions (Böhm et al., 2012). To achieve an agreement, the EU and Japan, along with other key negotiators, agreed to include emissions trading in the Kyoto Protocol. Today the EU is fully committed to the use of this mechanism in its policy as the principal instrument to mitigate emissions (Ciplet & Roberts, 2017; Meckling, 2011b). This development was founded in market ideology and made in consent with the powerful economic actors who agreed that markets were the only viable way to take action (Boyd, Boykoff, & Newell, 2011).

However, the relationships between globalization and the environment are more complex than that. Increased political power and wealth of MNCs serves as a driver for globalization (Newell, 2012). Globalization, on the other hand, enables an increasing private accumulation of capital, which requires continuous economic growth that puts a strain on the environment. Therefore a globalized capitalist world has exponentially increased resource consumption and GHG emissions, and led to irreversible ecological damage (Antonio & Brulle, 2011). Whereas the annual rent from natural resource exploitation was 1 per cent of the global GDP in the 1970s and 2 per cent in the 1990s, it had increased to 5 per cent by the mid-2000s, with half of this being the extraction of petroleum products (Piketty, 2014). More importantly, accelerated environmental destruction and climate change are correlated with the increased power and wealth of MNCs and further ecological dangers reside in an undemocratic and unaccountable global corporate political power (Cladis, 2001; Korten, 1995; Wright & Nyberg, 2015).

Hence, corporations act as agents in this legal and economic colonization (Halliday & Osinsky, 2006) that has been extended to climate change policies and agreements. The economic interconnectedness associated with globalization results in new forms of uncertainty to which institutions are a response, and MNCs interact especially with economic institutions to develop and adjust their strategies to maintain and enhance their legitimacy (Cantwell, Dunning, & Lundan, 2010). As globalization is a deliberate process driven by economic forces, MNC actions are directed in further globalizing markets (Buckley & Ghauri, 2004). Carbon markets reflect globalization not only in its ideological dimension but also in ways that these markets create new commodities to be traded globally, thereby reproducing climate capitalism.

When analysing globalization in the context of climate change, it cannot be separated from the historical process. Or, rather, as history repeating itself, because Polanyi (2001) accounted for restrictions of sovereignty and adverse social consequences at the height of the economic liberalization of the 1920s. He believed his generation would see the end of a self-regulating market. However, it seems that economic liberalization just hibernated for a while to make a return in the form of neoliberalism and economic globalization. In a similar vein that in history the "middle class fulfilled their function by developing an all but sacramental belief in the universal beneficence of profits" (Polanyi, 2001, p. 139), the contemporary middle class has been persuaded that the corporate profits also benefit the middle class, the subordinates. Therefore, they consent to the hegemonic world order and policies taken to reinforce this (Legare, 1994). Economic globalization and neoliberalism have thus succeeded in what the German Ordoliberals tried somewhat in vain: a project of subordination modelling the individual in accordance

with the ethos and structure of business, making life itself a business enterprise and citizens economic subjects (Bayart, 2007).

Globalization as a historical process is an ideological and material project with an international institutional infrastructure build around to support it (Newell, 2012). This corresponds to Gramsci's (1971) view in which "material forces are the content and ideological forces are the form" (p. 377) of the historical bloc. Even though globalization is often portrayed as an inevitable process driven by global market forces, this deterministic view fails to account for human agency in this process. Like economic liberalization of the early 1900s, globalization could never have come into being "merely by allowing things to take their course", because it was "not a method to achieve a thing, it was the thing to be achieved" (Polanyi, 2001, p. 145). Globalization, as almost any human induced process, has political and ideological motivations, ideology being understood as a system of ideas. In globalization, the neoliberal ideology and economic incentives of the powerful actors advancing this process are evident. It can be argued that deregulation of private capital and its movements created globalization and the MNCs, which has facilitated formation of a historical bloc structuring markets in ways that deploy political power in defence of private property rights (Block, 2007; Hymer, 1979). When it comes to climate change, the defence of the property rights inevitably takes place at the expense of the public good.

Globalization and the hegemony of neoliberalism have shaped the new world order, and therefore also the approach taken to the problem of climate change. In this research, I conceptualize them as ideological forces behind the redistribution of powers, and articulation of economic priority and the ensuing institutional framework for climate change governance. I will explore how neoliberal globalization sets the preconditions for global climate change governance that does not actually result in any meaningful action to curb GHG emissions. Rather, it reproduces the imperatives of economic growth and belief that with technological solutions the treadmill of production can be maintained. After this descriptive account on hegemonic economic globalization and its impact on climate change policies, I will next turn to investigating how it has contributed to the fragmentation of state sovereignty and what are the consequences for climate change policies.

3.2.2 TRANSFORMATION OF THE STATE AND REDISTRIBUTION OF POWER

There is a wide agreement that the sovereign state is in a process of transformation due to economic globalization. The extent of this transformation is subject to more debate. Strange (1996) argues that the state power has diminished, and the authority has been diffused from the state to the markets with a significant increase of non-state power in a globalized economy. Jayasura (1999) sees sovereignty as rather transformed than eroded, whereas Gill (1994) and Underhill (2000) agree on the decline of sovereignty and increased power of economic actors but see states as still having power. Gandesha (2018) contends that the state has retreated in exact proportion to the advancement of market forces, and that state and political institutions are now being replaced by market mechanisms. Independent of whether we agree on the exact degree of state decline, globalization has exposed states to economic and political pressures beyond their own control. This reduces the economic and political space controlled by the state

and intensifies the competition in its economic constituency (Matten & Crane, 2005; Underhill, 1994).

These pressures from economic globalization have transformed the sovereign state into a 'competition state' driven by an ideology of global competitiveness. Sovereignty has become a looser concept, more of an affirmation of cultural identity than power over the economy and economic actors (Cox, 1994a). Government policies are promoting economic growth, and the interests of major sectors in the economy are institutionalized, increasing the leverage corporations have over states (Gill, 1994; Levy & Egan, 1998). Cladis (2001) argues that states have traded national sovereignty for corporate favours in search of economic gains, which Lohmann (2011) sees as diminishing their ability to set caps on scientific grounds for GHG emissions on both national and international levels. For example, the Kyoto Protocol did not manage to set caps that were stringent enough, and the withdrawal of some major developed economies from it made the Protocol somewhat of a 'lame duck'. After many failures to negotiate a successor to the Kyoto Protocol, an agreement was finally reached in Paris in 2015; however, this agreement does not set binding caps for GHG emissions at all. The transformation of the sovereign state is not the only cause for the lack of a binding global climate change agreement or stringent GHG emission caps. However, it is a factor that deserves consideration when investigating this complex regime with a diversity of interests.

Another factor widely agreed in the literature across disciplines is that globalization has increased economic interdependency, meaning the mutual dependence between states, their economies and economic actors. Dunning (2002) notes the pace and extent of interdependency growing dramatically with increased economic activity of MNCs, but does not see interdependency as problematic. Keohane and Nye (2001) see that, in a situation of complex interdependence, transnational economic actors like MNCs pursue their own goals and the agenda will be affected by the increased power of transnational actors. According to Underhill (1994), states remain the only legal decision-makers in international politics with the power for example to sign international agreements, but interdependency forces states to make concessions to domestic and global economic forces. These concessions in turn shape the development of international policies and the constitution of the world order, and the political choices of powerful actors are thereby projected into the global domain. Newell (2012) and Underhill (2000) argue that states do have the capacity to shape globalization and defend their sovereignty and political autonomy against global market actors, but have not chosen to do that.

A central question with regard to climate change is then *why* the states have not defended their sovereignty, but rather succumbed to the power of market actors. The spreading of the neoliberal political paradigm since the late 1980s has most likely contributed to this development. States, or rather the politicians, have been subordinated to the dogma of economic growth and how keeping up with globalization is the way to achieve this. Furthermore, powerful corporations have persuaded states that their interests are aligned with the interests of the states. This has created the hegemonic historical bloc driving practically unquestioned globalization, which can seriously undermine democracy and has already eroded state sovereignty. The strong interdependency between corporations and states, reflected also in the interrelationship between domestic and international politics, requires these to be analysed simultaneously (Birchfield, 1999; Cantwell et al., 2010; Cox, 1981).

International law and regimes theory rely on the notion of a sovereign state in its Westphalian sense (Jayasuriya, 1999). The international climate change regime is built on the assumption of sovereign states, which are the Parties to these agreements. The states participating in the negotiations are assumed to represent the national interests of democratic states. However, it is important to define whose interest is reflected in the national interest, and to follow the connection between policy preferences (ideas) and material economic interests (Cox, 1986; Underhill, 1994). Because, when it comes to the climate change regime, agreements and resulting national regulations can only achieve what they are meant to achieve if governments serve as arbitrators between public and private interests (Parr, 2016), and are not captured by particular powerful interests. International regimes are widely seen as protectors of the public good through international cooperation established within a regime that is formed by sovereign states (Levy & Newell, 2005). However, when states and sovereignty are being transformed due to economic globalization (Jayasuriya, 1999), the protection of the public good cannot be guaranteed. With the growth of neoliberalism, national states became more accountable to a global economy, private capital and market forces than to their citizens (Cox, 1994a; Gill, 1995). National states are increasingly influenced by and form alliances with capital to accommodate their interests (Meckling, 2011b). Therefore, the expectation of a fully sovereign state able to restrict and control the economic forces and activities of the polluters does not necessarily hold. Sunstein (2007) sees the different approaches of countries to international climate agreements as a sum of national interests, public opinion and the role of powerful private actors, corresponding to the view that pluralism is the guiding principle of public policies (DiMaggio & Powell, 1983). However, considering the transformations of the sovereign state, growing economic interdependency and the resulting political power of corporations, it can be questioned whether private interests have outweighed public interests and thereby the input legitimacy of the process. Gilens and Benjamin (2014) found evidence of biased pluralism, where the interests of corporations dominate in public policy design. The impact of these interests was especially significant when the interests of large-scale corporations, industry associations and economic elites were aligned and in conflict with the interests of the general public.

Therefore, contrary to the classic international regimes where states construct international regimes to reflect their interests (Keohane & Victor, 2011), in the climate change regime powerful economic actors like MNCs can steer the regime towards their own ends and operate through international institutions to take over functions of the nation-state (Halliday & Osinsky, 2006; Newell, 2012). This governance reflects the prevailing power relations that encourage collective understanding, which is consistent with these power relations, and naturalizes them (Cox, 1986). Globalization therefore results in decentralized and biased pluralist global governance, where MNCs have an active role, with a shift in powers that favours the needs and interests of corporations rather than public interests (Banerjee, 2008; Newell, 2008b). Consequently, growing corporate political power enables preserving the *status quo* and economic interests in the face of an ever-expanding global environmental problem.

Hence, there is a clear discrepancy between the state-centric climate regime and global political economy, where states need to make concessions to the demands of economic globalization. A bargaining constellation operating in a global political economy has in reality replaced

regimes in international relations (Strange, 1994). The bargaining in climate change political economy does not mean pluralist negotiation among equals, but is embedded in broader power relations (Levy & Newell, 2005), highlighting the significance of corporations (Strange, 1994) and international institutions (Keohane & Nye, 2001) in this process. The universalization of neoliberal discourses of competitiveness and market efficiency has attuned states to the imperatives of global economic forces (Gill, 1995). Neoliberalism has resulted in a rejection of government intervention in favour of market solutions, which can ensure corporate profit maximization regardless of the environmental consequences (Wright & Nyberg, 2017). Moreover, the global climate change regime is framed as nation states cooperating against climate change, but at the same time they are competitive states defending their economic interests against other states in negotiations. This obscures the fact that powerful transnational economic actors are the polluters whose actions should be controlled. It also further contributes to the framing of climate change as an economic problem.

Considering the transformation of the state and the expansion of the market into climate policies merits a question about the future of this development. Instead of sovereign states controlling GHG emissions and their markets, will we have sovereign markets, or rather market actors, controlling states and their ability to restrict GHG emissions? And, with the changing power structures and all-encompassing goal of economic growth, has this change already taken place? The international system has not been able to provide a global regulatory power to respond to the transformation of the state and the increasing power of market actors. This development has contributed to global climate change governance becoming largely market governance in the interests of powerful economic actors. Once established, carbon markets and the associated property rights to pollution are hard to dissolve, and re-instating state sovereignty might be difficult because of the opposition of global economic powers (Agnew, 2005). The question of the market has also wider implications for our conception of climate change because "the initial allocation serves to reflect, to legitimate, and to reinforce the social understandings about presumptive rights of ownership" (Sunstein, 1997, p. 17). If climate change was a complex problem to begin with when considered to be solved within sovereign states, it has become ever more complex with the transformation of sovereignty and increasing power of economic actors without the accountability or responsibilities of sovereign states in international law. The fragmentation will have implications for the institutional framework as part of the contemporary hegemony, which will be addressed in the following chapter.

3.2.3 CLIMATE CHANGE AND INSTITUTIONS IN GLOBALIZED POLITICAL ECONOMY

Transformation of the state has created an elusive and fragmented climate change regime that lacks binding agreements and relies largely on market solutions. Fragmentation contributes to a more conflicted and ambiguous institutional environment, which provides opportunities for strategic behaviour (Scott, 2005). Climate change policies exemplify this fragmentation and the power of economic actors to guide these policies towards the direction that secures their interests: privatization and marketization. Climate change is a politically difficult issue to solve because it is a global problem, its impacts are not immediately observable, and solving the problem would require a radical structural change (Keohane & Victor, 2011). Furthermore, responding to climate change would require regulating energy, and economic growth is largely

dependent on energy (Boyd et al., 2011). Increasing pollution resulting from advancing economic globalization makes it a global governance issue that looks to be solved in a "shareholder return driven environment" (Buckley & Ghauri, 2004 p. 84). A neoliberal political paradigm, ecological modernization and market solutions appeared to provide a quick fix without the need for a more radical change. These policies are, however, inherently utilitarian and based on a market ideology. They describe how to address climate change within the existing institutional framework and power structures (Bailey et al., 2011), without having to re-evaluate the economic growth dogma and its perils for the climate. Moreover, the development of markets weakens the possibility for other alternative institutional arrangements (Djelic, 2006). While there has been progress in forming a climate change regime attempting to control GHG emissions, Newell (2012) argues that the quest for eternal economic growth and drive to accumulate material wealth on an increasing scale directly cancels out the achievements.

Ideally, institutional structures are procedurally neutral. This means that there is no systematic exclusion of any ideas or interests, and, therefore, the role of institutions would be to define which interests and values should be defended to benefit society (Vatn, 2007). Keohane and Nye (2001) see institutions setting the international agenda, arenas for political initiatives, and the UN especially as a defender of weak and marginalized states. However, institutions can also do the very opposite and be biased, promoting the interests of some groups and violating the rights of others (Keohane, 2011) or enhancing the political power of some actors as opposed to others (Underhill, 1994). Currently, institutions are geared towards economic growth and the political system is harnessed to facilitate that growth as the primary goal of politics (Dryzek, 2013). In this situation of complex institutional interdependence, MNC actors' pursuit of their own goals and agendas will be affected by the changes in power relationships (Keohane, 2002), and institutional structures thereby shape the prospects for political agency (Wittneben et al., 2012).

Levy and Egan (1998) define market enabling international institutions as ones that were providing infrastructure for global trade and capital flows, and regulatory ones governing international environmental policy. However, this line has been blurred in climate change governance, where market-based climate policies are enabled and supported by the institutional framework. According to Cox (2001), the UN was previously differentiated from the IMF, World Bank and WTO, and credited with more heterodox worldviews, but in the late 1990s it turned into propagating and legitimating the neoliberal economic agenda, giving more weight to corporate interests in the formation of UN policy. This turn and timing corresponds with the market orientation of the Kyoto Protocol and the growing influence of neoclassical economists in the IPCC WG III. Even giving the international institutions governing climate change the benefit of the doubt, and treating them as formed to serve public interests and democratic ends, they cannot be separated from the material conditions in which they are produced and seek to preserve. Thereby, they also serve the interests of a transnational historical bloc advancing a globalizing neoliberal agenda in institutionalizing naturalised representations of property, market and capital (Newell, 2008b).

Institutions have a key role in determining climate change governance and its limits. The argument often heard in the institutional literature that 'institutions matter' holds true also in this context. Moreover, in climate change it is not only environmental institutions, but also the

economic institutions that matter. In the global economy with fragmented international law and governance, there is no explicit political authority structure, thereby making it a 'governance without government' (Cox, 1994a; Keohane & Victor, 2011). The growing power asymmetries inevitably result in more asymmetric international institutions. The unofficial, but yet existing, hierarchy between international institutions clearly subordinates environmental questions to those that promote free movement of goods and capital – even though the harmfulness of free trade to the environment has been established (Khrebtukova, 2008). If there were, for example, a case with a government imposing carbon tax on products from a country that does not have emission reduction regulation, this could be prohibited as a discriminatory restriction of free trade under the WTO rules. WTO rules can also prevent other activity oriented towards climate change mitigation if this can be interpreted as a restriction of free trade (Sands, 2016). Furthermore, in the absence of supranational regulation, the international law renders MNCs legally 'invisible' (Cutler, 2006), creating obstacles for regulating their polluting activities directly. Adding to the asymmetry, MNCs as legal constructions enjoy rights under several international agreements like international investment agreements made under the WTO umbrella. They can take legal action against governments if they try to harness pollution with tariffs. Therefore, currently the MNCs are 'untouchables' when it comes to climate change within international law. There is no international legal forum where conflicts of interests between the public good and private economic interests regarding climate change could be debated.

Other economic institutions have also had an impact on climate change mitigation. For example, the institutional reforms by the IMF, World Bank and regional finance and development institutions in several developing countries enforced privatization of the energy sector. These reforms resulted in some countries in more fossil fuel energy production replacing decentralized renewable production, and thereby increasing the countries' dependence on imported fossil fuels (Gent & Tomei, 2017). Therefore, replacing renewables with fossil fuel energy production implies that climate change considerations were either deemed secondary or omitted completely.

It can be argued that as economic institutions the IMF and World Bank have the institutional mandate to promote economic growth. Their role in creating and distributing market order, however, reflects the transition from political to economic constitutionalism, where economic institutions are seemingly placed beyond politics, even though carrying out specific political functions (Jayasuriya, 2001). Furthermore, privatization is purely an ideological choice and these reforms confirm the primacy given to the economy over the environment.

The current institutionalized norms and hierarchies constitute a social structure, enjoy political authority and define which political institutions and practices are viewed as legitimate. However, this is a subjective understanding of legitimacy and does not imply these norms are necessarily just (Bernstein, 2001). For example, intergenerational justice is considered one of the fundaments of both sustainable development and climate change policies. However, in reality, it has been marginalized due to the institutionalization of economic growth and efficiency in international climate change policies and agreements (Ciplet & Roberts, 2017) - regardless of these being in conflict with the intergenerational justice criterion.

The hierarchical and normative primacy of economic institutions and economic growth is hardly surprising under the current hegemony of neoliberal politics. International institutions are largely defined by the economy and markets rather than democratic principles or environmental justice considerations. "In a market economy, the dominant question is not what is right or good, but what will sell; virtues give way to subjective values and preferences" (Sayer, 2000, p. 87). And commodifying carbon will make it possible to sell and thereby create more economic activity even with a fictitious commodity. Thereby, climate change governance becomes an extension of the market economy, where markets and market actors address the problem, and international institutions provide a support structure for the new markets (Wright & Nyberg, 2015).

Governance based on carbon markets neglects to address the increasing urgency of substantial emission reductions and the structural change in energy production that would be required to even stabilize global GHG emissions to their current levels. As Dryzek and Stevenson (2011) summarize, "All aspects of global climate change governance can effectively be brought under the logic of the market" (p. 1868). Russell and Gilbert (2002) argue that democracy has been replaced with marketocracy, rule by market forces with governmental blessing and the belief that the market is a politically neutral 'natural' structure. Neoliberal climate change governance has an ideological commitment to market approaches and their assumed benefits, making the whole governance a neoliberal experiment (Bailey et al., 2011). It is assumed that if markets want more emission reductions, markets will pay for those, without considering the socially constructed nature of carbon markets by the same market actors that are supposed to deliver the emission reductions. Newell and Paterson (2009) argue that "Climate politics is increasingly conducted by, through and for markets" (p. 86), whereas in this process "The UNFCCC system is largely reduced to cheerleading for private and voluntary national action on climate change" (Ciplet & Roberts, 2017, p. 154). In a similar vein, the policy recommendations of IPCC are reproducing the neoliberal hegemony and dominance of markets. International institutions, even environmental ones, promote economic growth and free markets as an all-encompassing solution.

A climate change regime with weak regulatory and normative power transfers into an institutional structure. This structure reflects the imperative of economic growth and protection of private economic interests rather than the need to mitigate GHG emissions. The priority of economic growth and the use of market mechanisms is cemented in all the international agreements and commitments under the system. The neoliberal hegemony has reduced global climate change governance into a technocratic-managerial discussion about different market mechanisms and linking different trading systems within the governance to create a global market for carbon. The consensual nature of this hegemony is apparent in how no other policy options, like the much-needed structural reforms, are discussed. The dominant powers keep these off the agenda or deem them irrational in case there are occasional disruptions to the consensus.

However, hegemony cannot be reduced to its institutional dimension, as institutions are an expression of hegemony but not identical to it (Cox, 1981). The ideas of the current hegemony, neoliberalism and economic globalization, and their impact on governance and institutions

have been discussed in previous chapters. The following section will explore the material resources of hegemony that corporations represent in this framework.

3.2.4 CORPORATE POWER AND CLIMATE CHANGE GOVERNANCE

Max Weber defined power as the capacity or ability of one actor to deploy influence in an issue despite another actor's efforts to achieve a contrary outcome. In climate change policies, there are certainly efforts to achieve outcomes contrary to the current ones, but they have not been successful so far. For Wolfers (1962), power and influence in international politics had the same role as money in a market economy. Do current policies reflect the outcome where a set of actors has power, influence and money, the market economy takes over the political, and political practice has been reduced to economic logic?

The existing power structures give those holding the power the control over which interests deserve protection, and, according to Vernon (1971), "power lies somewhere near the heart of the problem" (p. 7). As discussed before, several authors within the last decades have noted how globalization has empowered international markets and market actors at the expense of governments and political institutions in general. Even before these, Frank Tannenbaum (1968) wrote:

> "Time is of the essence of change and transition. How long will it take for the corporate body to be so evidently the international structure as to make the formal legal organs contrived by the nation-state irrelevant because the state itself will become irrelevant to international dealings. … One cannot assume that so profound a structural change as here envisaged can go on without political implications, and without a shift in political power. It is difficult to see which way this shift of political power will occur – but that it will take place there can be no doubt" (p. 20).

It has to be noted that Tannenbaum's vision of a corporation carrying out global function and replacing nation states was based on a rather sanguine view of MNCs. However, his functionalist view of MNCs necessary for globalization and benefits of transnational economic activity has been inspiring scholars in IB in later decades. On the contrary, Vernon (1971) posed the question of whether the political and economic power of MNCs is becoming extensive, and Hymer (1972), Strange (1996), Barley (2007) and Wright and Nyberg (2015) do not see increasing corporate political power as necessarily beneficial to society or the environment. It can rather jeopardize democracy and lead to heavily biased decision-making.

Investigation of corporate power in global climate change politics is one the central tenets of this theoretical framework. However, it is important to note that corporate interests and political activities can vary greatly between industries and even within an industry. Moreover, corporations are by no means immune to their institutional environment, which is reflected in their responses to climate change[2]. The analysis in this chapter focuses on the incumbent fossil

[2] Essays II and III of this thesis give a more detailed overview of the climate change responses of the fossil fuel corporations over time and according to their institutional environment.

fuel energy corporations and three facets of their power: Structural, instrumental and discursive (Fuchs & Lederer, 2007). Power can be understood as the capacity to influence and mobilize other actors to achieve political goals to secure material interests (Fleming & Spicer, 2014). Structural power refers to the capability of setting the agenda, but also to a position in which states protect the interests of the actor wielding structural power (Newell & Paterson, 1998). Instrumental power refers to the economic resources and their use in politics, and discursive power to the capability to constitute and frame ideas, norms and societal expectations (Fuchs & Lederer, 2007) and institutionalize these.

The energy industry MNCs are well-organized to achieve its self-interested goals and also wields considerable structural, economic and discursive power to influence regulation or to block it (Elah & Okereke, 2014; Wittneben et al., 2012). The structural and economic power of fossil fuel corporations created a carbon lock-in (Unruh, 2000) first in developed countries, which developing countries were unable to escape (Unruh & Carrillo-Hermosilla, 2006). This became an intended feature of institutional design, further strengthening the interests of the fossil fuel corporations and increasing their political and economic power (Seto et al., 2016). The energy sector has been politically active since climate change first emerged on the political agenda, and they have been using their powers to frame the problem as one that only markets could solve. The responses have varied along the rather short historical course of climate change policies from initial denial of climate change to a more accommodating position to accept market mechanisms as the solution. Nevertheless, corporations can, and do, spend more economic resources than the groups challenging their approach and practices, thereby using their instrumental power to steer the discourse on governance (Dawkins, 2015; Dryzek, 2013). Furthermore, the structural power of MNCs means that they are able to push a certain ideology and thereby influence the formation of governance through their dominant position in the global economy.

How these powers are acquired and legitimized, in essence how the dominance is established, has received less attention in the literature (Dawkins, 2015), although Hymer already in 1979 noted that "MNC reveals the power of size and the danger of leaving it uncontrolled" (p. 52). Since then, the neoliberal hegemony and ensuing economic globalization have enabled the institutionalization of corporate political power. Corporations have become the "actors, reactors and transmitters of global imperatives" (Amoore, 2000, p. 183). Market ideology can be understood as a political project to turn market liberalism into the sole model of governance (Birchfield, 1999), and corporations are among the agents of this project (Djelic, 2006). There are concerns that globalization has given MNCs unprecedented, unaccountable power. This power is driving a polluting economy designed to maximize private accumulation at the expense of public good (Cladis, 2001).

Critical theories illuminate how corporations employ influence in climate change policy making and protect their interests by elucidating the nation states' dependency on the private sector in a market economy (Cladis, 2001; Levy & Egan, 1998; Matten & Crane, 2005). The theories also show how corporations can use their economic power as leverage to make governments conform to their needs over those of the public. This extends the focus into a wider societal context and the implications for democracy (Amoore, 2000; Barley, 2007). Furthermore,

it is possible to examine how powerful elites under a hegemony define the limits of possibility and what are the feasible ways to deal with climate change (Legare, 1994; Okereke et al., 2009).

Perhaps one of the most evident examples of this multifaceted corporate political influence is the rhetoric George W. Bush used to justify US withdrawal from the Kyoto Protocol. The line of argumentation can be rephrased into that there is no certainty *which* level of warming is dangerous and therefore it is justified for the US not to commit to the Kyoto Protocol because it would hurt the economy: "We must always act to ensure continued economic growth and prosperity for our citizens and for citizens throughout the world. We should pursue market-based incentives and spur technological innovation" (Bush, 2001). Coincidentally, the language Bush used echoed the Exxon Mobil 2000 'Do No Harm' advertorial, in which it announced market mechanisms as the best way to protect the public good and claimed that "There is not enough information to justify harming economies and forcing the world's population to endure unwarranted lifestyle changes by dramatically reducing the use of energy now" (cited in Livesey, 2002, p. 137). Although there is evidently some intertextuality between these arguments, this case is an indication of the discursive power Exxon was using. Its instrumental power guaranteed the publication of corporate views, which in turn legitimized the position of the corporation as an opinion-shaper (Livesey, 2002b). It is therefore possible to use material power to obtain discursive power, which results in more structural power, and more possibilities for government agenda setting.

The use of power can also be more discrete. Scholars have identified the discourse of IPCC policy recommendations as over time becoming more concerned with the economy and demonstrating a clear preference for market solutions (Charlesworth & Okereke, 2010; Levy & Egan, 1998). Apart from reflecting a neoliberal hegemony, these recommendations of the IPCC WG III have been at least partly captured by large fossil fuel corporations participating in their formulation (Nasiritousi, 2017), demonstrating their structural and discursive powers. Furthermore, corporations in various countries have proven to be able to block regulation like a carbon tax, or to stall or dilute regulation, and therefore exert strong influence in the form that climate change regulation would take (Kolk & Pinkse, 2007; Meckling, 2011b; Nyberg, Spicer, & Wright, 2013; Spash, 2010). Market mechanisms as a solution for climate change emerged when corporations predominantly started to recognize the inevitability of carbon reductions with the mounting evidence of human induced climate change (Newell & Paterson, 1998).

The energy industry saw carbon trading as a compromise solution, a hedging strategy against command and control or carbon tax, with the additional benefit of being able to transfer the costs of this instrument to the end consumer (Levy & Newell, 2005; Spash, 2010). The industry created alliances with states, other economic interest groups and even some environmental groups to lobby for this preferred form of regulation (Meckling, 2011b; Parr, 2016). In this way, the industry adopted a pre-emptive strategy to influence upcoming regulation (Buysse & Verbeke, 2003) and to avoid possibly stricter forms of regulation. In Gramscian terms, this strategic compromise can be conceptualized as passive revolution (Levy & Egan, 2003) or hegemony through neutralization (Mouffe, 2008). Demands like pollution control that are potentially challenging the prevailing order are responded to within the existing system, thereby neutralizing their potential for a more radical change. The acceptance of carbon trading can therefore be seen as a hegemonic move from the fossil fuel dominated energy industry to re-

establish the legitimacy of their activities. It served to strengthen the power of the discourse that economic growth and sustainable development are compatible. Furthermore, it created a consensus for this discourse among diverse audiences and shifted the discussion of the environmental efficiency of carbon trading to the design of the system (Wittneben et al., 2012). Corporations were a major power in the design of carbon markets, however the hegemonic discourse of market mechanisms is not purely industry influenced, but part of the general neoliberalization of climate policies (Levy & Egan, 1998; Spash, 2010).

Carbon trading represents the ideological shift towards fully market-based global climate change governance (Bernstein, 2001; Meckling, 2011b; Newell, 2008b). This is widely viewed as securing the interests of the fossil fuel energy companies and the countries that depend on fossil fuel energy, without resulting in real emissions reductions (Bernstein, 2001; Böhm et al., 2012; Meckling, 2011b). Lohmann (2010) argues that carbon markets serve as an inbuilt bias against structural change and that their rent-seeking nature induces regulatory capture. Moreover, when corporations dominate the discourse on climate change policies, this intercepts a transparent contemplation of alternatives (Dawkins, 2015). Therefore, the market solutions to climate change exemplify corporate power in its instrumental, structural and discursive aspects.

The uses of the powers discussed above are illustrative examples of corporate power in climate change. To provide a more comprehensive overview, Table 1 presents an interpretive review of corporate power in the literature. An interpretive frame is suitable for thematic review where there can be differences in commonalities, constructs and terms used in the literature (Suddaby, Bitektine, & Haack, 2017). The table is arranged around outcomes of corporate power in climate change governance and the main activities contributing to these outcomes in different decades. The structural power of the fossil fuel industry is rooted in their dominant position in national and global economies. Consequently, their interests are taken as necessary for economic growth (Clapp & Dauvergne, 2011; Newell & Paterson, 1998). Therefore, their instrumental and discursive power in climate change policies stems from structural power.

Table 1. Fossil fuel corporate power in climate change governance

Power	**Structural**	**Instrumental**	**Discursive**
Outcome	**Weak international climate change regime reflecting interests of fossil fuel industry**	**Regulation to reduce GHG emissions prevented or diluted to protect fossil fuel interests**	**Public opinion moulded about necessity of fossil fuels for societal prosperity**
Deployment from 1990s to 2010s	UNFCCC non-commitment to real action (Levy & Egan, 1998, Wittneben et al., 2012) Modest or voluntary targets for emission reductions in international agreements (Levy & Egan, 2003; Phelan et al., 2014; Geels, 2014) Market mechanisms as the main instrument in climate change policies (Bernstein, 2001; Meckling, 2011b; Newell & Paterson, 1998; Vlachou, 2014) Increasing business involvement in the work of IPCC (Newell & Levy, 2006; Nasiritousi, 2017)	Non-ratification of Kyoto Protocol and withdrawals from it (Levy & Egan, 2003; Jones & Levy, 2007; Grubb, 2016) Prevention of binding domestic regulation (McCright & Dunlap, 2011; Nyberg et al., 2013; Tiberghien & Schreurs, 2007) Design of rent-returning and environmentally ineffective EU ETS (Markussen & Svendsen, 2005; Spash, 2010; Bailey et al., 2011) Creation, globalization and institutionalization of carbon lock-in (Unruh, 2000; Unruh & Carillo-Hermosilla, 2006; Seto et al., 2016)	Impacting public opinion about climate change and mitigation costs (Levy & Egan, 1998; Livesey, 2002b; Newell & Levy, 2006) Problem solving with ecological modernization and climate capitalism (Levy & Egan, 1998; Kolk & Pinkse, 2007; Geels, 2014; Wright & Nyberg, 2015) Discrediting alternative energies (Ihlen, 2009, Wright & Nyberg, 2017) Promoting *status quo* for continued fossil fuel use (Livesey, 2002; Levy & Spicer, 2013; Phelan et al., 2014)

Source: Author

The table above elucidates how, for three decades, corporate structural power has been conducive in preventing a stronger climate change regime to emerge that would provide meaningful emission reductions and enforce a systemic change to low-carbon energy production. The structural and economic power of fossil fuel corporations created a carbon lock-in that has become an institutionalized feature of climate change governance. On the national level, corporate power has prevented and diluted political action targeted to reduce emissions from fossil fuels. The structural and discursive power of corporations has consistently been used to manipulate public opinion about the feasibility of a stricter approach to climate change and

the viability of alternative energy solutions. Furthermore, it has sustained the discourse around ecological modernization and market solutions, thereby defining which policies are right and wrong.

The growing political power of corporations has simultaneously given them an ethos of legitimacy and credibility in climate change policies. This ethos is used to rhetorically persuade the public that the interests of fossil fuel corporations are linked to the interests of the public. In other words, the dominant express their interests in universal terms (Cox, 1981). The old slogan 'What is good for General Motors is good for United States' has turned into a general belief that what is good for corporations is good for people. And, vice versa, if corporate interests are threatened by emissions regulations, for example, it is very quickly rhetorically formulated as being a threat to the economy and thereby to people. The use of rhetorical strategies to resist institutional change and hide contradictions in institutional logics (Suddaby & Greenwood, 2005), like the inability of current institutions to provide effective policies to prevent or mitigate climate change.

Following Cox's (1981) consensual hegemony and political economy perspective, in the context of climate change, the political power of MNCs has made their interests one of the main premises of climate change policies. The neoliberal ideological dominance defines the common view of reality that is biased towards the interests of the MNCs. Corporate interests are seen as legitimate, even though Suchman (1995) points out that legitimacy results from an "organization's ability to instrumentally manipulate and deploy evocative symbols in order to gain societal support" (p. 572) within a socially constructed system of norms, values and ideas. Under the current neoliberal hegemony, the support for corporate interests as legitimate is wide, including, but not limited to politicians, media, academics and think tanks that are part of the historic bloc.

Examination of global climate change governance and corporations brings the phrase 'the tail wagging the dog' to mind. Corporations are almost dictating what can be done, how, where and by whom to mitigate GHG emissions. The energy sector is wielding unaccounted power that economic interdependency and transformation of the state have provided at both national and international levels. However, democratic legitimacy requires that those using power can be held accountable to the public. Furthermore, MNCs have actively participated in the making of international climate change agreements that they are not parties to, because only the nation states have obligations under these agreements. Hence the participation of MNCs in international climate change formulation puts into question the input legitimacy of these policies if powers that are not transparent or democratically accountable can influence the decisions in international policies affecting the public good. My intention is not to question the legitimacy of MNCs or their right to operate, but merely their participation in the design of climate change policies without the associated accountability that modern societies demand from governments. If and when corporations get involved in political decision making, then they should also assume the same type of democratic accountability that governments are subjected to (Matten & Crane, 2005).

3.3 CONTEMPORARY ECONOMIC SYSTEM AND ENVIRONMENT – FRAMING THE PROBLEM OF CLIMATE CHANGE IN ECONOMIC TERMS

Economics ... suddenly becomes the most important subject of all ... Economics tends to absorb the whole of ethics and take precedence over all other human considerations. Now, quite clearly, this is a pathological development. (Schumacher, 1979)

3.3.1 NEOCLASSICAL ECONOMICS AND HEGEMONY

Barry (2016) points out that neoclassical economists are part of the hegemony using structural and discursive power in framing the discussion about climate change policies and governance. Furthermore, they were the intellectuals necessary for forming the current historical bloc. Over time, there has been a shift from political economy into economics, where neoclassical economic thought managed to rebrand itself emphasizing its scientific character, and presenting itself as the objective, dispassionate study of the economic problem (Barry, 1999). This neoclassical synthesis started its ascendance after World War II. It has resulted in most economists considering choices based on economic evaluation as axiomatic, and preferences given and constant and adequately disclosed in market selections (Gowdy & Mayumi, 2001). Neoclassical economics therefore claimed to be able to explain, predict and measure environmental problems, whereas 'soft' social sciences could only interpret and give meaning to these problems (Barry, 1999). This approach further cemented the domination of nature and naturalizing its commodification in policies because "in economics the environment is viewed as a composite asset that provides a variety of services" (Tietenberg & Lewis, 2010, p. 15) and the value of the environment is equal to the services it yields to humans (Freeman, 2003). Thereby, neoclassical economics subjects nature to an economic logic, commodification, and a market mentality. Moreover, there is a tendency to frame environmental problems in an asymmetrical manner, where economic activity comes first and the possible negative environmental effects come later. This framing emphasizes the economic aspects of the problem, because it is easier to argue for the immediately observable economic costs than for unspecified losses concerning the functioning of the environment, however critical these losses might be for the future of the planet (Vatn, 2007).

In the context of this study, it is important to analyse the impact of neoclassical economics in climate change policies. First, because neoclassical economists are not only an epistemic community, but also important policy-makers globally as a homogenized profession committed to neoliberalism (Djelic, 2006; Ferraro et al., 2005). Secondly, because neoclassical economics supports, though sometimes only implicitly, the prevailing hegemony and therefore globalization, neoliberalism, asymmetric power relations, commodification of nature and orthodox economic growth (Barry, 2016). Thus, neoclassical economics represents the role of intellectuals in creating and maintaining hegemony that Gramsci (1971) deemed vital.

3.3.2 ECONOMIC EFFICIENCY AS RATIONALITY

Neoclassical economists tend to award undisputed rationality to the idea that cost-efficient market mechanisms should be the main instrument in environmental protection. Even though Stern (2007) describes climate change as the biggest market failure known to mankind, he proposes markets as a rational and cost-efficient solution to correct this market failure. From a neoclassical economics point of view, GHGs are merely an uncorrected economic externality, which prevents the world economy from being fully efficient. To gain economic efficiency, the impact of the externality must be corrected by imposing a price on it. To determine the right instrument to correct the externality, first it needs to be answered what it is worth spending to mitigate climate change (DeCanio, 2009), reflecting the primacy of economic concerns. What neoclassical economists consider rational decision-making in climate policy, is balancing the costs of GHG emission abatement and the benefits of avoided undesirable consequences of global warming. Using society's resources for climate change mitigation has been justified only if this results in a net increase in economic output (Gowdy & Erickson, 2005), even though this measure totally omits the adverse change in the environment (Weisskopf, 1996). Adhering to the positivist tradition in science, neoclassical economics not only tells us how to reduce emissions, but also what is the valid evidence for the optimal level (Neufeld, 1994).

Cost-benefit analysis (CBA) is used to determine whether there is a need to limit pollution, and how much can be limited to achieve an economically optimal level of pollution. According to Böhringer (2003), "Classical cost–benefit analysis … provides *the* appropriate framework for measuring *all* negative and positive policy impacts and resource uses in the form of monetary costs and benefits" (p. 452, emphasis added). However, CBA is not a transparent or objective method, but a value-laden, complex, narrow and technical concept that has become the dominant form of discourse negating other concerns (Ackerman & Heinzerling, 2002; Spash, 2010). It also tends to be biased towards the *status quo* enforcing the framing of the problem in such terms that the possible current economic costs take a larger role, and discounting fades away the benefits. Moreover, the discounting method applied in CBA assumes that climate change does not get worse if we wait, thereby omitting the accumulation of GHGs in the atmosphere, which is a physical reality (Ackerman & Heinzerling, 2002; IPCC, 2013). It trivializes the harm GHG emissions induce in the future, and even more seriously it totally disregards the irreversibility of climate change.

One of the underlying assumptions of CBA is that all choices can be made in a market context based their monetary value. Environment becomes commodified and policy choices binary according to their expected economic utility. However, climate change is an inherently lexicographic issue not subject to trade-offs (Gowdy & Erickson, 2005). In fact, a significant number of respondents in different studies refuse to place a monetary value on the environment (Gowdy & Mayumi, 2001; Spash & Aslaksen, 2015), giving the ethical argument that the environment has a right to be protected and cannot be traded against economic considerations. Whereas some issues can be valued in monetary terms, with others there is incommensurability where values override the individual utility maximization logic.

Nevertheless, the policies relying on mainstream economics tend to disregard policy options that are not based on utility maximization but consider other values (Tsakalotos, 2007). In fact, all non-economic considerations are seen as intruding on the 'very practical process' of

economically efficient policy-making. Even if judgement is called for, all other principles except economic efficiency are deemed irrational. "No set of economic principles can substitute the use of judgement in their application. … The question is whether that judgement should be employed in order best to apply economically efficient principles or irrational principles" (Kahn, 1993, pp. 198-199). Neoclassical economics tends to award rationality only to mathematical methods and the assumption of the utility-maximising individual (Barry, 1999; Wright & Nyberg, 2015). Thereby alternative, non-economic, non-utilitarian views of valuating environment are marginalized.

However, contemplating what is right and wrong, social justice and equality are also forms of rationality. Which rationality is given prevalence depends on the institutional context (Vatn, 2007) and on whose knowledge is deemed dominant in providing a solution to the environmental problem (Barry, 1999). Moreover, rationality is a normative concept and reflects only what is considered to be an appropriate method for pursuing certain ends (Scott, 2005). As Meyer and Rowan (1977) point out, rationality and efficiency are myths derived from an ideology, but when institutionalized can become powerful organizing forces. Like any other normative concept, rationality and efficiency cannot be objective criteria. However, their legitimacy in an institutional context is based on widely shared values, or that they have been disseminated by actors that have been granted the right to determine their legitimacy (Scott, 2005). The institutionalization of the rationality myth can be clearly observed in how the need to reduce GHGs is determined on basis of optimal levels of pollution and cost-benefit analysis. It further exemplifies how neoliberal logics are penetrating even those public domains that were formerly insulated from market logics (Scott, 2005).

What is equally important to note is that analysis of climate change based on neoclassical economics misses the concept of corporate power, and how this can influence the outcomes of these analyses. Although it is recognized that corporations have an incentive to exaggerate the costs of emission reduction, this bias is usually not reflected in the analysis that is based on the rather utopian assumption of perfect markets with perfect information.

Nadeau (2014) argues that if environmental resources were unlimited and the environmental impacts of economic activities relatively benign, the hegemony of neoclassical economic theory could be justified. However, this is clearly not the case and climate change is an example of it. Furthermore, in a larger perspective, the value of nature cannot be reduced into the instrumental satisfaction of human needs or service to the economy (Sagoff, 1988) – in other words the human economic utility is incommensurable to the value of nature.

Even when putting the incommensurability of nature aside and focusing on just the economic argument and its methodological justification, perfect markets are an abstract construct, the 'common people's' information regarding the effects of greenhouse gases is far from perfect, and the property rights for pollution are far from defined or agreed upon. The legitimacy of polluting when it is known to cause anthropogenic climate change could be questioned, because an inhabitable planet and an uninhabitable one are not exactly substitutes for another. Moreover, there are irreversible consequences for future generations who cannot influence the decisions made today. Therefore, even the basic conditions are missing for any kind of general equilibrium regarding climate change that could be achieved through markets.

3.3.3 IDEOLOGY TAKING PRECEDENCE OVER EVIDENCE

Bazerman (2005) points out that, in the last three decades, economic theories have been proven systematically wrong. However, the hegemony of the neoclassical economic paradigm is strong in politics, academia, media and society, and does not show any signs of decline (Ferraro et al., 2005). The methodological rigour of neoclassical economics makes it look for concepts like Pareto improvements, when in climate change near-Pareto improvements (Stiglitz, 1998), which bring large benefits for the majority with trivial losses to some, like fossil fuel corporations, would be far more valuable. However, the same methodological rigour that managed to raise neoclassical economics to a position where it is perceived as value-free and objective 'natural science' undermined heterodox approaches that do not subscribe to the ideological conclusions of neoclassical economics (May & Sellers, 1988; Nadeau, 2015). This can be one of the reasons why mainstream economists have been more interested in preserving their hegemonic position, theories and methods than focusing on the survival of this planet (Nadeau, 2015). Neoclassical economics tends to see history through a capitalist lens and therefore considers the capitalist system to be a natural and optimal social system. In neoclassical economics, the superiority of the market mechanism is accepted by default, and therefore neoclassical economics turns into an ideological defence of the *status quo* (Hodgson, 1982; Söderbaum, 2011).

To summarize the position of neoclassical and environmental economists: An emission mitigation policy that allocates society's resources efficiently maximizes net benefits, and emissions reduction efforts are taken up to the level where the marginal benefit of control equals the marginal cost of control. This model defines the optimal level of pollution, and all damages resulting from pollution are assumed known and to be expressible in monetary terms (Spash, 2010). Applying an orthodox CBA furthermore fails to recognize the limited nature of knowledge we have of a problem as complex as climate change, and the need to protect against harm that cannot be fully established yet, let alone be expressed in monetary terms (Sunstein, 2005). Furthermore, the solutions proposed by neoclassical economics embody the dogmatic belief of how climate change and other environmental problems can be solved with the very same thing that has caused them. Reflecting this paradox, regardless of the evidence that economic growth correlates with rising GHG emissions, there is a pattern of proposing economic growth as a solution to a problem brought on by economic growth, and more markets to solve the problem brought on by markets. These analyses ignore the root cause of the problem and reproduce neoliberalism, resulting in an increasing accumulation of GHGs and accelerating climate change.

Moreover, there is an inherent contradiction in the assumption of all individuals being rational utility-maximizers, and the reality where some individuals want to consider other values, which the economists then interpret as being irrational. Kuhn's notion (1977), that "The scientist often seems rather to be struggling with facts, trying to force them into conformity with a theory he does not doubt" (p. 193), is especially illustrative here. Neoclassical economists see that the reality is at fault when it does not comply with their assumptions of utility-maximizing individuals or economic growth and markets being the solution to climate change. Rather than trying to falsify their theories, or accepting these do adequately reflect the reality, they engage in rhetorical persuasion (McCloskey, 1998) regarding the scientific objectivity and validity of

their theories. The dogmatic belief in the infallibility of their theories makes economists claim that more rigid application of their theories would make reality compatible with their theories.

So, are neoclassical economic theories and markets to be blamed for their inability to reduce GHG emissions? The answer regarding markets would have to be no. Markets themselves do not cause increasing GHG emissions as little as they can themselves correct the production of this externality. There is always human agency behind the production and markets. In a similar vein, CBA as a technique does not cause intergenerational environmental injustice; however, it rationalizes the problem to correspond to economic utilitarian logic, therefore reinforcing the problem. When it comes to neoclassical economic theories, the issue is more complex. According to Kuhn (1971), a paradigm is a robust if it continues to address relevant problems. But in climate change is the problem economic and is there a need to ensure economic growth, or is the problem rather that the economic activity of humankind is exceeding the carrying capacity of the planet? Furthermore, Kuhn argues that there is a need for a new paradigm if the current paradigm fails to solve problem it is addressing. There is certainly mounting evidence that the dominating economic theories have not been able to solve, or even mitigate, the problem of climate change (Anderson & Bows, 2012; Böhm et al., 2012; Spash, 2010; UNEP, 2017a). Therefore, it should be critically evaluated whether the current economic paradigm is suitable to inform climate change policies.

This notwithstanding, the aim of this thesis is not the critique of economics or markets per se, but rather their application to climate change mitigation policies. The primacy of economics in setting the targets and choosing the methods for emission reductions prevails. This is due to the hegemony consisting of a combination of economics, neoliberal world order and corporate power that are able to block any ideas that would imperil the sacrosanctity of private profit making. This hegemony is still very strong, even though it has been recognized widely across different disciplines for at least two decades now that the excessive profit-seeking that is inherent to global capitalism will inevitably lead to environmental destruction (Buckley & Casson, 2001; Böhm et al., 2012; Cox, 1995; Dryzek, 2013; Paterson, 2000). Neoclassical economics has been an important part of building the neoliberal hegemony, but at the same time the whole discipline has been 'captured' to a certain extent by neoliberal ideology and turned into a defence of it.

3.4 DRAWING TOGETHER THE CURRENT MAINSTREAM APPROACHES

Progress celebrates Pyrrhic victories over nature.
(Karl Kraus, circa 1920)

3.4.1 ECONOMIC UTILITARIANISM

In natural sciences, the current era is described using the term *anthropocene* to illustrate the unprecedented role of human activities in the ecology of the earth and atmosphere. The anthropocene era is the result of social and historical practices, which have led to irreversible and

catastrophic ecological impacts (Steffen, Crutzen, & McNeill, 2007). In the previous sections, I have explored how economic growth is the goal of globalization and is also expected to provide the means to climate change mitigation with targets and methods mostly set by economists in terms of the economy. Securing economic growth is also the goal of nation states in climate change negotiations, and institutions are formed to facilitate economic growth goals. Corporations are the motor of economic growth, and therefore the economization of all social activity, including climate change mitigation, is made largely on the terms of corporations without any attempts to harness their growing political power. As a complementary term for anthropocene, I have coined the term *econocene* that can be used in social sciences to characterize the preconditions under which global climate policies are determined and conducted.

A common denominator for the mainstream theories and policies based on these, paving the way to econocene, is that they are founded to a great extent on the idea best described as *economic utilitarianism* (Charlesworth & Okereke, 2010). The point of departure is the assumption of an economic utility-maximizing individual 'homo economicus', motivated by rational economic self-interest, which is then applied to the macro-economic level and gets built to public policies (Tsakalotos, 2005). This assumption prioritizes instrumental economic rationality as the ideal type of rationality (Ashley, 1986). It thereby isolates decisions and actions from their social and historical context and misses the key aspects of individual and collective action that cannot be measured in economic terms (Archer & Tritter, 2000). The theoretical primacy is on individual actors rather than social collectives, replacing the notion of citizenship with that of a market actor (Dryzek, 2013).

Economic utilitarianism is one of the core premises of neoclassical economics and it is also deeply rooted in international relations theory, and new institutionalism, and explicitly and implicitly expressed in international climate policy documents. Utilitarianism and its instrumental view of rationality act as a corollary to the domination of nature (Blühdorn, 2016). It is a deeply anthropocentric view, assuming that humans should get as much economic benefit as possible from nature, which exists solely as an input for the economy (Charlesworth & Okereke, 2010; Dryzek, 2013). It can be also regarded as a political rhetoric or argumentation in which maximizing economic growth is referred to as a societal ideal. Consequently the mainstream economic, IR and new institutional theories see states, international institutions and corporations as atomized and essentially rational (Amoore, 2000). This assumption becomes naturalized and instrumental rationality is taken as the universal and dominant mode of all decision-making (Archer & Tritter, 2000). The world-view is based on assumption of value-neutral, objective knowledge of the economy, humans being rational, self-interested homo economicus, and economy being ecologically disembedded, and "marked by ideological preference for free markets and capitalism" (Barry, 2016, pp. 304-305). Furthermore markets are seen as natural and apolitical, and their socially constructed nature is overlooked (Block, 2007; Tsakalotos, 2007). Therefore, action following the logic of economic rationality is seen as inherently objective, and the economy somehow exists independent of social-normative basis providing universal and objective truths (Ashley, 1986).

A utilitarian account of economic rationalism fails to recognize the socially constructed nature of markets and insists that markets produce rational choice and the greatest social good (Block, 2007; Tsakalotos, 2007). "Market represents itself as an ideal model of rational,

objective action … a framework for the interpretation of political as well as economic life" (Ashley, 1986, p. 275). Markets, market forces and the accompanying organization, the corporation, enjoy unforeseen political power that is legitimized through the perceived rationality of these constructs (Harrod, 2006). Moreover, the claim to be apolitical and ideology-free usually reflects the dominant material interests (Loftus, 2012). Contrary to the claims about objectivity and value-neutrality, Drews and van der Bergh (2017) found that political ideology best and most consistently explains economists' views regarding economic growth and climate change. Economic growth and efficiency as priorities in climate change policies are values resulting from political judgement adapting to a certain ideology where these values are considered to be the primary goal of policies. Claiming that economic efficiency is a neutral value in and always central to political decision-making is a categorical error where objective validity is attributed to political judgement (Tsakalotos, 2007).

The very same economic utilitarian view (Gill, 1994) and rationalist institutional tradition (Blyth, 2002) form the foundations of international institutions. Institutions are widely seen as efficient solutions to certain economic problems, thereby deflecting the analysis away from the social nature of these problems (Granovetter, 1985). The principal driver for humans to create and structure institutions is rational self-interest, which turns structural and institutional conditions into payoffs and incentives (Keohane, 2002). Institutions and policies are heavily influenced by neoclassical economic theories with their assumptions of rational actors maximizing their individual utilities, and social welfare being the aggregate of these assumed individual maxims (Cooper, 1981; Tsakalotos, 2007). All social structures and institutions thereby become reducible to individual utility calculi (Blyth, 2002), and individualistic actors then follow evidence as informed by positivist neoclassical economic theories (Keohane, 2002). The individualist and rational premises give theoretical primacy to individual actors and their interests rather than to social collectives and public good. This utilitarian conception implicitly allies states with those segments of society that benefit from the hegemony of economic logic (Ashley, 1986). When assumed sums of individual preferences are used as guidelines for policy making, it consequently crowds out all other than economic values from policies (Tsakalotos, 2007). Economic values embody a specific value-judgement and a normative statement about how social welfare should be determined, and "not a testable assertion about the nature of reality" (Cooper, 1981, p. 11). Economic processes, like other processes, have emerged from a social structure. The development where the aim is to separate economic institutions from the political and social, de-politize and naturalize these in an attempt to constitutionalize a market order, is quite recent (Jayasuriya, 2001). However, it has been largely successful under the current hegemony. The economic process disconnecting from social structure can be seen as one the factors contributing to many environmental problems (Vatn, 2007), climate change being one of the most serious.

When investigating the mainstream theories, they form a meta-theoretical framework with their shared premises and assumptions regarding economic utility maximization, rationality and aggregate individual preferences in the context of climate change. Furthermore, all these approaches embrace the principles of neoliberal environmental governance – privatization, deregulation, commodification and marketization. While economics has been the flagship discipline in creating the neoliberal hegemonic bloc, the other mainstream theories have provided

support in institutionalizing, legitimating and 'rationalizing' the values and preferences of the hegemons in global climate change governance.

3.4.2 DOMINATION OF NATURE

Looking at the philosophical underpinnings, mainstream approaches have internalized, explicitly or implicitly, the idea of human domination over the environment. In this logic, non-human nature is conceived as a means to human ends, subject to human capacity to dominate and commodify nature (Blühdorn, 2016). Ontologically and epistemologically this can be traced to a Judaeo-Christian worldview and the vision of Francis Bacon (1561–1626) of a society that has managed to bring nature to subjection through breakthroughs in science and technology. The subordination of nature originating from the Bible that justifies limitless human exploitation and abuse of nature to human ends can be seen as the root of the contemporary environmental crisis (Dryzek, 2013). Even though something originating from the Bible may seem distant in more secular societies, it needs to be remembered that indoctrination to this line of thinking has happened throughout centuries, been internalized in cultures and may have been inter-subjected even to people who consider themselves secular. Moreover, Bacon's vision is firmly grounded in the Judaeo-Christian worldview in science, and that the purpose of science and technology is to draw from nature "all of the innate potential that God intends for humanity's use" with the goal of humanity's domination over nature (McKnight, 2006, p. 4).

Considering these religious underpinnings of mainstream science makes the claims of objectivity and rationality of mainstream approaches even more questionable. In reality, they are based on ancient myths which extoll human domination over nature. When the unquestioned right of humanity to dominate nature is combined with the mainstream theories of utility maximization and instrumental rationality, it becomes difficult to avoid a situation leading to the anthropocene and econocene. The real problem arises when models based on these assumptions are taken as guides to policy-making in climate change policies (Tsakalotos, 2007). It is even more problematic when the IPCC WG III has adapted the epistemological assumption of technology's capability to bring nature to subjection and it serves as an inspiration for the recommendations for climate change policies (Charlesworth & Okereke, 2010).

3.4.3 AFTERMATH OF ASSUMPTIONS AND MYTHS

In essence, following the utilitarian notion of a rational self-interested homo economicus who can dominate nature would lead to a complete lock-in. Everyone would continue to consume infinitely, because there is no saturation point, polluters would continue polluting and abusing the commons, and governments would do nothing because they would solely protect their economic interests while waiting for technological solutions to overcome the problem (Dryzek, 2013; Gowdy & Mayumi, 2001). Of course, the creation of the climate change regime with its modest attempts to mitigate GHGs is already an important deviation from these simplified assumptions of theories based on utilitarianism. However, using the neoliberal framework to find solutions to climate change tends to reproduce the hegemony with the same power and economical structures that have accelerated the accumulation of GHGs in the atmosphere

within the past few decades. Moreover, when the standard underlying assumptions of mainstream theories do not hold, and the ontology and epistemology of these are based on myths, it is more than a paradox that the whole climate change governance and the mechanisms to implement it are based on these foundations. It does, however, reflect the problem-solving theories' willingness to maintain the *status quo* (Cox, 1981), and furthermore their unwillingness to explore their outdated philosophical foundations.

Naturally, it would be unfair to say that mainstream approaches do not give any consideration to social and moral issues. There is a whole body of CSR literature dedicated to both social and environmental aspects of corporate activities and how these issues could be better incorporated to business management. Within IB, for example, Dunning (2001), and Buckley and Casson (2001) have raised concerns about the moral basis of the global capitalist system and the unsaturated desire for profit making. However, the approach is often instrumental and directed to how to make global capitalism more legitimate. It does not question why the system itself promotes and awards immorality and the eternal quest for more profits, or the ideological foundations of this thinking. Can global moral imperatives for corporations (Dunning, 2001) be applied afterwards to a system that does not fundamentally recognize the existence of such imperatives? The more specific climate capitalism (Newell & Paterson, 2010) approach encounters similar problems. It fails to question the right of corporations to pollute and the constitution of pollution as a property right of these corporations, which are fundamental questions in climate change. All these approaches show willingness to make minor concessions and incremental changes in order to assure the maintenance of the current world order. They, however, do not address structural questions, or the underlying powers of the prevailing system, which in the context of climate change and the energy sector are elemental. Furthermore, their dedication to a modernist epistemology that conceives nature as a subject of domination and manipulation (Cox, 2001) prevents them from seeing this as a part of the problem.

The emergence of an alternative political culture based on democratic principles, accountability and collective action that values public good over private accumulation could overcome the negative impacts of globalization (Cox, 1991) and replace economic globalization with a global democratic movement with values embedded in society and ecology. The lack of both input and output legitimacy of the contemporary climate change policies could be one of the triggers in the deinstitutionalization of the current policies and paradigm. However, before deinstitutionalization can take place, there need to be building blocks for counter-hegemony. One of these building blocks is organic intellectuals that can help subordinates in building a counter-hegemony by presenting a different world view from the intellectuals who are part of the hegemony (Gramsci, 1971). There is a growing body of alternative disciplines in academia that do not share the mainstream view based on domination of nature. Because this study has scrutinized the premises and assumptions of mainstream economics, it is logical to point out that even within the economics discipline there are alternatives to the mainstream that run contrary to the mainstream view and value the environment intrinsically. Furthermore, these alternative views devote more attention to preserving the environment than to economic growth, which they as see largely incompatible with preserving an inhabitable planet. I turn to these approaches in the following section.

3.5 THERE ARE ALTERNATIVES IN CLIMATE CHANGE GOVERNANCE

Critiquing the dominant forms of reason which embody the master identity and oppose themselves to the sphere of nature does not imply abandoning all forms of reason, science, and individuality. Rather, it involves their redefinition or reconstruction in less oppositional and hierarchical ways. (Val Plumwood, 1993)

3.5.1 CRITICAL POLITICAL ECONOMY AND REPLACEMENT OF HEGEMONY

This part considers the role of organic intellectuals in constructing a counter-hegemony. Gramsci (1971) identified this as equally elemental as the role of intellectuals in constructing the hegemony which has been analysed previously in this framework.

I first explore the differences between critical political economy and mainstream approaches. Following Paterson & P-Laberge (2018), the term critical political economy (CPE) is used commonly for approaches that often, but not necessarily, have their roots in Gramscian thought and gain insights from ecological economics. The CPE approaches in the context of climate change argue that economic growth relies on fossil fuels and the continued exploitation of natural resources, and therefore environmental destruction and accelerating climate change, are essential features of our economic system (Sapinski, 2016; Wright & Nyberg, 2015). They focus on the connection between the social and economic structure of the capitalist system, and the exercise of political power in a global system to understand how material economic interests, expressed as policy preferences, are articulated politically within the political institutions, because this articulation is the link between economic structure and global climate change policies (Underhill, 1994). They reject the separation of economics and politics, because economics is inseparable from the real world of power and politics (Strange, 1994). Analysis of power and its origins is important, because power is shaping the discourse within which policies are defined, and it circumscribes dominant modes of thought and action (Cox, 1994a) in climate change policies.

Secondly, I present some alternative approaches to avoid giving a deterministic account of a world order based on utilitarian assumptions, run by corporations and their interests leading to inevitable ecological destruction. These are non-utilitarian and aim for preserving the environment without giving priority for economic concerns or corporate interests. This latter part draws on the more normative strands of ecological and green economics, and environmental political theory literature to illuminate an alternative approach to global climate change policies and governance.

As argued above, neoclassical economics and the policies based on it are not objective or value-free. Rather, they present a normative view that economic considerations should be prioritized in climate change policies. However, they tend to marginalize other approaches by claiming that these approaches are irrational, value-laden and normative (Ciplet & Roberts, 2017). Revealing the values and normative nature of the mainstream approaches illustrates how markets and institutions of climate change governance are socially constructed and

created through political power and material interests. This furthers the understanding that the structures of the markets, institutions and larger political order are inherently contestable. To further illuminate the differences between mainstream and CPE approaches, it is useful to explore their differing ontological and epistemological positions and conceptualization of climate change. Probably some of the most fundamental differences are the contestation of the view that humans have a right to dominate nature, and the intrinsic value these alternative approaches give to nature, presenting a more 'eco' than anthropocentric view (Biro, 2016). CPE approaches posit that humans are part of an ecosystem with no special rights to change the ecosystem to serve their instrumental needs and identify the current economic system as the cause of climate change. For critical political economy, economism is a myth that serves to explain and rationalize the economic system and naturalize the prevailing power relations (Kallis, Martinez-Alier, & Norgaard, 2009). It further argues that neoclassical economics methods are ontologically inappropriate to solve a problem like climate change (Lawson, 2005), and insists on the impossibility and undesirability of nature's commodification (Kallis et al., 2009). Critical political economy rejects the rational 'homo economicus' assumption of mainstream economics and economic utilitarianism privileging markets and use of CBA to determine pollution prevention (Spash & Ryan, 2012). It calls for discussion about the presumed right of corporations to emit copious amounts of GHG and to the whole concept of 'pollution right' as such (Parr, 2016).

Because of these differences between the mainstream approach and critical political economy approach, it is possible to distinguish two meta-theoretical frameworks in climate change policies and governance. Based on the literature review in this thesis, Table 2 summarises the differences between these approaches in framing the problem and in the solutions provided. While recognizing that it would be possible to further distinguish between different approaches in both the mainstream and critical confines (see e.g. Clapp & Dauvergne, 2011), the purpose of this study is to contrast these two meta-theoretical frameworks in the context of climate change. Therefore, I have chosen to use this dyadic distinction.

Table 2. Mainstream and CPE approaches to climate change

	Mainstream	**Critical**
Ontology	Domination of nature	Impossibility and undesirability of domination of nature and its commodification
Epistemology	Positivist, modernist	Pluralist
Nature of the problem	Economic	Social and ecological
Cause of climate change	Accumulation of GHGs in the atmosphere since the Industrial Revolution, but problem-solving theorization lacks analysis of the root causes of the problem	Accumulation of GHGs in the atmosphere since the Industrial Revolution, worsened by economic growth based on fossil fuels and unsustainable patterns of production and consumption
Conceptualization of the problem	Market failure	Institutional and power inequalities allowing a shift of the cost of private production to the public
Solution to the problem	Economic growth, carbon markets, ecological modernization	Radical re-structuring of energy production, decarbonization to end the fossil fuel era
Governance principle	Cost-efficiency, prioritization of economic values	Democratic control over the economy, not prioritizing the economic values of dominant actors over other values
Value of nature	Instrumental	Incremental
View of society	Hierarchical/Individualistic	Egalitarian/collectivist
Conception of world order	Naturalized neoliberal world order, maintaining *status quo*	Actively seeking a new political and economic order, redistribution of political and economic power
Corporate power	Mostly seen as benign, taken for granted as part of the current order	Seen as problematic for climate change governance and democracy in general

Source: Author

An important aspect of these approaches in a neo-Gramscian framework is their attempt to construct a socio-ecological world order to replace the prevailing hegemonic economic order, and thereby a different socio-environmental future from the current one (Biro, 2016). Re-politization of now depoliticized concepts like economics and markets, along with the focus on the underpinning power structures and ideologies, are understood to be fundamental in the construction of a new world order and reinstating democratic principles (Blühdorn, 2013). Critical political economy could provide support for the construction of a counter-hegemony in the way that neoclassical economics has been elemental in building the current hegemony. These views differ from hegemonic mainstream ones with regards to environmental problems

and especially climate change, and see the contemporary economy and underlying power relations and dominant ideologies as a site of contestation (Barry, 2016). CPE seeks new paradigms for understanding ecological-economic systems as a whole and emphasizes institutional and power issues (Kallis et al., 2009; Spash & Ryan, 2012).

3.5.2 ECOLOGICAL AND GREEN ECONOMICS IN CONSTRUCTING ALTERNATIVES

Whereas the focus of CPE is to illuminate the contradictions within the existing order and the possibilities for change through contestation, they do not necessarily provide a blueprint for an alternative. To do this, the more normative strands of ecological and green economics and their prescriptions could be aligned with CPE to strengthen the base of organic intellectuals for building a counter-hegemony and alternative climate change governance. They widely share the ontological and epistemological premises of CPE. They also have an interest in investigating market responses to environmental threats, and the incentives the corporations have to protect or contaminate the environment. Whereas environmental economics relies on neoclassical foundations and has an anthropocentric approach with incremental changes and technological fixes to environmental problems, ecological and green economics call for changes in both political and economic spheres. While green economics is more pronounced in political terms and openly prescriptive, some of ecological economics falls into the confines of the mainstream. There are concerns expressed within the discipline that mainstream neoclassical economics are increasingly dominating, and the more critical research has been marginalized (Anderson & M'Gonigle, 2012). However, I will focus on the critical strand of ecological economics, which belongs to the heterodox school of economics together with green economics that focuses on the economy as a social system constrained by the biophysical world. While recognizing the differences between these disciplines, I am focusing on their shared premises. Therefore, for ease of reading, will use the term ecological economics to refer to both. In ecological economics, the point of departure is that the economy must be in a material balance between raw materials entering the process and waste leaving – the economics must not exceed the carrying capacity of the planet (see e.g. Daly, 1977, 1992; Mayumi, 2001).

Ecological economics sees the economy as a subsystem of a wider ecological system, which operates within a political and cultural context. It offers a view of the economy as an ecologically, politically and socially embedded structure (Barry, 2016). This wider social context makes it an institutional form of economics within classic institutionalism with a multidisciplinary approach to the 'economic problem' (Barry, 1999). For ecological economists, the economy is not natural, and therefore it or its extensions like markets should not be 'naturalized'. Ecological economists are more sceptical about economic growth than mainstream economists, especially when it comes to the compatibility of economic growth and reaching the 2°C climate policy target; their views are closer to those of climate change scientists than mainstream economists (Drews & van den Bergh, 2017). The possibility of economic growth is not totally excluded; however, it would have to rely on renewable energy in all production, emit zero emissions, and protect and restore ecosystems (Nadeau, 2015). Ecological economics seeks for active restructuring of economic transactions the ways in which they would produce environmental and social benefits instead of dogmatic economic growth and profit maximization (Janda & Lehun, 2015).

Regarding climate change, ecological economists argue that climate science should be allowed to define how much emission reductions are needed to avoid catastrophic consequences. The economy has to adjust to these limitations to ensure the survival of the planet. They argue for radical changes in our relationship with the environment and non-human species and in social and political structures, including economic ones (Dobson, 2016). Therefore, the arguments of climate capitalism that it is possible to decouple economic growth and GHG emissions with increasing involvement of businesses and expanding carbon markets do not resonate well with ecological economics. They point out the scarce evidence of this so far and argue that this imaginary concept does not correspond to the propensity of capitalism to expand and create profit for the sake of profit (Barry, 2016; Jackson, 2011).

In essence, the prescription of ecological economics to the problem of climate change is rather simple. It proposes setting the limits to pollution according to the physical absorbing capacity of GHGs of the ecosystem as defined by climate scientists. Furthermore, energy production should be restructured on renewable energies and leaving fossil fuels in the ground. The strong regulation system and international climate change institutions suggested by environmental political theories would form the basis of alternative climate change governance implementing these prescriptions, with global climate change agreements providing the framework for climate change mitigation. These agreements would be based on a radical reduction of GHGs and replace market mechanisms with command and control. Naturally it would require also a strong climate regime to ensure the enforceability of the norms stipulated in these agreements with full force of the law (Parr, 2016). Such an alternative climate change governance would be based on a scientifically established need to reduce GHG emissions and the principles of climate and inter-generational justice and equity, and the intrinsic value of nature and non-human species (Ciplet & Roberts, 2017; Schlosberg & Collins, 2014). It would follow the principles of environmental effectiveness as outlined in Essay I of this thesis.

Perhaps it is the obvious nature of this solution that leaves it at the margins. Contemporary society is somehow so committed to modernist epistemologies, with complicated abstract framing of climate change as an economic problem, that there is a tendency to forget it is mostly a result of fossil fuel burning. Only by limiting this, can the problem of climate change be mitigated. Furthermore, the asymmetrical power relations and their naturalization through hegemony and the dominant economic growth discourse deflect from the real issue. Therefore, to build a counter-hegemony that can gain traction, the prevailing power relations need to be un-naturalized, the myths of markets and economism de-mystified, and recognition of the limited carrying capacity of the planet and other physical realities enhanced.

Naturally, under a neoliberal hegemony where economy is the dominating, and sometimes the only, value recognized in public policies, the suggestions above seem utopian. However, in the normative realm of critical theories, it is possible to envision an alternative to the current world order (Linklater, 2001) and how injustices of the prevailing order can instigate change (Cox, 1987), because critical theories reject determinism and affirm the capacity of collective action to change structures (Linklater, 1996). This notwithstanding, for a vision to have a possibility to become a reality, the current hegemony needs to be contested to target the existing power asymmetries and their connection to environmental problems. The emerging

contestation of current climate change policies is explored in the final section of this theoretical framework.

3.6 DEINSTITUTIONALIZATION

3.6.1 CIVIL SOCIETY AS A COUNTER-HEGEMONIC FORCE

In this last section of my theoretical framework I will outline some current and emerging factors that contribute towards the contestation of current climate change policies and their premises. These complement the previously outlined factors resulting in a deficiency of input and output legitimacy in current climate change governance. A neo-Gramscian approach can have an important role in the contestation of current policies and governance with its focus on the interests that underlie and maintain the *status quo* (Gale, 1998). When alternatives are clarified, it allows for the collective actors to make a normative choice that is different from the prevailing one (Cox, 1981). Gramsci's 'war of position' refers to a situation where existing institutional structures are contested and alternatives for these are constructed.

Mainstream international regime theory conceptualizes global climate change governance in terms of rational state-led cooperation. It is seen as making rules based on economic utilitarianism, rather than as governing for a looming disaster requiring fundamental changes in the way societies are currently structured and changes in the values that prevail within these societies (Okereke et al., 2009). A neo-Gramscian critical approach to global climate change governance corrects the state centrism of the mainstream approach by revealing that states do not necessarily represent only their people's interests but also, in an increasing manner, the interests of capital (Gale, 1998). "The overrepresentation of business interests takes place at the expense of two other kinds of organizations: groups representing broad public interests and groups representing the less advantaged" (Schlozman & Tierney, 1986 p. 68). In fact, the overrepresentation is not limited to interest, but furthermore the capitalist economic system has an imperative to favour certain rights over others (Birchfield, 1999). This is exemplified in climate change by favouring private property rights over public good. Climate change governance is not democratic (Wittneben et al., 2012). While the states and institutions have accommodated the interests of corporations to a great extent into the regime (Dryzek, 2013; Levy & Newell, 2005; Newell, 2012), these interests are in conflict with humans and non-humans suffering from the consequences of climate change.

The current climate change regime is a combination of the political power of states and the governing institutions and the structural, material and discursive power of corporations wielding these powers over states and institutions. These powers shape the action and inaction of the regime while sustaining the material and power inequalities of the system (Wittneben et al., 2012). The circular nature of how these powers operating in a mutually reinforcing and self-sustaining way makes it difficult to imagine there would be such a radical shift in the powers or goals of those holding the power that it would result in institutional change. The current system can be described as a stable "function of mature and profitable technologies, market failures that obscure externalities and obstruct collective action, and institutionalized social practices" (Wittneben et al., 2012, p. 1440).

The institutional stability indicates that hegemony prevails. Institutional stability can be viewed as a state of suppressed diversity, where there is selective pressure and encouragement to conform with the institutionalized policies (Bitektine & Haack, 2015). This is because ultimately institutions are accumulations of ideas and beliefs that have become established facts shaping actions and policies under a hegemony (Clemente & Roulet, 2015). Hegemony is achieved when the material, political and discursive goals in an institutional field are aligned and mutually reinforcing, and the dominant have articulated their interests in a way that they are shared by subordinates, thereby maintaining a social order that reproduces the dominant position (Cox, 1987; Wittneben et al., 2012).

A counter-hegemony arises when bottom-up forces develop a common world view that is clearly distinct from the hegemonic one (Cox, 2001). For Gramsci (1971), the critical point for transition within a 'war of position' lies in the realm of civil society, which has a similar dualistic role to that of intellectuals in either maintaining hegemony or contributing to its contestation. Hence, it is important for civil society to recognize its position in the global order and to understand its potential for challenging hegemony.

Civil society can politically mobilize and be capable of forming a historic bloc of its own, or remain depoliticized and manipulated (Cox, 1994a) – which one it turns out to be is crucial for future development. Re-politicizing civil society can be the key for contesting the current hegemony. Within a neo-Gramscian framework, the struggles do not need to be based on class identity, but can be based on other identities, like an ecological one (Cox, 1987; Mouffe, 2005).

3.6.2 CHALLENGING GOVERNMENTS AND CORPORATIONS

The world is currently witnessing increasing contestation of climate policies and their outcomes. This reflects Cox's (1995) notion about how each historical structure also generates the paradoxes and points of conflict that will eventually lead to the replacement of this historical bloc with another. Legal action against governments and corporations is one form of contestation. Several lawsuits from divergent actors seeking intergenerational and distributive justice have been filed within the last few years. The legal system provides a structural setting that is needed for institutional change to facilitate the expressions of agonism within the existing structures (Dryzek, 2013).

Focusing on cases against governments and corporations regarding their climate change action or inaction, there are a number of lawsuits where the plaintiffs represent civil society, individuals, NGOs or cities (UNEP, 2017b). The UNEP report lists several cases like the precedent-setting case of the Dutch environmental group Urgenda Foundation and 900 Dutch citizens against the Kingdom of the Netherlands. In this case, the court ruled in favour of the plaintiffs that the Netherlands should limit its GHG emissions to 25 per cent below the 1990 levels by 2020 instead of 17 per cent, which was the government's pledge. A case still pending for a verdict was filed in US in 2015 against the federal government on the grounds of intergenerational justice by Our Children's Trust representing 21 children and youth. The case argues that the federal government and the oil industry have been negligent regarding climate change and thus deprived the children and youth from a right to live in a habitable

environment. In Norway, environmental NGOs sued the Norwegian government over the decision to open up Arctic Ocean areas for oil exploration. The case is argued on the grounds that the decision violates the constitutional right of citizens and future generations to a healthy environment and is in contrast with the GHG mitigation targets of Norway under the Paris agreement. Furthermore, the plaintiffs argue that the Norwegian government is ignoring the impacts of oil extraction on global warming and is awarding oil industry interests preferential treatment over the constitutional rights of citizens. In August 2018, the European General Court accepted a case against the European Parliament and Council where several families argued that the current GHG reductions are not sufficient to prevent harm caused by climate change and that they therefore endanger the fundamental rights of EU citizens and intergenerational justice.

The aforementioned cases against governments correspond to Caney's (2016) view of individual responsibilities of citizens to challenge governments that facilitate extensive GHG emitting. However, the concept of environmental citizenship with individual responsibilities is at the core of neoliberal thinking. It can also be seen as a project of a dominant elite making citizens into neoliberal subjects with responsibility for emissions instead of focusing on the corporations making private gains from pollution (Blühdorn, 2016; Dalby et al., 2013). Nevertheless, some of these cases address the rights of governments to award to the fossil fuel industry rights to emit excessive amounts of GHGs knowing they cause harm and thereby violate the rights of current and future citizens. These cases can be seen as representing contestation of the social order where corporate economic interests are given preferential treatment and thereby indirectly the power of corporations over governments. However, the direct cases against corporations demonstrate a more profound change in thinking concerning how climate change came about and who has benefitted from unsustainable levels of GHG emissions.

In September 2017, the Californian cities of San Francisco and Oakland filed two separate lawsuits in their respective courts representing the People of the State of California against Chevron, ConocoPhillips, Exxon Mobil, BP and Royal Dutch Shell for damages suffered due to climate change. The cases were argued on the basis that the defendants had produced and promoted the use of massive amounts of fossil fuels despite having been aware that fossil fuels would cause severe and even catastrophic climate change impacts. The plaintiffs were referring to information that the American Petroleum Industry association has been aware since the 1950s of the connection of fossil fuels to climate change (CCL, 2017).

In January 2018, the City of New York decided to take legal action against five major oil companies, BP, Chevron, Conoco Phillips, Exxon Mobil and Royal Dutch Shell, for their contribution to anthropogenic climate change. The mayor of New York City, Bill de Blasio, explicitly stated "… we're bringing the fight against climate change straight to the fossil fuel companies that knew about its effects and intentionally misled the public to protect their profits. As climate change continues to worsen, it's up to the fossil fuel companies whose greed put us in this position to shoulder the cost of making New York safer and more resilient" (Milman, 2018). While this is not the first lawsuit against fossil fuel corporations, it does bring the previously unquestioned profit maximization of these corporations to the centre of the issue.

More importantly, what these cases have in common is that they have identified an adversary. This adversary is an entity with power to limit GHG emissions (governments), or an entity that has misused its power in order to continue its polluting activities in pursuit of profits despite the potentially catastrophic consequences resulting from this activity (energy companies). This might indicate a moment of 'catharsis', meaning a passage from a purely economic to an ethico-political moment (Gramsci, 1971) when subordinates realize there are alternatives to the current world order. Identification and definition of an adversary representing a nodal point of power that can be contested can give rise to agonism, a democratic public contestation, and thus the creation of a counter-hegemonic movement willing to engage in a war of position (Glover, 2012; Mouffe, 2008). In the climate change case, this node of power can be the historical bloc of states and corporations, where the former has allowed the latter to continue pollution at the expense of the environment. The increasing political power of energy corporations has become more visible through the work of academics, journalists and civil society organizations. The increasing pollution levels cannot be framed in the rational utility maximization economic discourse anymore, but they are seen as deliberate political choices benefitting only very few while accelerating climate change. Thereby, the historical bloc has jeopardized the public good and the rights of future generations and non-human species by prioritizing economic growth and the rights of corporations to pursue profits over climate change mitigation.

3.6.3 POSSIBILITY FOR DEMOCRATIC TURN

The aim of agonism is not to eradicate power, but rather to identify the use of it and modify the use of power in ways that are compatible with democratic values (Glover, 2012). Agonism can be seen as a project to restore pluralism into democracy instead of the current situation where democracy is overshadowed by corporate power and "reconciled to the status of capitalism" (Dryzek, 2013, p. 99). Furthermore, these cases implicate the contestation of both input and output legitimacy of climate policies. In a political economy context, these lawsuits can implicate an emerging contestation of the dominating way in which the problem of climate change is understood and dealt with. Under conditions of institutional stability, it is asserted that certain norms apply to a given type of organization or practice. However, if a judgement validated on a regulatory level is openly questioned, it may result in regulatory change (Bitektine & Haack, 2015).

These cases and the grounds on which they are argued show how public opinion is starting to see the measures governments are adopting to mitigate climate change as inadequate, and therefore calling for regulatory change. The lawsuits question the priority of economics over the environment, and furthermore the right of companies to make private profits from fossil fuels when the consequences are detrimental to the environment and the costs are borne by the public. Regardless of the increasing number of these lawsuits, they still remain at the margins and are argued largely in isolation of each other, both substantively and geographically. However, simply the action taken indicates dissensus with current policies and the values, or the sole value of economic utility guiding climate change policies, which is the foundation of neoliberal global governance. Contestation of economic rationality as the only determining value in climate change policies allows bringing other values into the policies. It can serve as the common ground for interaction between organic intellectuals and civil society. Organic

intellectuals then need to work in constant interaction with the groups expressing dissent to include them in the counter-hegemonic historic bloc in the making (Cox, 1987).

The people as a collective are the force that can recognize our moral responsibility, and place value on the rights of future generations and non-human species (Fourcade, 2011). Considering the potentially catastrophic consequences that accelerating climate change can bring upon the planet, “Only through the cumulative momentum of a series of particular, largely contingent episodes, can we hope that the forces capable of imposing limits on the capitalist exploitation of people and nature can prevail, and the suicidal drive of neo-liberalism reversed” (van der Pijl, 1998, p. 165).

4. METHODOLOGICAL QUESTIONS

4.1 PHILOSOPHICAL PREMISES

> *The strict moats dug between the differentiated scientific disciplines cause the intrinsic interest of these disciplines to disappear; and this interest cannot be restored by retrospective cooperation or integration—for example, by mutually explaining findings or discovering formal agreements between structures identified, say, by sociology and economics. ... What is lost in the gap between them—and this gap is to be understood not topologically, but as something really missing from the thought of both disciplines—is exactly that which was once referred to by the term "political economy". (Adorno, 2000, pp. 141-142)*

My research has its ontological roots in critical realism, where the existence of nature independently of human observations is recognized, but which also supports the notion that our reality is socially constructed. The concepts and beliefs prevailing in societies are historically generated and conditioned, and thereby relative to a perspective and subject to change (Bhaskar, 1986). In the context of this research, this ontological position means that climate change is understood as a natural phenomenon happening independently of our observations, but the political economy of it is socially constructed. Furthermore, the largely prevailing understanding that humans have a right to dominate and exploit nature is also socially constructed. Drawing on the early Frankfurt School and the critique of 'domination of nature' in which Herbert Marcuse, Max Horkenheimer and Theodor Adorno especially were engaged in, it is important to understand the intersubjective, and therefore historically bound, nature of the perceived right of humans to dominate nature. These scholars criticized the concept of domination of nature and the resulting instrumental rationality. In the contemporary context, this translates into the instrumental value given to nature typical for mainstream theories. Instrumental rationality was especially criticized for its means-oriented thinking where efficiency was the primary objective to achieve certain goals and ends and substantive evaluation of those goals and ends was omitted (Blühdorn, 2016). The perceived right to dominate nature and the instrumental value given to it can be traced back to a particular Judaeo-Christian world-view and their Bible.

Yet this highly unscientific worldview is underlying the ontologies of contemporary mainstream social science and its proposed solutions to climate change. As the problem of climate change becomes worse, the solutions proposed are becoming more and more oriented towards

managing climate change and adapting to it instead of addressing the cause of climate change – the high levels of human induced GHG concentrations in the atmosphere. The belief that humans can and should dominate nature distracts attention away from mitigating climate change to constructing it as a problem that can be managed with different technological solutions on both scientific and political levels, or at the intersection of these. The perceived right of humans to dominate and exploit nature moreover relates to the framing of climate change as an economic problem. This is because climate change 'disturbs' the exploitation of non-renewable natural resources for economic purposes, which is another ontological presumption of mainstream theories.

Considering the centuries-old tradition of the perceived right to dominate nature, it takes time to digest this argument and understand how deeply rooted it is in the Western culture. Taking into account the different degrees and forms of colonization by the Western world in the course of history, it now forms a mainstay of our understanding of the relationship between nature and humans globally. It is one of the underlying reasons for the anthropocene era in which we are currently living. What is more recent is the separation between the social and economic, or political and economic. Considering climate change mainly as an economic problem within the social sciences leads to a very reductionist approach to the problem. In a similar vein, when I was considering the approach of this study, I soon realized that maintaining it in the confines of IB and considering climate change as a strategic, and therefore economic question for MNCs, would be an inadequate conceptualization considering the social nature of the problem.

My conceptualization of the problem of climate change has its roots in the works of a Welsh social reformer, Robert Owen (1771–1858), who was among the first to notice the social nature of problems that are often misconceived as economic ones (Polanyi, 2001). The ontology of this research owes an intellectual debt to the works of Karl Polanyi and Antonio Gramsci. The former investigated in his work *The Great Transformation* (first published in 1944) the social consequences of 19th- and early 20th-century economic liberalism and the self-regulating market. He developed an ontological position that is highly useful when exploring global social change and its environmental impacts from a critical position. After all, neoliberalism with its market orientation and calls for deregulation is a reproduction of the economic liberalism Polanyi investigated. Polanyi places society at the centre of the analysis, with an insight that "economic order is merely a function of the social order" (2001, p. 58). This is contrary to the hegemonic contemporary view that economic order is natural and that self-regulating markets correct the externalities resulting from economic activities (Antonio & Brulle, 2011).

Furthermore, Polanyi recognized the limitations of economic theories and the dangers of commodifying nature. Although his conception of nature was somewhat different from that of this study, the argument remains the same. Gramsci's historical materialism for its part studies the reduction of everything to material and technological interests, which corresponds to the commodification of nature and ecological modernization in today's climate change governance. In fact, Gramsci noted how technology forges the relationships between human and non-human, and envisioned a potential overcoming of the domination of nature (Loftus, 2012). Both Polanyi and Gramsci have a holistic view of the expansionary logic of capitalism, revealing it as the root of domination, and how politics becomes reduced to a function of the capitalist

production structure (Birchfield, 1999; Underhill, 1994). Whereas Gramsci was focusing on the dominant elite hegemony subordinating people to their interests, Polanyi saw the commodification of nature and creation of fictitious commodities subordinating the whole of society to the mechanism of the market. Combining these perspectives enables the investigation of contemporary climate change governance as formulated in the interests of the dominant economic elite. This results in the commodification of pollution and subordinating climate change mitigation to the markets created for this fictitious commodity. Furthermore, building on these perspectives allows one to re-think the prevailing ontological assumptions in economics, institutional theories and IR through conceptualizing hegemonic social forces that are behind the building of contemporary economic and intellectual domination impacting climate change governance.

Considering the ontological presumptions on a meta-theoretical level, Polanyi defined the double movement as the principle of economic liberalization aiming at the establishment of a self-regulating market, and the principle of social protection aiming at the conservation of humankind and nature (Polanyi, 2001). Without extending the analogy very far, in the context of my study it can be defined as the principle of economic globalization aiming at market environmentalism versus the social protection aiming at the conservation of an inhabitable planet and climate. In other words, the mainstream and critical approach, which form two clearly distinguishable approaches concerning the relationship between humans and nature. Polanyi envisioned the supporters of the countermovement as those most immediately affected by the economic liberalization and 'deleterious action of the market'. However, in climate change, such immediate consequences do not tend to take place, and therefore also the building of the countermovement takes more time. Nevertheless, both Polanyi for double movement and Gramsci for counter-hegemony, saw the role of collective action at national and international levels as the social force able to construct alternatives for the prevailing world order (Gill, 1995). The Frankfurt school scholars also criticized the global inequalities of economic and political power in the world order (Linklater, 2001). They recognized the implications of the nexus between politics and economics, both of which are highly relevant factors for global climate change governance. Understanding the ideological and political interests the dominating neoliberal paradigm in climate change governance serves, and unveiling these, is one of the key challenges for this research. Critical research generally aims to disrupt prevailing social reality by questioning established social orders, dominating practices, ideologies, discourses and institutions (Alvesson & Deetz, 2000; Cox, 1981). Hence, there is a possibility for change in mobilizing a counter-hegemonic movement challenging the dominant political paradigm, and, furthermore, the economic system and its relation to the ecological one. Moreover, whereas mainstream theories mostly see individuals as passive agents, critical political economy accepts the notion of transformative power of human agency meaning that existing structures can be actively changed (Spash & Ryan, 2012).

The epistemology of my research follows that of classical political economy where understanding and interpreting are, in part, social processes. In political economy, multiple sources of knowledge and mixed methods are accepted and a multidisciplinary approach embraced. Therefore, political economy was a natural choice for this work that investigates a global governance structure and its formation, but also evaluates the results, which need to be measured in terms of GHGs to get an understanding of how the policies work. Furthermore, a political

economy perspective of the world looks into the social forces and configuration of powers in this framework (Cox, 1981) and how these powers contribute to the contemporary environmental problems and proposed solutions to them. Political economy as political science is therefore apt to analyse the different structural forces and how power impacts global environmental governance (Smith, 2016). Newell (2008) suggests this approach to investigate the shifts in power between public and private actors in international environmental governance to capture these dynamics for further understanding about the form this governance has taken. A political economy perspective can also explore climate change governance as the product of hegemonic neoliberal ideology reproducing the self-same ecological modernization and climate capitalism. Moreover, it can explore how the hegemony has formed a barrier for reforms that would require more radical solutions than the ones provided within the hegemonic frames. A critical approach can then examine the scientific coherence of mainstream theories and isolate those aspects that reveal the presence and operation of particular ideologies (Gramsci, 1971).

Knowledge can often be questioned in political economy, with reasoned critique of it. Different forms of knowledge can be subjects of empirical investigation and advancing knowledge requires evaluating information and the underlying assumptions and being open to revising beliefs (Spash & Ryan, 2012). In international political economy research, regularities can be observed within particular eras, and "thus the positivist approach may be fruitful within defined historical limits, though not with the universal pretentions it aspires to" (Cox, 1986, p. 244). Therefore, in political economy, economic methods like statistics are useful tools for empirical investigation. However, economics is not regarded as a natural science with universal laws, but as a social science with some methodological aspects borrowed from the natural sciences. Methodologically, political economy is a process focusing on the dialectic process between agency and structure. Structure looks at how institutions affect behaviour, and agency at how the institutions are intentionally transformed. When investigating institutions, whether within critical or mainstream theories, a multidisciplinary approach is recommended. This is because the separation of the political and economic into different spheres of social sciences makes it impossible to analyse the relationships between states and markets as institutions, or public and private actors as agents (Casson & Lundan, 2000). A sound methodology must acknowledge both the actor and the institutional structure as irreducible entities. This is the core characteristic of an institutional explanation, combining both intentional and causal loops of explanation.

4.2 METHODOLOGY

This thesis consists of a conceptual essay and two empirical essays. The conceptual essay and the theoretical framework are based on a conceptualization and historical analysis of the formation of current climate change governance. The empirical essays apply quantitative methods to investigate the impact of governance on emissions and profits of the energy corporations. Moving between conceptual analysis and the empirical findings is used to gain a more holistic and contextual understanding of the phenomenon studied here.

The critical analysis of dominant mainstream approaches concentrates on the Aristotelian notions of *logos*, logical proofs; *topics*, which are defined as a stock of general lines of argument; and *ethos* where the morality of the argument and convincing character of the author is the key factor. The conceptual analysis contributes towards understanding the entirety of power in the international political economy of climate change governance. It illuminates the structural, instrumental and discursive facets of power, and the nature of authority that the power attributes to the one who is exercising it.

On the conceptual level I pay special attention to the *rhetoric* – the means of persuasion communicated through climate policies and policy recommendations and how these were constructed in the context of climate change. Whereas rhetoric has the most obvious connection to corporate discursive power, it is also connected to structural and instrumental power. Economic resources are used for lobbying and financing of think tanks, or publicity campaigns, which all in the end become part of rhetoric persuasion of policies or public opinion. In a similar vein, structural power needs the complementarity of rhetoric in agenda setting or keeping something out of the public discussion.

In the context of this study of particular interest are:

a) The logical and empirical proofs, or the lack of thereof, that are used, and the ways in which the arguments are constructed in the building and maintenance of hegemony; and
b) How corporate political power in its rhetoric form has impacted international climate change governance and formulation of the policies.

Climate change is one of the grand challenges of our time – it is complex, uncertain and evaluative (Ferraro, Etzion, & Gehman, 2015). Within IB, the short time perspectives, pressures for quantification, adherence to positivism, and too strong a focus on theories have been identified as among the obstacles to tackling the grand challenges (Delios, 2017; Doh, 2015; Jones & Khanna, 2006). Using multi-level analysis and mixed methodologies, and better acknowledgement of mutual interdependencies (Buckley et al., 2017; Cheng, Henisz, Roth, & Swaminathan, 2009) could advance an explanation of what is being observed and extend the research to phenomena outside of the MNC (Birkinshaw, Brannen, & Tung, 2011; Delios, 2017) and to address the grand challenges. My research aims to tackle a grand challenge by studying MNCs in a wider societal context by engaging in a multilevel analysis between institutions, states and corporations.

Traditionally, IB research has been mostly positivist and nomothetic, without much consideration for history, political power relationships, or the values and norms behind corporate behaviour (Boddewyn, 2016; Jones & Khanna, 2006; Söderqvist & Toyne, 2008). I am using critical theories and quantitative methods in this study. This combination may seem somewhat unusual at first, but it can contribute to bringing a novel approach to IB. As Cox (1981) explains, "Critical theory contains problem-solving theories within itself, but contains them in the form of identifiable ideologies, thereby pointing to their conservative consequences, not to their usefulness as guides to action" (p. 130). In the framework of critical theories, positivist methodologies can be used to question mainstream theories (Murphy, 2001). It can be beneficial for the

discussion to locate the critique of a meta-theoretical approach within the meta-theoretical frame that is accepted in the mainstream and therefore to situate the critique in a common ground where it can be discussed in common terms (Tooze, 2000).

Furthermore, the critique the Frankfurt School directed towards positivist methods was engaged in how this type of knowledge, 'instrumental reasoning', is applied to policies in the real world to dominate nature and people (Dant, 2003), while the aim of this study is quite the opposite. In fact, the critique of giving the environment only instrumental value through instrumental reasoning labelled as rationality is at the very centre of my research. Considering the neo-Gramscian framework of this study, for Gramsci the division between quantitative and qualitative was superficial, because one cannot exist without the other, but quantitative investigation is a means to pose the problem of quality in measurable terms (Gramsci, 1971). Critical theories see method broadly as a mode and a framework for engaging with empirical material. Particular techniques or procedures are less significant than the ways in which the researcher approaches the subject matter, the questions asked and the answers sought, the lines of interpretations followed and the kind of descriptions and insights produced (Alvesson & Deetz, 2000). Moreover, considering contemporary critical theorists usually embrace pluralist methodological approaches, it would be highly questionable if positivists were able to determine for a competing paradigm what counts as valid evidence, and prohibit the use of certain methodologies from these competing paradigms (Neufeld, 1994). I am using quantitative methods in this work for *ex post* evaluation of the current climate change policies. The *ex post* evaluation allows me to determine the relative efficiency of market mechanisms in reducing GHG emissions in energy sector. The relative inefficiency of these mechanisms the findings indicate then motivates the study of ideology behind market policies and the changing power relations that have enabled the institutionalization of market approaches to climate change.

If we understand positivist science in the traditional sense of finding universal laws from observable regularities and developing theories to explain why these laws hold, my approach is quite different from positivist science. I am actually using evidence in Essays II and III to point out gaps in mainstream economic theories of market mechanisms that can explain their modest success. Examining the gap between theory and the outcomes in *ex post* analysis illuminates the "subjectivity of historical action as determined by an objectified historical process" (Cox, 1986, p. 248) of applying market mechanisms to climate change. The idea is not to claim these results bring on universal explanations, as positivist science tends to do (Murphy, 2001), but to interpret these results in their context where changing power relationships can for their part explain the institutionalization of the neoliberalized climate change policies and their institutional maintenance.

Adopting a critical theory approach to the climate change governance and evaluating the outcomes with statistical methods allows me to incorporate both structure and content in the analysis, thereby reflecting the whole of reality in this context without simplifying it. Furthermore it adheres to the tradition of critical research, where typically a particular object of study is placed in a wider cultural, economic and political context, relating this phenomenon to broader asymmetrical power relations in society (Alvesson & Deetz, 2000). By framing the activities of corporations in a wider political context makes "transparent the ideological context in which international business occurs and the manner in which international business activity itself is

constrained, enabled, enacts, mobilises and perpetuates specific ideologies. … An essential element of the process is reflection – comparisons between judgements of expertise and those of experience, between 'is' and 'ought to be', and between the impositions of hegemony and the possibilities of counter-hegemony" (Carr, 2006, p. 86). Because critical theory is normative by nature, by investigating the state and development of GHG emissions, it can be compared to what ought to be to mitigate climate change. Hence, using positivist methodologies provides means to examine the ideologies, power relations and norms behind the current climate change policies through investigating the outcome of these policies. Whose interests are served (power), how do they benefit from these policies (material interests) and what is the ideological motivation behind their institutionalization (ideas). According to Cox (1981), the principal object of critical theory is to clarify the alternatives, and furthermore to exhibit the role of ideology as a determining sphere of action and the connection of ideology to material power. Critical theory is oriented towards providing an informed understanding of what is wrong with the world and how it could be changed (Dant, 2003). In this research, this means looking at the prevailing hegemony as an obstacle for meaningful action to mitigate climate change, and what can give traction to building a counter-hegemony.

4.3 DATA COLLECTION PROCESS

The data collection process for the empirical essays has been explained in detail in Essays II and III, so therefore I will here just briefly summarize the process and present some more philosophical questions regarding the data. The principal data in my thesis is the emissions' data of oil and utilities companies. I collected this data to analyse two different sets. The first set of data covers the years 2008–2012, the first Kyoto commitment period, and the second set the years 2011–2015. The data is partly overlapping, having two years that are covered by both the emissions-focused and financial result-focused essays. The reason for this is that the purpose of Essay II was to investigate the development of energy sector GHG emissions during the first commitment period of the Kyoto Protocol in countries that had a binding, ratified, target under the protocol and those that did not. Essay III investigates the impact of regulation on the profitability of energy sector companies and the relationship between profitability and GHG emissions.

Our findings in Essay II suggested that market-based regulation did not have an impact on emissions during the first Kyoto Protocol commitment period. We did not find significant differences in emission reductions between Kyoto Protocol signatories and other countries, or between EU and other Kyoto countries. Therefore, it was unlikely that regulation would have a negative impact on energy sector profitability. However, the EU ETS for the period of 2012–2016 was revised and stricter limits imposed. As roughly half of the companies in the sample for Essay III were covered by the EU ETS, we were interested in finding out if the strengthening of the system would be reflected in the profitability of the corporations compared to those whose emissions were not regulated. Therefore, the timeframe 2011–2015 was chosen to capture the possible impacts of a renewed EU ETS on the profitability of energy sector corporations. Moreover, in 2011, most of the world had recovered from the 2008 financial crisis, making 2011–2015 more suitable for the investigation of profitability, because during that time there were no large external macroeconomic shocks.

The main part of the data was collected from the Carbon Disclosure Project (CDP) database, which is the main semi-open[3] source for company level emissions data. The corporations did not necessarily report their emissions to CDP every year or reported their emissions through the UN Global Reporting Initiative, which presented some challenges. In cases where there were individual years missing from the databases, complementary resources like the corporations' Annual or Sustainability reports were used. Naturally, this required triangulation of the data and ensuring that the same protocols were used for reporting through different databases and that the emissions were verified by an independent entity. There were also cases where there was a significant reduction or increase in reported emissions for some companies from one year to another. In these cases, I turned to the Annual and Sustainability reports to identify the cause of the change. Sometimes there was an explanation, like restructuring of the company, an increase in production with renewables, increased production of high emission-intensive energy or a notable change in the turnover of the company. However, sometimes the reports did not reveal any likely cause for the reduction or increase, and therefore, to rather err on the side of caution, these corporations were left out of the sample. The cautious approach to data consequently reduced the sample size, but it was a conscious decision to rather have a smaller sample with more reliable data than a larger sample with questionable observations.

The main source for corporate financial data was the Orbis database, which is a database of companies around the world, including financial data. In that database, the variables used in the analysis, namely revenue, gross profit and EBITDA, were presented in USD for all companies. Collecting the financial data was relatively more straightforward than the emissions data, although not without challenges and attention to detail. In the balance sheets and profits and loss accounts, the numbers for some of the largest companies were expressed in millions of USD, whereas the numbers for the majority of companies were expressed in thousands of USD. This required careful computing of the amounts to my own excel spreadsheet to ensure they were expressed in the same terms in my data. Furthermore, there were gaps even in this database regarding some companies for some years. In this case, turning to the annual reports did not always help, because EBITDA especially was not always reported in key financial statements. Fortunately, the emails I sent to different Orbis country offices resulted in some cases in them updating the database for the company in question. In other cases, the corporation itself was kind enough to provide the data for the researcher asking for it. However, my enquiries were not always successful and therefore some companies had to be left out of the analysis because I could not gain their financial data.

Nevertheless, despite these challenges, the concentrated structure of the energy sector enabled me to gain a representative sample from the sector. The data for Essay II includes 112 energy corporations and covers about 30 per cent of the global GHG emissions from the energy sector. The data for Essay III includes 148 energy corporations and covers about 40 per cent of the global emissions.

[3] CDP publishes public reports by country or area, which, depending on the year and area, may include corporate level emissions' data. Furthermore, the database allows a certain amount of individual company searches, and CDP grants academic researchers an extra quota for database searches on request.

Considering the data, both emissions and financial, there are some concerns. The origin of the data is the corporations themselves, and one cannot forget the scandals of Enron and Volkswagen regarding financial and emissions data. However, the same concerns apply to all human-induced data. People may consistently lie in questionnaires and interviews, and all measurements within the natural sciences are even subject to human error. The full reliability of any data cannot be guaranteed in any research. A researcher needs to work with the data available, be open about the collection process, and use her/his own judgement for validity, and use generally accepted methods and sources for collecting the data. The data and collection process for this research fulfils these requirements. Furthermore, regarding the emissions data, the corporations would have an incentive to report rather lower emissions than higher. As our findings indicate very modest or no emission reductions, it is not likely that the data gives us completely false information about the situation. However, it cannot be completely disregarded that the emissions in reality can be even higher and reductions more modest than our findings indicate. Moreover, this research does not claim to present any absolute truths, but only to provide information and thereby further understanding about the relationships between emissions and regulation and profits in the energy sector during the time period of empirical investigation.

5. DISCUSSION AND CONCLUSIONS

To be radical, or to be a scientist, is the same thing:
it is a question of trying to go to the root of the matter.
(Stephen Hymer, 1979)

5.1 DISCUSSION

5.1.1 HEGEMONY IN CLIMATE CHANGE POLICIES AND ITS CONTRADICTIONS

Throughout the theoretical framework and Essays of this study I have sought to demonstrate how the interconnections between ideology, institutions, intellectuals and material power have contributed to mainstreaming the idea of economic growth and efficiency as primary targets of international and domestic policies, constructing a hegemonic historic bloc based on neoliberal political ideology. This dominant ideology has been applied to climate change policies through the wide dissemination of neoliberal policies enabled by economic globalization. Furthermore, I have elucidated how this political paradigm has been institutionalized to an extent that it has been normalized. It has resulted in transformation of the sovereign state into a 'competitive state' with economic competitiveness seen as the *raison d'etre* and main function of the state. This transformation, driven by neoliberal politics and accelerated by economic globalization, has in turn given more power to private economic actors in formulating and implementing public policies according to their economic interests. Markets have largely replaced regulation because inherent to this political paradigm is a belief that markets are able to solve environmental problems like climate change.

This belief is very powerful, even though there is very scarce evidence it provides any real emission reductions, as can be inferred from the findings of Essay II of this thesis. Furthermore, the consensual hegemony with its discursive power has persuaded people that the interests of energy corporations are those of people, and therefore the emissions should not be limited radically, but only incrementally, guaranteeing the continuous profits of these companies.

The findings of Essay III support this notion. Overall, the Essays and the theoretical framework contribute towards better understanding of why climate change governance continues to rely on neoliberal ideology and market mechanisms. They show how this form of governance benefits the fossil fuel corporations wielding extraordinary political power in both national and international spheres. However, they also illuminate the internal inconsistencies in the new globalized world order where a redistribution of powers has resulted in governance that does not respond to the expectations of sovereignty and democratic accountability it is founded upon. Therefore, I also investigate the possibilities to contest the current governance and its underlying assumptions. Essay I explicitly illuminates multiple sites for the contestation of current governance, while Essays II and III more implicitly elucidate what needs to be contested.

In the early 1970s, three competing models of the future of international political economy emerged, out of which two are specifically pertinent to this study: the sovereignty-at-bay and dependencia models (Gilpin, 1975; Vernon, 1971). Both envisioned a world where MNCs run supreme. In the sovereignty-at-bay model, MNCs have taken over the control of economic affairs in the interests of global efficiency and national economic welfare. The nation state has become anachronistic with the advance of technology and been replaced by international economic institutions that govern along with MNCs, which are more fitting to serve the economic needs of humankind. In the dependencia model, a similar governance model runs an interdependent world economy. Wealth and benefits are depleted from developing nations and accumulate to centres of industrial and economic power. In a similar vein, Hymer (1972) conceived a multinational corporate system, which he deemed as the dystopia that demonstrated what can happen and why it needs to be avoided. It would be hard to argue that the development predicted by these scholars has not happened. Whether we discuss the increased power of MNCs and economic institutions, or the transformation of the sovereign state, the changes within the last decades have been remarkable. If this development is evaluated from a neoliberal perspective, it most likely looks very natural and benign, a track that ensures economic growth and efficiency. However, if it is evaluated from a critical perspective, there are concerns about democracy, inequality and justice. Moreover, the power of corporations to frame and structure the problem of global climate change according to their interests arises out of this development. This unaccountable power is seen as problematic in an increasing manner.

The hegemony of neoliberalism in the past decades has furthered an overall concentration of power globally, and a commodification of pollution into private property rights – with detrimental effects on the climate. Moreover, the hegemony of the neoliberal political paradigm has shaped the political discourse and public belief of what is possible (Antonio & Brulle, 2011). Therefore a paradigm shift would be needed to provide tangible, environmentally sound results. However, the situation calls for a change in not only the political, but also the intellectual paradigm. This requires furthering understanding that neoclassical economics is not the only form of economics, and that all forms of economics are essentially social sciences and thereby political in nature.

Neoclassical economics and associated naturalization of economic utilitarianism as the ideal type of rationality has gained a position that Gramsci (1971) would have described as an "instrument of government of dominant groups in order to gain the consent of and exercise

hegemony over the subaltern classes" (p. 396). Climate change policies, from recommendations of the IPCC WG III to international agreements and ensuing institutional frameworks, are guided by the analysis from neoclassical economics regarding how much, where and when emissions should be mitigated. Securing economic growth and efficiency are prioritized over effective reduction of greenhouse gas emissions. There is very little discussion about the inherent conflict between economic growth and climate change mitigation, even though it is evident and well established that economic growth has resulted in increasing GHG emissions.

Moreover, under a hegemony, it is often forgotten that economic efficiency cannot provide a value-neutral framework for policies. Placing primary value on economic growth and efficiency is always a normative choice and not an objective criterion. If using market mechanisms is based on the normative choice of prioritizing economic growth and efficiency, market mechanisms are an implementation of this normative evaluation. Normative prioritizing of economic growth and efficiency disguises the nature of the problem resulting from economic growth. Setting the targets for emission mitigation with the economy as a priority distracts from the need to change the structure of the energy system and to abandon fossil fuels. Furthermore, the framing of the problem in economic terms not only marginalizes the physical realities of climate change and all other value considerations, but also obscures the power relations behind this framing. Neoclassical economics has tried to distance itself from the other social sciences and to remove the political and ideological underpinnings to make it 'scientific'. In a capitalist system, the dominant discourse is characterized by the hegemonic notion of economic rationality and utility maximization is considered as a moral imperative. Therefore, it is not difficult to understand why individuals succumb to this discourse and end up accepting and even supporting policies that are in conflict with their interests as citizens, and in even more dire conflict with the rights of future generations. Because who would not want to be considered 'rational', especially when the hegemonic discourse has managed to label all other values than economic utilitarian ones as 'irrational' and 'emotional'?

Nevertheless, as argued throughout this thesis, economics is very much a social science and moreover a normative one reflecting neoliberal ideology. In this ideology, the norm is to prioritize economic growth and efficiency, which is powered by a similarly ideological belief that markets will solve the problem of climate change. However, the persuasive power of economic rhetoric has naturalized these norms and values and they have been internalized as objective 'truths' in the dominant discourse. Furthermore, the all-encompassing role of economics, in setting the goals and the means to achieve these in climate change policies, has led to a confirmation bias (Nickerson, 1998). This is a situation where policy-makers interpret all evidence in ways that is biased towards the existing paradigm, beliefs and expectations. One implication of this is the focus on turning the problem of climate change to climate capitalism, where carbon markets and technology can create a win-win situation for all.

According to Barley (2007, 2010), social and environmental predicaments have been embedded in corporate capitalism and a new corporate society has replaced representative democracy. The manifestation of this in global climate change governance is climate capitalism. In this, market mechanisms promoted and largely designed by corporations are maintaining the *status quo* and even increasing fossil fuel corporations' profits (Parr, 2014; Pearse & Böhm, 2014). Prioritizing the economy over the environment has become the 'rule of the game',

allowing the economy to dominate policy-making and consequently the market process, to command the society and not vice versa (Barry, 1999; Birchfield, 1999). Under the neoliberal hegemony and its corollary economic globalization, the servant has taken the role of master.

Even though sustainable economic growth and climate capitalism are all but meaningful illusions created to sustain and justify the prevailing world order and economic model that is gearing the world towards a climate catastrophe, corporations can hardly be blamed for engaging fully with neoliberalism and globalization. They are merely using the opportunities for political influence that the changing balance of power has provided them. Corporations are simply following the neoliberal political imperative that has raised profitmaking into a dogmatic position. Academic disciplines like economics and international business have dedicated vast amounts of research into how corporations can become even more profitable. It is hardly ever questioned in academia or politics whether profit maximization is a desirable goal, as the dogma of economic growth is not questioned in mainstream research. Moreover, as one cannot expect morality from markets, it cannot be expected from corporations either. Even if many CSR scholars tend to portray corporations as citizens, with the powers and responsibilities invested in citizenship, a corporation is a legal construction without morals or moral obligations. It can be expected to comply with the legal norms set to it; however, the profitmaking maxim severely limits the possibilities of corporations to make moral choices, even when the future of the planet is at stake. The managers of corporations could be expected to have morals; however, a society based on competition and individual ethos does not support the application of morals in business. As Clive Hamilton notes, "The hard truth is that corporations would sooner see the world destroyed than relinquish their power" (cited in Wright & Nyberg, 2015, p. xi). He points out at the same time that the executives as such are not evil, but that they are merely operating in the way the system dictates them to, and if they did not, they would be replaced by other executives who would. This, however, leads to MNCs being managed by executives primarily "concerned with aggression, procreation and the pursuit of social dominance" (Buckley & Casson, 2001, p. 304). As Gill (1995) rather polemically argues, the pursuit of profits is awarded the status of the quest for the holy grail in neoliberal discourse, and neoclassical economists are given the position of priesthood. There is an intrinsic connection between neoliberal ideology of current hegemony and neoclassical economics as the intellectual force, which is also reflected in how managers are educated. Ferraro et al. (2005) and Tsakalotos (2007) point out that neoclassical economics is the form of economics almost exclusively taught in universities. Many studies have found that economic and business graduates are not able or willing to balance considerations of economic gains with those of public good, which is then reflected in management practices.

Fossil fuel energy corporations are powerful actors in the international and domestic arenas. They have been successful in defending interests that are aligned with economic growth, market approaches and defending private property. The important question of whether fossil fuel producers own the atmosphere has been largely ignored. This is partly due to the power these corporations wield, and partly because current climate governance relies on the ideological assumption that, by assigning property rights to pollution, the problem of climate change can be solved. Keeping such a fundamental question out of the public discussion is a strong demonstration of the power of these corporations in its structural, material and discursive aspects. Nevertheless, it is becoming more and more evident that the current economic structure and

corporate power are incompatible with the survival of this planet, and that there is a growing public awareness of this conflict.

5.1.2 BUILDING BLOCKS FOR COUNTER-HEGEMONY

Cox (1981) points out that understanding a structure means that changing it is possible. My intention in this thesis is to further understanding that the current state of things is not inevitable, but a result of ideological and normative choices that have turned into a hegemony. However, every hegemonic order in history has come to an end, and intellectuals have had a role in this. As discussed before, Gramscian critical political economy has a very different approach to climate change, and furthermore different ontological and epistemological foundations. Critical political economy disciplines do not subscribe to human domination over nature, or that the problem of climate change could be solved with technological improvements. The economy is seen as a socially constructed subsystem of the ecological system, one that is producing harmful substances into the ecosystem and that need be removed or radically mitigated. Restructuring of the energy sector is seen as one of the key components in attempts to mitigate climate change and the economic interests of the industry should not form an obstacle in this transfer. Critical political economy is therefore conceptualized as the intellectual opponent for neoclassical economics that is needed in building counter-hegemony.

Institutions maintain and reproduce the current hegemony. As Barley (2008) argues, "institutions are tied to ideologies championed by specific segments of society that lend the institution legitimacy. As ideologies change, legitimacy will change and, hence, so will the institution" (p. 497). It is hard to question the legitimacy of an ideology; however, the legitimacy of institutions governing climate change can be questioned. Institutions must be accountable, transparent and compatible with democracy and should be evaluated with dynamic criteria according to the direction of change (Keohane, 2011). Climate change institutions can be contested already on the first criterion, and furthermore evaluating them by the dynamic criteria concerning the output legitimacy (Scharpf, 1999) further erodes the legitimacy of climate change institutions. The main reason for that is that almost three decades of neoliberalized climate change governance has failed to provide meaningful GHG reductions and only resulted in exacerbating climate change. Keohane (2011) further argues that institutions that are based on false beliefs are *ipso facto* illegitimate. It certainly begs the question whether the beliefs of a human right to dominate nature and the primacy of the economy are such false beliefs, especially considering that these beliefs have endangered and continue to endanger the future of human and non-human species, and the whole ecosystem. Therefore, there is a need to contest and deinstitutionalize the current regime.

The emergence of legal action taken by the public against corporations for intentionally continuing to emit unsustainable amounts of GHGs implies a wider notion of the corporation as a site for contestation. The lawsuits against governments also articulate a discontent in prioritizing corporate economic interests over the protection of the climate. A corporation is no longer seen as existing within the wider societal context, reacting and acting to exogenous imperatives, but rather as an active force shaping the historical social environment (Amoore, 2000). Following Cox (1999), in the context of climate change, the challenge is to unite the different groups disadvantaged by climate change to build a common understanding about the

nature and consequences of climate change. Through this they could formulate a strategy to subordinate the world economy to preserving the planet instead of vice versa. Naturally, this would imply building a historic bloc ready for a long war of position against the hegemonic neoliberal climate change regime. Advancing an understanding of the corporation as a site for contestation facilitates the potential for collective action to contest and deinstitutionalize the political power of corporations and the neoliberal climate change regime this power has enabled to create (Amoore, 2000). The role of intellectuals in this would be to work simultaneously on national, regional and global levels to support the counter-hegemonic historic bloc and help in overcoming the resistance (Cox, 1999).

5.2 CONTRIBUTIONS AND POLICY IMPLICATIONS

My thesis makes four main contributions to the literature and also has wider policy implications. The careful examination of the propositions underpinning neoliberal climate change governance indicates that almost of these are suspect in both theory and practice, as well as morally and democratically.

Firstly, this study contributes to a wide array of climate change literature in the field of organization and management with its analysis of reasons for the lack of impact of the policies currently applied taking into account the roles of states, institutions and corporations. On the one hand, international relations and institutional economic theories have been criticized for state-centrism and neglecting the role of corporations, providing a structural explanation for conformity (Wittneben et al., 2012). On the other hand, neo-Gramscian studies have been criticized for not paying enough attention to the role of the state in the contemporary hegemony (Bo, Böhm, & Reynolds, 2018). I am addressing these gaps through a neo-Gramscian framework with a historical examination of how neoliberalism and economic globalization have changed the power relationships between MNCs and states. This examination reveals the ways in which economic interdependency of states and MNCs aligns their interests in climate change policies and the common goal of economic growth gives increasing political power to the MNCs. In this way, a critical political economy approach can bring together micro- and macro-level analysis, and IR and neo-Gramscian approaches (Levy & Newell, 2005). Moreover, this thesis contributes to the literature on climate change governance with its investigation of neoliberal hegemony (Elah & Okereke, 2014; Levy & Egan, 2003), the multiple nature of corporate power (Fuchs & Lederer, 2007; Okereke et al., 2009), how international institutions perform an ideological role (Ciplet & Roberts, 2017; Newell, 2008a, 2012), and the input and output legitimacy of this governance model (Bäckstrand, 2006; Lederer, 2011). It complements the existing studies using a neo-Gramscian approach with an analysis of the role of intellectuals in the formation of the hegemony. Moreover, it provides a broader examination of the relations between nature, economy and society (Böhm et al., 2012) and an analysis of alternatives to neoliberal hegemony (Morton, 2000).

Secondly, this thesis contributes to the carbon market literature both theoretically and empirically. It elucidates the normative nature of neoclassical economic theories and how these theories have enabled the building and maintenance of neoliberal market-based climate change governance. Despite the inefficiency of the policies based on the neoclassical economic

theories they remain as the main instrument of climate change policies, and the unexamined presumptions of these theories have been cemented as the cornerstones of climate change policies. Thereby, this thesis provides empirical support to the literature that criticizes carbon markets for not reducing GHG emissions and securing fossil fuel corporate interests (e.g. Lohmann, 2005, 2011; McAfee, 2016; Pearse & Böhm, 2014). Many scholars have identified corporate power as one of the main reasons for the inability of the current climate change governance to mitigate GHG emissions. Powerful fossil fuel energy corporations have been able to prevent structural change and other meaningful action. My research furthers understanding about the reasons for the failures of climate change governance. It points out the incommensurability of governance that is based on the assumption of sovereign states protecting public interest and being accountable to their citizens, and the reality that states are protecting more the interests of MNCs that are able to escape all democratic accountability.

Thirdly, my thesis contributes to IB literature by addressing wider public policy challenges (Buckley et al., 2017), informing and generating knowledge about real-world phenomena (Delios, 2017; Doh, 2015) and analysing the links between MNCs and public policies (Lundan, 2018) – even if it means criticizing the current forms of capitalism, its institutions and market-based governance (Collinson, 2017). The investigation of the power MNCs wield on institutions governing global climate change and how this has been enabled by economic globalization moreover responds to the call of examining possible reasons for the current discontent in the globalization process (Buckley & Ghauri, 2004; Rodrik, 2018). Furthermore, my research contributes to critical IB studies and especially to the growing stream of literature on resistance to IB (Böhm et al., 2008; Carr, 2006; Otto & Böhm, 2006; Wright & Nyberg, 2015). The current legal action by citizens against governments and corporations described in this thesis furthers understanding about the many forms contestation can take.

Fourthly, this research advances the use of critical theories in climate change research. Critical theory with its recognized normative nature implies the continuous questioning of the foundations of a hegemonic structure and looking for a counter-structure rejecting determinism (Cox, 1981; Dyer, 1997). My conceptualization furthers understanding of the significance of the meta-theoretical stance of mainstream theories regarding economic utility maximization, and the underlying ontological and epistemological assumptions. It illuminates the impacts of these mainstream assumptions for the reproduction of neoliberal climate change governance with its emphasis on marketization, privatization, deregulation and commodification. Moreover, this study bridges the gap between CPE and ecological economy approaches and argues that both these approaches are needed for the contestation of current governance and for counter-hegemony to gain wider traction. While there is no easy solution to the current stalemate, re-politicization of the de-politicized economic questions, the return of citizenship on a large scale, and collective action in contesting the current hegemony can instigate change.

Overall, my doctoral thesis, and the findings in the essays support the views presented in a wide array of academic literature that there is a need for a profound change in the current political paradigm and economic system if we wish to stop, or even mitigate, climate change. The failure of neoclassical economics to provide a solution for global warming is widely agreed among researchers from climate science, critical political economy and international business, and ecological economics. My conceptualization and findings help to explain why market

mechanisms have not provided meaningful emissions reductions in the energy sector, and therefore a radical systemic change is needed to reduce GHG emissions. I believe my thesis will bring new insights to climate change policies and illuminate how environmental inefficiency of market-based governance has been widely accepted because of the close fit between the dominating political paradigm, the neoliberal institutional framework, neoclassical economics and the interests of powerful energy corporations. Therefore, I argue that the mainstream economic theories and market approach to climate change mitigation should be re-evaluated and the underlying ideology and power relationships scrutinized. For these contributions, I think my study will be valuable and open new perspectives on several levels – academic, management and political.

5.3 AVENUES FOR FUTURE RESEARCH

This thesis has questioned the environmental efficiency of market mechanisms in the context of climate change. IEA (2016) found that policy measures in China reducing the capacity of coal mining and consumption resulted in the largest yearly decline in emissions on record globally. Considering that China has been able to reduce the use of fossil fuels with command and control policies points to the need to have more research comparing the effectiveness of these policies to the ones relying on market mechanisms.

Furthermore, the question of privatization and deregulation of energy corporations merits more research regarding the impact of these neoliberal reforms on the ability of governments to control GHG emissions. These reforms turned a vast proportion of previously publicly owned enterprises into private corporations, subjecting them to the exigencies of markets and profit making. Consequently, the reforms allowed many energy corporations to grow into regional or global MNCs with more economic and political power. Considering the timing of these reforms just preceding or coinciding with the first attempts to apply binding international, regional or domestic emission regulation, it is an interesting question how privatization impacted the business goals of these corporations. Did privatization and deregulation increase the political power of energy corporations vis-à-vis governments to resist or temper the effectiveness of regulation?

My research has only been able to scratch the surface of the prevailing ontological and epistemological assumptions in mainstream economics and the disciplines that share these assumptions. However, as this study has sought to demonstrate, these often under-investigated foundations have had an important role in building the contemporary worldview and the current hegemony regarding climate change policies. A more interdisciplinary research could further illuminate how the assumptions have been carried out through history and acquired a naturalized position. The subjectivity and irrationality of these assumptions that have led to the current anthropocene era where policies are carried out in a socially constructed econocene could assist in overcoming the collective madness of prioritizing economic growth overall and building a counter-hegemony.

Current climate policies and the rights of corporations to continue polluting after they have known the consequences of it for decades are contested in an increasing manner through

courts of law. In the absence of an international legal forum, these cases are argued in domestic courts in isolation of each other. However, Cox (1999) argues that counter-hegemonic forces need to emerge first in a national context. From there they can build mutual awareness of the different struggles and establish a chain of equivalence (Mouffe, 2008) to substitute claims that can more profoundly challenge the global hegemony and existing power relations. Therefore, it makes an interesting subject for future research to investigate whether these chains of equivalence can be built among different civil societies.

5.4 CONCLUSIONS

"Pessimism of the intellect, optimism of the will."
Antonio Gramsci, circa 1935

If a house is on fire, do people sit down and contemplate how costly it would be to put out the fire? No, they do not; they take action. But when the planet is on fire (metaphorically for the time being; the situation might be different in the future), we argue for decades about the costs of putting out the fire, while it is all the time getting worse and causing more irreversible consequences.

In hindsight, it can be argued that early mitigation of GHGs would have paid off, even with a strictly neoclassical economic utilitarian approach, because currently the costs from climate change induced phenomena are manifold compared to the cost of reducing GHGs at an earlier stage. However, taking early action was incompatible with the neoliberal political paradigm, where economic growth, private property rights and profit making are the imperatives. In fact, it can be argued that climate change is a prime example of 'corporate socialism'. In this regime, the profits of polluting have gone to the corporations and their shareholders, whereas the costs of climate change are born by society.

Returning to my overarching research question of why the neoliberal climate change governance is maintained, this thesis has built a theoretical framework of different factors including globalization, transformation of the state, institutions, corporate power and the role of neoclassical economics to understand the strong interconnections between these in maintaining the neoliberal hegemony. Essays II and III of this research indicate that dominant fossil fuel corporations benefit from neoliberal governance and have the political power to secure its maintenance, while climate and the public pay the price. I have illustrated in the Essays how current governance can be contested, what exactly needs to be contested. In the theoretical framework I introduced the growing legal action against current policies and fossil fuel corporations as the common ground for this contestation. Throughout this thesis, I have demonstrated how economic rationality and utilitarianism are powerful myths that serve to justify the existing order and policies, but the development based on these myths is not inevitable. However, as long as climate change policies are made under the neoliberal paradigm, justified by neoclassical economics, and with the underlying assumption of human right to dominate nature, climate change will continue to exacerbate. Therefore, in Essay I and in the theoretical

framework I have prescribed possible alternative climate change governance forms and what these would entail.

Am I making a normative proposal? Most certainly I am. However, it is equally normative to prioritize the economy and private economic interests over the environment. Schumacher (1979) noted that there is something *pathetic* in giving economics an all-encompassing role in society, and before that Polanyi and Gramsci had made similar observations. Following their line of thought, I argue that there is something profoundly *pathetic* in giving economic concerns priority when the future of the whole ecosystem is at stake. Because, in the end, human survival does not depend on economic growth; the survival of the ecosystem including human and non-human species depends on humans stopping polluting the planet and the atmosphere.

Can climate change be reversed? Possibly not. Can it even be mitigated anymore? No one has a certain answer for that. However, if we continue with the current policies, the consequences will become worse. Therefore, a profound change in values, and, on the more practical side of things, in energy structures is needed. Time is up .

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