THE TIES THAT BIND: GOVERNING CLIMATE FINANCE THROUGH NETWORKS

Copenhagen Business School
MSc International Business and Politics
Master’s Thesis

245,447 STUs - 116 Pages

Supervisors:
Leonard Seabrooke
Lasse Folke Henriksen

May 2nd 2016

Emil Linnet
Rune Riisbjerg Thomsen
Climate change marks the most formidable challenge the international community has faced in decades. However, the efforts towards mitigating and adapting to the detrimental effects, had, until the Paris Agreement, failed to materialize into substantive multilateral efforts. Most notably, the funding vehicles set up under the UN system, have been underfunded or “starved to death”, as one interviewee put it, falling far short of the goal of mobilizing $100bn per year by 2020. Meanwhile, the private sector is expecting green bonds issued to the tune of $158bn in 2016 alone.

This thesis sets out to explore the current state of knowledge authority in climate finance under the research question “Who can make authoritative claims to transnational climate finance?” As the field under study is highly emergent and expanding, policy solutions institutionalized now concerning the structure and modality of climate finance will have significant long-term implications. In order to provide an understanding of which agents and organizations are at the core of making decisions and producing authoritative knowledge in the realm of climate finance, we conducted a mixed methods case study encompassing a social network analysis of 876 climate finance practitioners with ties to 1679 organizations and interviews with 12 of the most central agents.

We find that climate finance constitutes a thin transnational space, which embodies a broad array of prominent actors and yet only garner limited policy attention. Through our analysis we find a tightly knit network of about 50 professionals, who occupy the center of decision-making processes as well as knowledge production and dissemination in the climate finance space. These are, particularly, as one interviewee said “people that are able to have the finance conversation, but also able to have the policy conversation”. In other words, the agents that are most able to embed certain knowledge, ideas and practices, are the agents occupying strategically advantageous positions around “structural holes” in the knowledge network for climate finance. Agents possessing this skillset have, most recently, been described as “epistemic arbiters”: agents that are able to draw knowledge from different pools and utilize their expertise to carve out powerful positions for themselves and to provide saliency to specific policy solutions and ideas. This theoretical proposition provides an accurate description of successful agents in the world of climate finance, which in turn
has significant implications for transnational governance. As such, this study engages with the literature on sociology of expertise and sociology of professions within International Political Economy.

In agreement with recent literature on the subject, we find that climate finance is to a large extent governed through private initiatives, soft law and standards, rather than national or transnational regulatory measures codified in hard law. This can be attributed to the prevalence of private authority in climate finance; private financiers take up all but one seat on the steering committee of the United Nations Environment Programme Finance Initiative, which is an important disseminator of knowledge and birthplace to numerous standards, most saliently the Principles for Responsible Investment. The proliferation of private governance is often described as a consequence of a lack of technical subject matter knowledge with regards to climate finance within the governing bodies. Here we find that such proliferation may also stem from IOs actively engaging in “orchestration”, which entails the empowering of private actors, due to the IOs own diminishing authority and capacity to regulate.

Our findings contribute to IPE and EPE literature by providing an account of the specific actors engaged in the private governance of climate finance, as well as their sentiments for doing so. We simultaneously contribute to the sociology of professions literature, by providing empirical arguments for the “epistemic arbitrage” framework by Seabrooke. We simultaneously contribute to this theoretical framework by setting forth a dimension of “institutionalizing arbiters”: agents who seek to institutionalize and legitimate the ideas, solutions and knowledge they produce, by establishing clubs and venues for other actors to join.
# Table of contents

1. **Introduction** ................................................................................................................. 1

2. **Theory** ......................................................................................................................... 3

   2.1 **Power, authority and legitimacy** ............................................................................... 5

       2.1.1 The four faces of power .................................................................................... 5

       2.1.2 Recent advances ............................................................................................... 6

   2.2 **Power as ideas and expertise** .................................................................................. 7

       2.2.1 Bourdieu & Foucault ......................................................................................... 7

       2.2.2 Ideas ................................................................................................................... 8

       2.2.3 Expertise ............................................................................................................. 10

       2.2.4 Legitimacy as a function of expertise .................................................................. 13

   2.3 **Power as communities, networks and ecologies** .................................................... 15

       2.3.1 Transnational communities & communities of practice .................................... 18

   2.4 **Power as networked knowledge** .............................................................................. 21

   2.5 **The theoretical framework** ..................................................................................... 24

3. **Philosophical considerations** ...................................................................................... 25

4. **Methodology** .................................................................................................................. 27

   4.1 **Research design** ....................................................................................................... 28

   4.2 **Social Network Analysis** ......................................................................................... 29

       4.2.1 Centrality metrics .............................................................................................. 32

       4.2.2 Visualization ....................................................................................................... 34

       4.2.3 Data collection .................................................................................................... 37

   4.3 **Interviews** ............................................................................................................... 39

       4.3.1 Purpose of interviewing: research design and interviews .................................... 40

       4.3.2 Semi-structured interviews ............................................................................... 40
4.3.3 Utilizing semi-structured interviews ................................................................. 43

4.4 Limitations and methodological issues ................................................................. 49

5. Analysis ....................................................................................................................... 50

5.1 The social network of climate finance professionals ................................................. 51

5.1.1 The data at a glance .......................................................................................... 52

5.1.2 The inner circle .................................................................................................. 62

5.2 Interviews .................................................................................................................. 68

5.2.1 What is climate finance, really? ......................................................................... 69

5.2.2 The privatization of climate finance ................................................................. 72

5.2.3 Expertise, networks and bridging ................................................................. 76

5.2.4 Other developments and challenges in transnational climate finance .......... 81

5.2.5 Notable agents and organizations missing from the inner circle ..................... 84

5.3 Linked ecologies and structural holes ..................................................................... 86

5.4 Epistemic arbitrage in transnational climate finance .............................................. 90

5.4.1 Mark Fulton ....................................................................................................... 93

5.4.2 Gabriel Thoumi .................................................................................................. 95

5.4.3 Cary Krosinsky .................................................................................................. 97

5.4.4 Epistemic arbiters .............................................................................................. 98

5.5 Summary ................................................................................................................. 98

6.0 Discussion ................................................................................................................. 99

6.1 Theoretical implications ......................................................................................... 100

6.1.1 A climate finance profession? ......................................................................... 102

6.2 Policy implications ................................................................................................. 103

7. Conclusion .................................................................................................................. 107

7.1 Further research ..................................................................................................... 110
Bibliography .................................................................................................................. 112
Appendix 1.0 Inner circle with labels ........................................................................... 119
Appendix 1.1 Inner circle with Mark Fulton, Cary Krosinski and Gabriel Thoumi .......... 120
Appendix 1.2 Inner circle with factions ......................................................................... 121
Appendix 1.3 Mark Fulton ego network ....................................................................... 122
Appendix 1.4 Gabriel Thoumi ego network ................................................................... 123
Appendix 1.5 Cary Krosinski ego network ................................................................... 124
Appendix 1.6 Full network ......................................................................................... 125
Appendix 2: A Short History of Climate Finance ......................................................... 126
  2.1 Multilateral efforts ................................................................................................. 126
  2.2 Private Mechanisms ............................................................................................ 143
Bibliography for Appendix 2 ......................................................................................... 147
1. Introduction

Mitigating anthropogenic climate change and curbing its detrimental effects remains one of the most complex policy challenges for the international community. Effectively, existing multilateral governance structures had, until the Paris Agreement in December 2015, been rendered unable to curtail the increasing greenhouse gas (GHG) emissions through legislation. One of the major points of contestation in the multilateral process, especially among Annex-1 and Non-Annex 1 parties to the Kyoto Protocol, has been how to finance adaption and mitigation projects – particularly the blend of public and private finance. In this vein, the Copenhagen Accords established that the main vehicle for financing should be the Green Climate Fund, which is aiming towards pledges of $100bn/year by 2020 (UNFCCC 2009). However, with just $10,3bn pledged by February 2016 (Green Climate Fund 2016), the fund is making limited progress towards achieving its annual targets. In contrast, HSBC projects issuance of green bonds to the tune of $158bn in 2016 alone (Shankleman 2016). In other words: the capital markets have increasingly begun to ‘green’ and steer funds towards climate change related projects, dwarfing the mobilization of capital originating from the public sphere. This signifies a spectacular change in the power dynamics of transnational climate finance.

Despite the increased political salience of climate finance, studies of political science and international political economy (IPE) remain rather under-theorized in the area (Keohane 2014). Worse yet, the issue of adaption (finance) has largely been ignored by scholars (Javeline 2014). This despite the 2014 Global Synthesis Report of the Intergovernmental Panel on Climate Change (Pachauri, Meyer, and IPCC Core Writing Team 2014) emphasizing that current levels of GHG emissions will cause, and is indeed already causing, dramatic changes to the climate, particularly in the Global South, causing major disruptions in social, economic and political affairs.

The motivation for writing this project thusly stems from a basic need to understand the power dynamics in transnational climate finance at this pivotal moment in time. Due to the highly emergent and contested nature of transnational climate finance, policy solutions that are made salient and institutionalized in these years will carry significant impact on the field going forward. This study thusly tries to illuminate how this shift manifests itself through contestation of knowledge
and means for creating knowledge. We argue, that in order to understand an issue of such inherent complexity, we need to look at how ideas and expertise are contested, and how this translates into policy.

Following Carpenter’s (2007) call for more research into transnational issue definition and our motivation to understand the social power dynamics of ideas and expertise in transnational climate finance, we pose the research question:

**Who can make authoritative claims to transnational climate finance?**

In order to answer this research question we employ a mixed methodology. Firstly, we conduct a social network analysis (SNA) encompassing 2555 actors (876 agents and 1679 organizations) that are connected through the climate finance space. This analysis is utilized to determine the most prominent or ‘between’ actors and how these connect as well as locate different ecologies within the network. On this basis, we locate an inner circle of climate finance practitioners. Secondly, we interview 12 members of the inner circle, in order to gain insights regarding how everyday battles over legitimacy, expertise and ultimately power are taking place within the knowledge network for transnational climate finance.

As this study is fundamentally about how knowledge is contested in transnational networks, it departs from the theoretical traditions of sociology of professions and sociology of expertise, in particular the areas that focus on transnational professional knowledge (Faulconbridge and Muzio 2012; Fourcarde 2009) and expertise (Eyal 2013). More specifically our theoretical emphasis is placed on the everyday politics of institutions (Seabrooke 2010), networks and the strength of weak ties (Granovetter 1973), the role of linked ecologies in knowledge production and dissemination (Abbott 2005) as well as on communities and community-interaction informed by Quack and Djelic (2010), Wenger (1998) and Adler and Pouliot (2011). These are all theoretical concepts which underpin and qualify our application of Seabrooke’s (2014) *epistemic arbitrage* concept, which posits that in “thin” transnational spaces, professionals can draw on their expertise – a function of strategically advantageous network positions as well as a specific skill and knowledge set – to carve
out markets for their services. We find that the assertion, that epistemic arbiters can become powerful brokers of ideas and expertise in thin spaces is substantiated fully by our case study of transnational climate finance. Further, we contribute to the framework, by introducing the notion *institutionalizing epistemic arbiters*, which describes agents who seek to institutionalize and legitimize the ideas and knowledge they produce, by establishing clubs and venues for other actors to join, rather than merely exploiting their position for capital (social or economic) gains. We support this claim by highlighting three epistemic arbiters in our network, Mark Fulton, Gabriel Thoumi and Cary Krosinski, who actively draw upon different pools of knowledge from different ecologies, to contribute with new ideas, and subsequently see to formalize these through initiatives.

The thesis will proceed according to the following. Chapter 2 provides an account of the theoretical influences for this project, and describes the theoretical framework that is employed in the analysis. Chapter 3 situates this study within the constructivist school of philosophy of science and discusses other philosophical traditions against this. Chapter 4 explores the theoretical and practical background of the methodology employed: social network analysis and semi-structured interviews and situates specifically the interplay between the two, while discussing the limitations of the theoretical and methodological approach. Chapter 5 embodies the core of this study, namely the analysis in which we scrutinize the empirical data and apply the theoretical framework in order to understand current power dynamics in climate finance. In Chapter 6 we discuss our findings in two parts: theoretical and political implications. Lastly, in Chapter 7 we conclude on the analysis of the data, and the discussion points made, before providing suggestions for further research. Beyond this, the reader will find visualizations of the networks analyzed here in Appendix 1 and text on the history of climate finance governance in Appendix 2. Where applicable, references to other appendices will be made.

2. Theory

With an aim of understanding the social processes of transnational climate finance governance, this study employs a sociological approach to international political economy. In this, the research conducted here relates less to formal processes of governance, but to a larger extent who are the agents and organizations that are able to make authoritative knowledge claims to climate finance, and how they do so.
To gain these insights, we employ the theoretical model depicted below. Relevant to the core of this study is an understanding of power as manifested at three levels; through knowledge, through networks and through the deployment of knowledge in networks. While the model below depicts the three levels as separate, we view them as deeply intertwined. Thusly, the third theoretical level is where we develop the theoretical framework that is employed for the analysis in this study.

This understanding of power is particularly derived from the sociology of professions and the notion in that school of transnational governance being increasingly dominated by inter-personal relations over inter-state relations as in neo-realist conceptions (Held 1995). While we do not in any way neglect the importance of diplomacy (of particular importance to this project one could think of the diplomatic efforts leading up to the COP21 agreement under the UNFCCC), we see many of the traits theorized and studied by scholars of private authority and the sociology of professions in the case at hand.

The chapter will proceed with an introduction to the ambiguous notion of power. In the following three sections, we lay out the theoretical model at the core of this study, before summarizing the framework, arguing and accounting for limitations.
2.1 Power, authority and legitimacy

The issue of conceptualizing power has been an interest of philosophers and political scientists alike for centuries. As Mark Blyth recently put it in an article on ideational power: “Old whines are old whines for a reason. They are usually, at base, irresolvable problems.” (Blyth 2016:469). In our view, a neat general theory of power in social relations has yet to be developed, and it most likely will not ever be, as power is a ubiquitous matter; it can be many things in many situations, and it would be counterproductive to assume one conceptualization of power on such a broad array of issues as studied here. In this chapter, we will describe the basic tenets of power in social science. Directly or indirectly, we draw on all these concepts when analyzing the social relations in climate finance.

2.1.1 The four faces of power

In social science, one of the first attempts at a comprehensive theory of power was Lukes (Haugaard 2002; Lukes 1974), who proposed building on the works of Dahl (1957) and Bachrach and Baratz (1962) by adding a third face of power. The first face of power, described by Dahl (1957:203) as “A has power over B to the extent that he can get B to do something that B would not otherwise do”. In this, Dahl describes a coercive typology of power, in which agents utilize their power to force unto others, what they may not have done in the first place. Bachrach & Baratz (1962) agree with Dahl, that coercive power is one manifestation of power in social relations. However, they propose that there exists a second face of power, which relates to exclusion and non-decision-making. In the second face of power, the researcher must focus on “[...]investigating the particular “mobilization of bias” in the institution under scrutiny” (Bachrach and Baratz 1962:952, quotation marks in original) and on that basis understand which groups or persons are handicapped by the institutional bias. From there, the scholar can understand the impact of non-decisions; how those in favor of the status quo limit the scope of decision-making.

Lukes accepts these conceptualizations of power, but insists there exists a third face of power. The third face of power, inspired by his Marxist roots (Haugaard 2002), consists of the agency focus in Bachrach and Baratz (1962) and a conceptualization of power as “false consciousness”. In this, Lukes argues that oppressed classes are not aware of their “real interests” and thusly do not act upon them. This view presupposes a Marxist ontology in which there exists an objective truth (science)
that is freed from power, while ideology skews the view of the population against their interests. As Haugaard (2002:39) argues, this is problematic because of “[...]the implicit premise that the diagnostician of this pathology him- or herself possesses true consciousness in the form of privileged access to a transcendent realm of real interests”. However, Lukes is right in his insistence on not overlooking the inherent relationship between structure, social knowledge and power.

In the next section we shall focus more deeply on the relationship between knowledge and power, but in service of completing the “faces of power” framework, we must mention Digeser’s (1992) notion of including Foucault as the fourth face of power. Digeser introduces Foucault as being able to plug the conceptual holes between the first three faces of power. He does so by arguing that knowledge and power are inseparably tied to each other in a self-reinforcing loop. Power, thusly, is everywhere, and informs all actions. This provides a greater understanding of how science, norms and practices are inextricably tied to each other, and how we must be self-aware in our epistemological discussions (Digeser 1992).

2.1.2 Recent advances

With a model of the three faces of power (and the possible addition of a fourth), which is so inconsistent in its approaches to structure v. agency as well as ontology and epistemology, it is apparent that a general theory of power in political science is hard to attain. Likewise, rather than continuing to build on Lukes’ model, scholars have retreated to posing theories of powers within specific realms of social life (for a comprehensive review, see Haugaard 2002), while those who try to build an overarching theory often end up in counter-productive territory by having to include too many variables (cf. Beck 2005).

While we acknowledge that much general work on ‘power’ as a concept has been completed since Lukes’, a complete review of advances in studies of power over the past 40 years would be well beyond the scope of this project. Rather, we suggest, to understand authority and power in transnational governance, we need to look more specifically at networks and expertise (Carpenter 2007; Faulconbridge and Muzio 2012; Fourcade 2009; Seabrooke 2014; Thistlethwaite and Paterson 2015). Simultaneously, our constructivist and processual ontology allows us to look at
power as existing in the relationship between people and thusly constantly being in flux. The rest of this chapter will serve to provide an analytical framework by exploring how power and authority manifest in ideas, expertise, legitimacy and networks. This framework will be employed to understand current power relations in the transnational governance of climate finance.

2.2 Power as ideas and expertise

At the center of this study lies the notion, that authority and power in thin transnational spaces (Seabrooke 2014) requisite a substantial amount of subject matter expertise as well as a high degree of connectedness in social relations. Knowledge, ideas and expertise have long been considered crucial in studies of power, particularly within sociology (cf. Bourdieu 1986; Foucault 1979; Marx and Engels 2012) and IPE (cf. Blyth 2002; Polanyi 1944; Schmidt 2010; Strange 1996). This section lays out how ideas and expertise are such artefacts of power and sets a theoretically conceptual distinction between the two.

2.2.1 Bourdieu & Foucault

The sociological notions of the power of knowledge developed during the 20th century has a focus on the formation of knowledge and inherent embedded power positions in this process. Foucault (1979) famously argued that knowledge and power exist in a reinforcing relationship that informs the current paradigm of normality in society. In Foucault’s conceptualization, knowledge power is thusly seen as informing what appropriate behavior, attitudes and knowledge is, as in his much-famed studies of sexuality and mental illness. In these, he argues that those who own the means to produce ‘scientific knowledge’ are able to inform the societal discourses that either through judicial power or through the individual embedding the discourse in themselves by self-disciplining to align with the current paradigm. However, Foucault’s notion of power is ubiquitous, and thusly not directed to neither structure nor agency, but exists beyond the fabric of the two, as a metapower, or regime of truth, which is in constant flux (Haugaard 2002). Though Foucault’s studies primarily concern the governing of bodies, we can still draw from Foucault in his notion that the producers of scientific knowledge inform discourses of normality. Thusly, being in a position to produce scientific knowledge within a given episteme, is a very powerful one.
French sociologist Bourdieu (1986) too concerns himself with the relationship between knowledge and power. As with Bourdieu’s general position on power, knowledge reinforces power through distinction. That is to say that being knowledgeable and determinant of what is ‘proper’ knowledge in a given field, provides a powerful social position. Simultaneously, like Foucault, Bourdieu argues that power is not a matter of structure or agency, but lies in the interplay between the two. While we do not explicitly employ these understandings of power in the analysis, the underlying notion that power is embedded in all social relations and is contingent upon knowledge and the ability to produce knowledge, is a basic insight that informs our view of power.

2.2.2 Ideas

Political scientists have historically primarily been concerned with the relationship between power and knowledge within a rational choice perspective (Blyth 2002). This perspective emphasizes a rational institutionalist view that institutional structures provide incentives to rational actors for pursuing their material interests (utility maximizing) - and one way of doing so may be through improving one’s knowledge position (Keohane and Martin 1995; Keohane 1982, 1988). That has, however, in recent years been challenged by discursive institutionalism and ideational institutionalism scholarship that has focused on constructivist approaches to understanding how agents may not pursue their objective material interests, but rather their perceived material interests (Hay 2008; Schmidt 2010). Especially the rationalist conceptualization of institutional legitimacy as a byproduct of idea contestation has drawn criticism, notably in (Seabrooke 2010:81, citation in original): “As such, rationalists have a very weak conception of legitimacy because actors are viewed as “self-propelling” entities following their utility-maximization (Tilly 1995: 1595), rather than operating in an environment in which their individual choices are saturated by their normative environments, including the realm of what is legitimate social action”.

Blyth (2002:11) defines economic ideas as providing “agents with both a ‘scientific’ and a ‘normative’ account of the existing economy and polity, and a vision that specifies how these elements should be constructed”. This is to a certain degree compatible with the frameworks of Bourdieu and Foucault in understanding knowledge as a powerful resource that provides everyday actors with legitimation of their actions in uncertain times. However, where particularly Foucault
and to a lesser extent Bourdieu describe ubiquitous systems, where power exist at a meta level, Blyth adopts a much more agency-centric approach in his description of how ideas are brought into play and can act as causal elements for institutional change (Blyth 2003). More specifically, and in the vein of economic constructivism, Blyth argues that agents carry ideas into distributional battles for institutional change in three areas: institutional design, institutional contestation and institutional reinforcement (Blyth 2001). Correspondingly, for each battle of institutional change the ideas can be conceptualized as: institutional blueprints during periods of uncertainty, weapons in distributional struggle and cognitive locks (Blyth 2001, 2002). Blyth argues that while common structural factors may catalyze moments of institutional crises, a reference to structure alone cannot explain why a new set of blueprints of institutions will arise in response.

Thus, in the face of uncertainty, due to an unstable equilibrium and the uniqueness of such a situation, we must look to the interests of agents instead. However, exactly because of the uncertainty and the inability of agents to anticipate the outcome of any decision, Blyth argues that an agent’s interests must be defined in terms of the ideas agents themselves have about the causes of the uncertainty they are facing (Blyth 2001). To this end, ideational entrepreneurship is by Blyth deemed a crucial power resource precisely because ideas work to mitigate uncertainty, allow agents to challenge existing institutional arrangements and the patterns of distribution that they embody and enable the formulation of new institutional frameworks. Lastly, Blyth suggests that institutional path dependency or policy continuity should be regarded as an ideational, as opposed to, an institutional phenomenon, in that once ideas have become institutionally embedded they can serve as cognitive locks and thus be reinforced perpetually (Blyth 2001).

Blyth expands on this notion by arguing that in traditional rational choice theory interests are structurally derived, but contests that programmatic beliefs and solutions to everyday problems cannot be reduced to a priori interests (Blyth 2003). Instead, ideational entrepreneurs dynamically alter agents’ own beliefs of what their interests constitute: “This does not mean that structures are irrelevant—far from it—but such structures do not come with an instruction sheet. There is still plenty of room for agents to make history apart from their structurally given interests.” (Blyth 2003:4).
Diverging from the idea-centric argument outlined above, we do not view power as absolutely tied to neither structure nor agency, but rather as being expressed both through ideas by agents and in the everyday legitimacy embedded in specific structures. Here we align with Seabrooke’s (2014) notion that ideas suggest an autonomy from the relations that underpin them, and we thus argue that knowledge is a more novel proxy for the flow of information, demarcation of interests and ultimately power in an institutional context. In this, we agree with Seabrooke (2010), in that while ideas do matter, particularly in times of crises, we must not neglect the significance of institutional power exercised through everyday politics (Blyth 2010; Seabrooke 2007a, 2007b, 2010). Here we argue that knowledge as embodied by expertise plays a pivotal role in the everyday politics and normality of institutions and thus constitutes a very significant vessel for obtaining and exercising power. Specifically, we align with the argument that a selection bias towards periods of uncertainty undermines or neglects that institutions, are modified as much, if not more, during periods of normality than during periods of uncertainty (Seabrooke 2010). To this end, we look towards expertise as a core proxy of power as well as to explain institutional change and claims to both legitimacy, power and the flow of information in the transnational space.

2.2.3 Expertise

As argued above, we view expertise as being a proxy of power, intrinsically linked to the everyday politics of institutions (Seabrooke 2010). Recent theorizing on expertise (Eyal 2013), seeks to complement and expand on the literature on the sociology of professions, perhaps most prominently theorized by Abbott (1988), in that the notion of expertise is distinct and distinguished from that of the expert. Most significantly Eyal argues that Abbott, in his call for the sociology of professions to focus on the ‘history of tasks and problems’ (Abbott 1988), rather than the ‘life history’ of a profession, tells “… a history without a protagonist in the sense that the story it told would not be governed by projecting backward the necessary formation of a professional group nor by presumed functional identity between profession and task” (Eyal 2013:863) and thus falls short of his objective.
Whilst Abbott, has focused on jurisdictional battles over who can exercise control and which particular set of tasks that can be claimed, this notion does not answer the question of which arrangements that serve as precursor for a task to be accomplished and through which processes these arrangements came into being in the first place. Thus, Eyal proposes the sociology of expertise to fulfill the objective of a ‘history of tasks and problems’ and argues that in addition to the analysis of jurisdictional battles, an analysis of how forms of expertise are gradually assembled is required (Eyal 2013). Expertise is then analyzed as a network that links together agents, techniques, devices, concepts as well as institutional and spatial arrangements. To this end, the core argument is that expert and expertise demands two distinct modalities of analysis that are not reducible to each other (Eyal 2013). That is, the recognition that: “the social consequences of psychology (read expertise) are not the same as the social consequences of psychologists (read experts)” (Rose, 1992, p.356 in Eyal 2013:870).

This distinction is core to the present study on transnational climate finance, as jurisdictional battles are not solely waged between established professions, but between any entity that can lay claim to expertise within a given area, such as those under the umbrella of climate finance. This distinction entails that the actors addressed when utilizing the term expertise must be broadened. In this vein, recent studies have emphasized the important role of lay people in addressing technical problems that are normally assumed to be well within the formal boundaries of professional jurisdictions (Eyal 2013). Thus, in scrutinizing the distinction between expert and expertise, we distinguish between the former as constituting actors who lay jurisdictional claims to a particular task and the latter constituting the capacity to accomplish the particular task better, faster or more efficient (Eyal 2013). And it is precisely here, according to Eyal, that Abbott has fallen short of his objective in that the sociology of professions has been one of experts and only limitedly one of expertise.

In the sociology of professions, expertise is deeply embedded in the relational view in that it is regarded as an attribution (Collins and Evans 2007) and often a label that is assigned in retrospect, based on the virtue of recognition by significant others (Eyal 2013). This explains the emphasis on modes of organization such as: licensing, professional associations, credentials, accreditation etc. in an attempt to secure recognition by significant others and seeking to underpin this recognition with
a legal mandate. Think passing the bar, becoming a chartered financial accountant or obtaining a medical license.

Following this argument, expertise is a real and substantive skill obtained by an actor by virtue of socialization into modes of organization of similar experts. Here, Eyal argues that if we wish to account for the capacity to solve a particular task better, faster and more efficient, a skill and actor-centric view is not sufficient. Rather, it is, as mentioned above, through analyzing expertise as networks that we can come to a more comprehensive account of expertise and further that “if [...] any rule-like performance is only explicable by reference to a “background of practices” that are its “condition of possibility,” then a full explication of expertise must explore indeed this background of practices and the social, material, spatial, organizational, and conceptual arrangements that serve as its conditions of possibility” (Eyal 2013:871). These complex strings of networks, arrangements and practices that serve as the conditions of possibility for a particular expertise, are typically amply more evident when such a conception of expertise is still taking its form or is in the process of becoming a professional jurisdiction. Thus, when alternative ideas, arrangements, practices and actors are still able to address and reshape the tasks and problems at hand. It is only when a conception of expertise has been more comprehensively developed or defined, that a process of “black boxing” (Latour 1988) will make it appear as if expertise is embodied by the expert, which can explain the sociology of professions’ virtual equation of the two distinct phenomena.

The argument above on expertise aligns with Seabrooke (2014) in that the notion of knowledge is not necessarily perceived as being possessed or embodied by a community, but rather emphasizes how actors can draw upon differing pools of knowledge to gain a strategic advantage in networks on how problems and tasks are addressed and defined. This is well aligned with the analysis of expertise as a function of a network that links together agents, techniques, devices, concepts as well as institutional and spatial arrangements as emphasized in the sociology of expertise and further the argument that expertise can be regarded as proxy of power in an institutional setting. Following this, Seabrooke introduces the concept of epistemic arbitrage, which is based on the perception of an actor “knowing well” and the actors’ strategic position between institutional zones of difference such as networks, professional jurisdictions, communities or ecologies. Seabrooke further
elaborates: “This relational view of how professionals use knowledge ties perceptions of knowing well to shared understandings of expertise and prestige rather than viewing someone as an expert because of a particular professional qualification” (Seabrooke 2014:52). Following Eyal’s argument, and further departing from the skill and attribution-centric view, he continues: “In this sense the possession of a specialized body of knowledge, as commonly understood in traditional definitions of professions, does not necessarily strategically place one as a mediator of knowledge within professional networks. Rather, as professional action and interaction are tied to tasks and problem-setting (Schôn 1983; Lazega 1992: 40), knowing well is much more important than formal training or even having a good idea” (Seabrooke 2014:52, citation in original). This notion of knowing well ties into Bourdieu’s conceptualization of being knowledgeable and what constitutes ‘proper’ knowledge within a given space and ultimately how knowing well can provide a strategically advantageous social position (Bourdieu 1986).

The latter (good ideas) will be elaborated upon in the vein of Burt’s notion of structural holes in transnational spaces (Burt 2004) in the next section on power as networks, communities and ecologies, whilst the concept of epistemic arbitrage will be discussed in the section on power as networked knowledge.

2.2.4 Legitimacy as a function of expertise

Having elaborated on the theoretical distinction between expert and expertise, we turn to yet another argument for the expertise-centric view employed in this study, which is legitimacy as a function of perceived expertise and thus ultimately knowledge. To this end, we argue that expertise can serve as proxy for legitimacy in transnational governance. We do so by employing a legitimacy framework as set forth by Quack (Quack 2009) as well as recent theorizing on communities (Djelic and Quack 2010) and the role of communities of practice (Adler and Pouliot 2011; Wenger 1998).

We argue that expertise as a proxy of knowledge is an integral feature of social legitimation processes for everyday legitimacy (Seabrooke 2010) embedded in specific structures such as those applicable to transnational governance. In other words, legitimacy in the transnational space can be argued to be derived from expertise.
In terms of legitimacy, we start from the Weberian notion that “every system of domination—no matter whether of the rational-legal, traditional or charismatic type—in addition to establishing administrative structures to enforce obedience also depends on its subordinates’ ‘belief in its legitimacy’” (Quack 2009:8). To this end, Quack argues that: “This is particularly pertinent in the transnational sphere, where it is not at all evident which institutions have the authority to issue rules, which constituencies should be addressed and how those affected will respond to such legitimacy claims” (Quack 2009:8). Quack argues that transnational governance transcends the traditional criteria for legitimacy and thus lacks claims to democratic legitimacy as embodied by direct accountability to a populace. This perceived lack of accountability is further complicated by the fact that authority in transnational governance is typically polycentric with significant overlap, as well as complex relational processes, between public, private and civil society actors (Quack 2009). Thus, Quack proposes three alternative legitimacy standards for the normative evaluations of legitimate rule-making in the transnational space: inclusiveness of participation, expertise-based effectiveness and procedural fairness or input, output and throughput-legitimacy (Quack 2009). Whilst they are all of relevance to any actor in transnational governance concerned with its perceived everyday legitimacy, we concern ourselves mainly with output-legitimacy. We do so because the output-oriented approach evaluates the legitimacy of transnational actors against their ability to produce viable and effective policy solutions. This in turn is typically regarded as a direct function of: “the technical, professional, epistemic and bureaucratic expertise involved in decision-making” (Quack 2009:7) – hence the moniker ‘expertise-based effectiveness’. Further, this conceptualization of transnational legitimacy as a function of perceived expertise helps underpin our focus on the role of expertise and everyday politics on change in transnational governance, as opposed to the role of ideas in times of uncertainty.

Utilizing above definition of legitimacy on a transnational governance case akin to ours, Park (2012) argues for the notion of legitimacy as a function of expertise: “Compared with the hierarchical rule-making of the state, industry-based standards rely on market actors’ underlying expertise for their legitimacy rather than the authority of the rule-maker” (Park 2012:142). Thus, legitimacy in global environmental governance can be argued to be tied to the notion of legitimacy as a function of
expertise or knowing well. A complementary way of conceptualizing and employing this expertise-centric view vis-à-vis transnational governance is through that of transnational networks, linked ecologies and communities.

2.3 Power as communities, networks and ecologies

Crucial to this study is an understanding of power and authority as being manifested through interpersonal and organizational relations. While this observation may seem banal, we will attempt to show how the types of network agents interact with, as well as the types of ties they bind, has profound implications for power relations at the agentic and organizational level. The following section will provide the theoretical basis for such an assumption. We shall start with an observation made by Marx & Engels in the Communist Manifesto.

“The need of a constantly expanding market for its products chases the bourgeoisie over the entire surface of the globe. It must nestle everywhere, settle everywhere, establish connexions everywhere.”

(Marx and Engels 2012:39)

Here, Marx and Engels make an astute observation regarding how elites use networks to reify their power. The capitalists of the industrial era could not be satisfied with existing in tightly knit ecologies, as the former sole elite class, the aristocracy, had. Instead, the new bourgeoisie was dependent upon establishing connections elsewhere, expanding its reach.

At a slightly less grandiose level, Granovetter (1973) demonstrates why this mode of establishing connections is important. In his study of how social networks affect opportunities and circumstances for agents, he shows the value of having weak ties beyond ones’ immediate network, as opposed to having stronger connections in smaller, more dense networks. Granovetter shows empirically how most life opportunities (such as job offers) are provided by people on the periphery of one’s network, such as former co-workers or friends of friends. Simultaneously, he demonstrates that people with more weak ties are receiving more professional recognition, through promotions or wage increases, than those existing in more tightly knit networks: “[…]weak ties, often denounced
as generative of alienation (Wirth 1938) are here seen as indispensable to individuals’ opportunities and to their integration into communities; strong ties, breeding local cohesion, lead to overall fragmentation” (Granovetter 1973:1378, citation in original).

As indicated in the quote above, Granovetter turns conventional wisdom regarding the strength of ties on its head. Rather than arguing that strong ties are more important to well-being, he argues that being connected to actors in different ecologies provides better opportunities. This insight is of great value to the sociological research program regarding social networks and relational sociology (Emirbayer 1997), as it provides an understanding of which agents in networks gain the most from being in them. Further, it emphasizes how other groups, connected with agents with a more dispersed network, benefit from that interaction.

To understand groupings within networks, we turn to the literature surrounding “ecologies” in network studies. This understanding of social life has been applied in much sociological work, to provide a term for the social clusters that agents belong to (Abbott 2005). The traditional ecological argument is, however, very static in its conceptualization as it “considers a system of actors in a set of locations” (Abbott 2005:246). In the processual view of social life applied in this study, is an underlying notion, that one ecology cannot have static surroundings, but rather that social life is in constant flux (Abbott 1995). In Abbott’s (2005) conceptualization of “linked ecologies” we find a theory that to a larger extent does justice to the way we understand the mechanisms of the case studied here. This aligns well with Djelic and Quack’s (2010:7) notion, that “we should consider, rather than communities, processes of community formation, maintenance, decline, and even disintegration”.

A linked ecologies approach asserts that “The locations of an ecology (e.g., tasks in the professional ecology) are not preexisting positions except in a sense too abstract to be relevant to social theory. It is the process of constructing the relations between actors and locations that in fact constitutes and delimits both actors and locations. Analytically and empirically, the relational process is prior” (Abbott 2005:248). This has significant implications for understanding how coalitions and bridges are built between different ecologies; in this, we must understand the boundaries as the analytical
focal point that constitutes agents as well as entities (Abbott 1995). While ecologies exist at the boundaries between them, these ecologies may link over certain issues. As opposed to a model of ecology-audience, where changes and claims are judged by external agents or ‘significant others’, the linked ecologies approach argues that change within one ecology must provide results to allies within a different one to be successful. These types of dual rewards are referred to as “hinges” (Abbott 2005), where two ecologies can achieve positive outcomes, although maybe in different areas altogether.

Another tactic in linked ecologies may be for an ecology to create an avatar of itself within a different ecology, rather than seeking an alliance (Abbott 2005). This can, for instance, be seen in the case of the economics profession successfully creating avatars in other ecologies, which has increased the salience of a neoclassical ontology in a wide range of professions (Fourcarde 2009), including that of climate change. These avatars can thusly become “institutionalized hinges” (Abbott 2005). However, avatars and originals face completely different competitive situations, which shows us “the powerful internal dynamics of ecologies, the ways in which those internal conditions of competition tend to keep ecologies separate” (Abbott 2005:265).

In terms of application, a linked ecologies approach can be particularly useful in understanding jurisdictional battles between professions (cf. Seabrooke and Tsingou 2015) but also between public/private ecologies (cf. Stone 2013) as well as in issue distinctions within professional groups (cf. Seabrooke and Tsingou 2009, 2014).

While linked ecologies brings us valuable insights into how ecologies mutate over time through mutual strategies, we will posit, that there exist holes between the ecologies, which are neither bridged by hinges, nor avatars, but rather by agents that do not owe allegiance to any one ecology. These we shall refer to, following Burt (2004), as “structural holes”. Structural holes occur between two or more ecologies in a network. As with Granovetter, the fundamental idea is that two people with the same network can have widely different social capital in that network; the person with connections in a dense network does not have the same social capital as the person that ties different networks (or ecologies) together. These holes exist, and so do the agents who exploit
them, before the actual “yoking” (Abbott 1995) of professions happen. Yoking refers to the process of how proto-boundaries mutate over time to create new entities. Agents at the intersection of different ecologies are described as brokers, which function at four levels (Burt 2004):

1. Making people on different sides of structural holes aware of issues and interests on the other side
2. Transferring best practice from one side to the other
3. Drawing analogies between two groups that are ostensibly different, or being able to see the similarities between two such groups
4. Synthesizing activities between two groups

These four levels of brokerage tell us a lot about how important brokers can be in networks. If an agent is particularly well-positioned to provide brokerage services, even at the first and most superficial level, that agent is in a most powerful position. By being able to determine which ecologies should and should not cooperate and being able to synthesize two areas in to one, the broker performs “information arbitrage” (Burt 2004), akin to Seabrooke’s (2014) notion of “epistemic arbitrage”, which we will explore in section 2.4 section. Furthermore, Burt reminds us, that having the ability to make decisions which impact the knowledge basis of other agents or ecologies, is a truly powerful position.

While we largely align with the notions of linked ecologies here, we will in the following section attempt to introduce a different notion of transnational communities, in order to provide an understanding of community formation around different issues.

2.3.1 Transnational communities & communities of practice

Djelic and Quack (2010) theorize around the notion of a ‘community’ and argue for its changing modality and thus continued relevance in an increasingly individualistic, globalized and transnational society. They argue that: “Social links, group belonging, and community feeling do not disappear with the progress of differentiation and individualization – far from it. The meaning and form associated with these notions is certainly bound to change in the process. But in the event we
might even witness an intensification of the possibilities for social belonging and hence a multiplication of community forms” (Djelic and Quack 2010:6). Further, the authors argue how a transnational community transcends the traditional notions of communities embodying modalities of physical proximity and kinship and that they no longer are static structures but rather fluid, relational and processual constructs (Djelic and Quack 2010).

Djelic and Quack present a notion of ‘community’ that is fundamentally transnational and posits that our world can no longer be understood as being dominated by national sovereign entities and orchestrated through an international “concert of nations” (Djelic and Quack 2010). Rather, all spheres of economic, social and political life are constrained or enabled by communities, both national and transnational, as order-creating capabilities are no longer solely reducible to a function of nation state power (Held 1995).

We align with the authors in that contemporary communities can be thought of as being actively constructed by their members, who in turn can have multiple community affiliations. Thus, through time individuals may give priority to differing relations for community construction. This construction implies a stabilization of collective orientation and thus creation of social boundaries (Djelic and Quack 2010). In short, a social aggregate is can be seen a community if it embodies: a mutual orientation of members, articulated around a common identity and/or a common project, a sense of reciprocal dependence, a form of active engagement and involvement from at least a minority of members and that these embodiments translate into and sustain a sense of belonging (Djelic and Quack 2010).

In this, the link between the above notion of a community and the expertise-centric view we employ seems evident: the constitution of transnational professional communities are pivotal to knowledge production and diffusion in the transnational space (Djelic and Quack 2010). In such communities, and in the vein of the sociology of professions, professionals congregate on the basis of knowledge and practical expertise to pursue shared collective goals and exclusive jurisdictional control over the exercise of certain knowledge based on credentials and licensing (Abbott 1988). In other words; professionalization largely entails the formation of communities based on the characteristics set
forth above by Djelic and Quack (2010). However, in the vein of the sociology of expertise, we again reject the narrow emphasis placed on licensing, accreditation and the like and turn to the notion of expertise as a function of a web of networks, arrangements and practices and as constitutive of knowledge. Further, in transnational spaces, expertise serves as a source of legitimacy. To this end we align with Djelic and Quack (2010:19) and their emphasis on transnational knowledge and expertise in that: “the spread of this transnational professionalism, however, is more often than not based on a diffuse public recognition of knowledge and expertise in dealing with highly specialized and complex matters, rather than on the classical control over licenses to practice exercised by professional associations or the state”.

Expanding on the conceptualization of a community, is that of communities of practice as coined by Wenger. Here, Wenger emphasizes joint enterprise, shared repertoire and mutual engagement as being the sources of coherence as well as modalities of knowledge-creation in a community of practitioners (Wenger 1998). However, Wenger emphasizes that communities of practice should not be thought of as ‘a haven of togetherness’ and that disagreement and challenges also are modalities of participation in such fora. Through sharing and discussion of practices, discourses and ideas, the members of communities of practice may expand the knowledge skill-set of their member bases and ultimately reinforce members’ expertise. To this end, a communities of practice embody an inherently ‘open’ sense of community in that one of its main purposes is to introduce outsiders or newcomers to its practices (Djelic and Quack 2010). As such communities of practice becomes social entities of collective learning within different domains of knowledge (Djelic and Quack 2010). Adler and Pouliot (2011) further theorize on this particular mode of community in that the notion transcends mere conscious and discursive dimensions but also embody a space where structure and agency overlap and in which knowledge, community and power interconnect. Thus, communities of practice embody both social structures that lay the epistemic and normative knowledge foundation for action, as well as actual agents that via networks influence policy arenas. Aligning with the transnational vein set forth by Djelic and Quack (2010), Adler and Pouliot argues that communities of practice do have a place in a highly globalized and transnational space, where a sense of community is more informed by expertise, practice or values than by national identities.
In short, public policy has not only grown substantially more transnational but also increasingly technical or specific. Knowledge-centric communities as presented above thus constitute novel vessels for mitigating uncertainty arising thereof. This phenomena is what Nelkin has dubbed “the policy role of the knowledge elite” (Nelkin 1979:107).

By employing the understandings of networks, communities and ecologies put forward by Abbott, Granovetter, Burt, Wenger, Adler & Pouliot and Quack & Djelic, we gain a processual understanding of networks where ecologies and groupings are in constant flux, with alliances being formed and broken over issues with mutual benefits. We also understand that social life is not saturated with ecologies nor communities, and between ecologies there can exist structural holes, that agents can exploit to their own and the involved ecologies’ benefits. What we can also see from these theories is that networks have little bearing on their own, but are intimately tied to knowledge, expertise and ideas as explored in the previous section. While we shall explore the theoretical components of social network analysis further in the methodology section, the next section will attempt to bridge these theoretical propositions and conceptualize the theoretical framework as used in the analysis.

2.4 Power as networked knowledge

This chapter has so far aimed to show how knowledge and networks are valuable proxies of power and legitimacy. We have, simultaneously, aimed to show that these two social factors exist in a reciprocal relationship. The following section will expand upon this notion, and offer the building blocks for the theoretical model applied in this study by providing a theoretical explanation of our view on how knowledge, expertise, networks and power are inseparable from each other, and explain the room for agency in a world of social structures.

Of particular interest to this study, is how existing ecologies adapt and link over emerging issues, particularly that of climate finance. In the previous sections, we have described how groups with expertise within given areas may link over certain issues. While we certainly acknowledge this structural argument, we will, as mentioned previously, argue that there is room for agency in a theory of transnational governance. In this, we position ourselves alongside Burt (2004) and
Seabrooke (2014) in seeing the (epistemic) holes between ecologies as providing opportunity for such agency actions.

While Burt primarily operationalizes his theory of “structural holes and good ideas” within institutionally “thick” environments (Abbott 1988), Seabrooke provides an argument for such holes being more prevalent and more easily exploited in institutionally “thin” environments. Thick environments refer to dense institutional fields, with many agents and a large degree of issue transparency. Thin environments, meanwhile, are less densely populated (organization and agency wise), and thusly provide larger structural holes. Seabrooke expands on Burt’s notion, that brokers at the deepest level of brokerage can “synthesize” two ecologies to provide the solution to a structural hole, in that the agents themselves plug the proverbial structural hole and exploit these holes to foster markets for their services.

Thusly, Seabrooke provides an argument for a new linking of ecologies, additional to those proposed by Abbott (2005); avatars and hinges. The figures below show how jurisdictional battles can take different forms, depending on the tactics employed and the contested area.

The figure on the left depicts three different professional ecologies and a contested issue. The figure on the right shows how different tactics, as described in the previous section, may be employed in jurisdictional battles over this contested area; the black ecology places an avatar in the white ecology, while creating a hinge between itself and the grey ecology (Abbott 2005). By engaging in these tactics, the black ecology becomes able to make authoritative claims to the issue (Seabrooke 2014).
Figure 2 below shows a different scenario, in which an agent is performing epistemic arbitrage by being able to move between the different ecologies. In doing so, the agent draws on different pools of knowledge, positioning herself as a broker of knowledge, able to plug the structural hole between the ecologies and solve the policy issue at hand.

Seabrooke (Seabrooke 2014) suggests that in order to successfully engage in epistemic arbitrage, agents must possess the three skills listed below:

1. Partial decoupling from professional codes,
2. Autonomy from professional and institutional socialization, and
3. Social skills and a willingness to identify and exploit structural holes.

In this, we understand brokers who perform epistemic arbitrage as highly social beings that are detached from institutionalized behavior and language, with skills that enable them to identify structural holes and a willingness to exploit them. Arbitrageurs can become epistemic arbiters through repetition (Abbott 1995) and “shaping systems of knowledge and how governance is conducted” (Seabrooke 2014:59). Different to the simple act of epistemic arbitrage, arbiters continuously exploit their position, with an interest in shaping transnational governance. The arbiter, then, becomes a producer and reinforcer of systems of knowledge and power in transnational governance.

Important to the concept of epistemic arbitrage is the term “knowing well” (Seabrooke 2014), a notion which was also mentioned in the section on expertise above. Aligning with Eyal (2013),
Seabrooke argues that knowing well is not so much a question of a particular type of expertise, but rather a shared understanding of expertise and prestige among a network of professionals. Knowing well, then, is intimately tied to structural positions rather than formal training. This, too, has implications for the relationship between Seabrooke and Burt’s conceptualizations of knowledge networks. Burt draws on a slightly more static notion of networks and knowledge, while Seabrooke argues that the arbitrage is taking place at a deeper level, than treating information as mere “neutral commodities” (Seabrooke 2014).

By employing the frameworks of Seabrooke and Burt, we understand how actors can draw on different pools of knowledge to provide new policy ideas and solutions. We simultaneously understand, how these acts of epistemic arbitrage can cause structural changes to networks, with the actors performing the arbitrage effectively being institutionalizers of yoking different ecological knowledge pools onto new platforms, and perhaps creating entirely new ecologies or professions. In the following, we lay out the theoretical framework of this study, as it will be applied in the analysis.

2.5 The theoretical framework

At the core of this study lies an understanding of a reciprocal relationship between knowledge and networks as vessels for power and authority in matters of transnational governance. Power can here be understood as the ability to foster and implement “good” ideas (Burt 2004); ideas that are seen as salient and legitimate by the surrounding actors and ecologies (Eyal 2013; Seabrooke 2014). Having expertise is thusly a presupposition of having ideas (Blyth 2002), but being positioned well within the network is a presupposition of making the ideas “good” (Abbott 1995; Burt 2004; Seabrooke 2014). As the transnational spaces are understood to be thin (Seabrooke 2014), structural holes will occur more frequently. This poses a situation of strong demand for epistemic arbitrage, but less supply, rendering the epistemic arbiters in powerful positions, financially and authority-wise.

However, epistemic arbitrage does not constitute the only way to plug the structural holes between ecologies. Ecologies can, where there is mutual benefits, create hinges between each other on
specific issues (Abbott 2005). In a processual understanding of sociology, ecologies can this way adapt to emerging issues. In spreading practices, knowledge and culture, ecologies can also create avatars of themselves within other ecologies. These practices of institutionalizing change and adapting to environmental changes and pressures are prevalent in Abbott’s (Abbott 1988, 1995, 2005) account of social and professional life as ecological. Therefore, while our understanding of the social world of transnational governance relies on Abbott’s view of social life, we acknowledge and certainly emphasize the need for added agency in allowing conceptual room for how new ideas and practices emerge.

This theoretical framework has its underpinning in a view of social life as processual. In this, we see positions and structures as in constant movement; expanding and diminishing, merging and diverging. In other words, ecologies react to and enact their environments, which in turn has implications for other ecologies. We simultaneously take on a view of expertise and knowledge, that very much relies on everyday legitimacy through knowledge. The expertise and continual involvement with issues, can position agents to have “good” ideas, but in this theoretical framework expertise, and thusly legitimacy, is prior to that. While we acknowledge that ideas can be important in times of uncertainty, our focus here is on the everyday constitution of a knowledge network for climate finance, which has existed in a rather incremental state, that has not yet provided a crisis - although one might argue that climate finance is a crisis remedy, that itself has existed in a constant state of crisis.

Our focus on knowledge and networks has implications for both the philosophical underpinnings of the study as well as the methodological framework applied. In the following chapters we show, how we operationalize a study of knowledge power in the transnational governance of climate finance.

3. Philosophical considerations

This thesis understands ideas, expertise and social networks as crucial components of power. Thusly, we align ourselves with the strides being made in constructivist political economy (Broome 2013), while paying less attention to contestation and moments of upheaval, and more to the everyday politics performed by climate finance practitioners (Seabrooke 2010). This short section
will outline how this influences our ontological and epistemological vantage points and how these reflections are evident in the interplay between methodology and theory.

Firstly, the object of our study is power and how that term relates to its components; legitimacy, networks, and expertise. These terms refer to ‘social facts’ (Searle 1995) that are constituted through the meaning that they embody to others in a given social relation. Social constructivism posits that reality is constructed through the words and actions of those who populate that reality (Delanty 2005). Thusly, when we study climate finance actors, those may be hugely influential people in their line of work, but to those not “in the know”, they are just (typically) white men in suits. The power they hold in one professional field is less in another, because they lack subject matter expertise, legitimacy as elites and/or authority. Ontologically, then, this study sees the world of climate finance as inhabited by social phenomena that are imbued with meaning by agents and organizations. The power embodied in the relations between the members of the climate finance elite as well as how they relate to others is not a natural given, but a construct provided by their interaction with their surroundings. Simultaneously, we take on a processual view of social processes (Abbott 1995), meaning that we understand social life to be in constant flux, with entities (or things) merely existing through the repetition of social acts and artefacts. This focus on social communities and processual sociology rather than singular actors places us firmly within the constructivist camp of IPE (Broome 2013).

These ontological assumptions have profound implications for the means by which we can study these phenomena. In order to understand an inherently socially constructed world, we must employ methodologies that are able to capture those social relations. Constructivist political economists, and particularly those of the sociological strain, provide a palette of methodological tools for understanding social phenomena. This study attempts to combine a methodology more recently employed in IPE, social network analysis, with the oldest of all; conversation. We thusly attempt to understand the social world by both observing it, and engaging with it.

As will be explained in the following chapter on methodology, our understanding of social ties is deeply embedded in the research design of this project. Social network analysis is based on the
assumption that being socially well-connected is a proxy of holding power in a given arena (cf. Granovetter 1973; Keck and Sikkink 1999), while the semi-structured interviews we conduct are meant to provide us with insights in attitudes, conceptions, narratives and knowledge about other actors, as well as issues pertinent to climate finance. In this, we align ourselves with both Borgatti, Everett, and Johnson (2013) as well as Kvale (2007) in that these are methodologies that are embedded in certain theoretical frameworks and concepts; relational sociology and narratology. As will be described later on, we have attempted to understand the world of climate finance in its own terms; firstly by performing a literature review that informed the starting point of the social network analysis and then attempting to speak openly with those agents that inhabit the world we study.

While critical realist scholars have argued for a more objectivist turn in social science (Delanty 2005), we align with Mark Blyth (2010) in that there is little evidence that constructivist scholars are inhibited in their studies by their ontology. As he eloquently puts it: “nuclear weapons are real things [...] but an Iranian bomb means something entirely different from a Russian or British bomb, which is the poststructuralist point. The meaning of the physical object is not reducible to its materiality.” (Blyth 2010:170). If one were to paraphrase that for the purposes of this project, you might argue that money is real, but public and private funds mean entirely different things; they are imbued by meaning, and it is this meaning that agents act upon. While rationalist IPE approaches are important to understanding agents’ pursuit of material interests (Broome 2013), we posit that in terms of understanding the everyday workings of those who govern transnational climate finance, we must rather think in terms of ideas and expertise.

4. Methodology

This section seeks to address the methodological deliberations and choices we have undertaken during researching and writing present study. To better qualify the reasoning behind said choices, the research design and case selection will constitute the initial part of this chapter, which simultaneously addresses the intricate interplay between our applied methods. We then present the theoretical background and practical utilization of the methodologies applied in this study; social network analysis and semi-structured interviews. Lastly, we present a section on our data collection techniques and the procedural deliberations informing said collection as well as discussing the limitations of the applied methodological design.
4.1 Research design

At its basis, this study is a single case study of knowledge networks at the core of transnational climate finance. It is, however, a single case study with more than 2500 observations and interviews across 12 different organizations. In this, the case is not a single organization or coalition, but rather the network as a whole and more specifically the inner circle. Inherent in the tradition of case studies is the notion, that the study analyzes a specific situation in a way that is not generalizable but may have wider applications and implications (Bryman and Bell 2007; Lake 2011; Saunders, Lewis, and Thornhill 2009). As such, our main focus here is on understanding the case and second to that to make inferences about the wider implications of our findings.

In order to provide an understanding of authoritative actors and power relations in the climate finance arena, this study employs an iterative mixed methods design (Bryman and Bell 2007). Employing mixed methods allows us to understand the field from different points of view and to corroborate and challenge the findings in one phase with those of the other. The model below depicts the design of the data collection and analysis phase. While all phases will be described in greater detail in this chapter, we will provide a short account of the role of each phase in the design of the study.

The initial phase of the research was constituted by a basic need to establish and identify the main actors within the field. This was necessary in order to ensure an informed platform for the later stages of the research, as the social network analysis would form the empirical foundation that the rest of the study would build on. Through the identification of 13 organizations in a literature review of recent reports, we used the web-based tool Issuecrawler to identify the main actors through their...
web connections. This resulted in a list of 65 relevant organizations\(^1\), from which we gathered data on boards of directors and senior management. This was used to constitute a list of 876 people, from which we gathered CV’s through company websites, LinkedIn, Bloomberg and similar tools. The result of this process was a list of 1679 organizations\(^2\). The agents and organizations were subsequently coded in a matrix\(^3\) and loaded into the social network analysis tool UCINet and analyzed. We used the measurement ‘betweenness’ to identify the top 50 actors and reached out to them through email for interview proposals. About 25 replied back in a positive fashion, and at the end of the process we had conducted interviews with 12 of those. The interviews were conducted either through the phone or Skype due to the geographic spread of the interviewees. The interviews were subsequently coded and analyzed using the qualitative analysis software NVivo.

These processes will be elaborated upon more comprehensively in the following sections.

The data gathering and analysis process was the result of a design that was laid out at the very beginning of the research. While we made choices to adapt to the circumstances, we deemed a mixed methods framework crucial to the success of the project at the beginning. We adhere to the belief, that having two related but separate datasets allows us to provide a better account of the social relations, insofar as combining the empirical work with the theoretical considerations described in Chapter 2. The research design, then, is informed by both theory and philosophy of science, and exists in a reciprocal epistemological relationship with those integral parts of the project. Thusly, while not working from a “grounded theory” perspective, we do acknowledge the value of working iteratively (Bryman and Bell 2007), continuously reevaluating our decisions and analytical findings based on new information.

4.2 Social Network Analysis

Social Network Analysis is a quantitative method in that it applies mathematical graph theory conceptualization to the study of networks (Scott and Carrington 2014b:5). More specifically, The

---

\(^1\) See Appendix 3 for Issuecrawler results
\(^2\) See Appendix 11 for list of agents and organizations
\(^3\) See Appendix 6 for adjacency matrix
Sage Handbook of Social Network Analysis defines it as “a specific application of graph theory in which individuals and other social actors, such as groups, organizations and so on, are represented by the points and their social relations are represented by the lines” (Scott and Carrington 2014b:5). While SNA constitutes a well-defined practice and paradigm in and of itself, the methodology has roots in a broad palette of academic disciplines including anthropology, psychology, economics and sociology and is thus highly interdisciplinary. Even though SNA is both well-established and spans several academic disciplines, the methodology is relatively emergent within the field of IPE. Therefore, this section will provide a brief review of the theoretical and methodological underpinnings.

SNA utilizes a foundation in statistics to enable analysis of the quantitative properties of entities in a network. Whilst we actively utilize these quantitative metrics or properties, an in-depth discussion of the underlying mathematical formulas is beyond the scope of this thesis. The quantitative properties are the aforementioned systems of points and lines between pairs of points; network analysis is about structure and position (Borgatti et al. 2013). SNA has since its earliest academic application in the 1930s, utilized these ideas to convey the characteristics of social structures, as well as investigating the configuration of social relations that stem from the interweaving of actions in social encounters (Scott and Carrington 2014a). SNA has historically been applied to a multitude of different studies: interlocking directorates, criminality, epidemiology, citation patterns, social movements as well as the study of policy networks. Alongside the increasing application of SNA in various academic fields, theorization has developed rapidly as well. Here, we especially acknowledge and align with the theorization on relational sociology as set forth by Emirbayer (Emirbayer 1997; Mische 2014). Here he posits a transaction perspective that is fundamentally opposed to substantialism: “[…]the very terms or units involved in a transaction derive their meaning, significance, and identity from the (changing) functional roles they play within that transaction” (Emirbayer 1997:289). Following the call for a relational sociology and feeding into the theoretical framework underpinning this thesis, Emirbayer sets forth the notion of “sociology of occasions” which emphasizes the importance of face-to-face encounters. He argues that the analysis of such as a matter of scrutinizing regularities, recurring mechanisms, patterns and
sequences in these transactional and interactional “occasions” (Emirbayer 1997). This aligns well with our utilization of Abbott’s (1995) notion of a processual sociology.

SNA contains its own terminology. In the following sections we will go through the terms and concepts inherent in the tradition with relevance for this study. Points and lines are in SNA-terminology called nodes and edges, and thusly a network entirely consists of these nodes and edges and their interrelations and positioning vis-à-vis each other. As mentioned above, nodes can embody actors whether being individuals, groups or organizations. For the purpose of this study and our data collection, the nodes embody individual actors within the climate finance arena as well as the organizations that serve as vessels for interaction between these individuals. Because the nodes in our network encompass individuals and organizations and thus two differing levels or modes of analysis, our SNA embodies what is called a two-mode network. Conversely, a one-mode network would consist solely of one type of actor and their interrelations.

A network can be either directed or undirected depending on which relational phenomena the network represents (Borgatti et al. 2013). Typically, the presence of reciprocity will play a key role. This implies that in a directed network, the relation will have a sense of direction such as “is the parent of” or “gives advice to”. While directed relational phenomena can naturally be reciprocated, that will not always be case. The contrary applies for undirected networks, which represent relational phenomena where direction does not apply or where reciprocity is a constant. Intuitively, the relational phenomena present in the network studied here seems undirected as the relationship between the individuals embodies “works with” or “sits on the board with”. However, the focal point of our research is solely the relationship between individuals in the climate finance space, as formalized by their interactions in venues such as organizations, committees or boards. Thus, the network analyzed here essentially embodies the relational phenomena of individuals with organizations or more simply “employed at” or “sits on the Board at” and is thus directed. This in turn entails that the edges in the network describes co-membership or co-employment (Krempel 2014), to this end they are role-based edges (Borgatti and Lopez-Kidwell 2014). Following the notion set forth by Emirbayer (1997), we argue that the venues embodied by these organizations constitute these “occasions” where face-to-face encounters occur.
To illustrate the terminology presented above, the ego-network (the network of a specific node) of a randomly selected node in the network, Sean Stafford Kidney, is presented below. Here, we see agents represented by red circles and organizations represented by blue squares. As we know, the relational phenomenon scrutinized in the network is affiliation; “employed at” or “sits on the board at”. This explains the directed edges or ties from actors to organizations, implying that Sean Stafford Kidney is affiliated with five organizations: Climate Bonds Initiative, The Network for Sustainable Financial Markets, Capital Markets Climate Initiative, Mercer’s Sustainability Opportunities Fund Advisory Panel and the Commonwealth Expert Group on Climate Finance. Through these organizational affiliations, we are able to elucidate Mr. Kidney’s network in this space and thus which of the 876 agents identified he enjoys co-membership or co-employment with. E.g. we can see that Mr. Kidney is connected with Mr. Mark Fulton through both Climate Bonds Initiative and Capital Markets Climate Initiative. Further, Mr. Kidney remains the only agent in the network affiliated with Mercer’s Sustainability Opportunities Fund Advisory Panel.

4.2.1 Centrality metrics

Centrality is a diffuse concept, but it is commonly defined as a property, or prominence, of a node’s position in a network (Borgatti et al. 2013). Thus, it helps to think of the contribution that node
makes to the structure of the network and further the advantage or disadvantage a node may obtain by its position (Borgatti et al. 2013). There are a handful of quantitative centrality metrics which UCINET can compute based on data input. These metrics measure different types of centrality in a given network. They typically also differ based on whether they are best suited for analysis of undirected or directed networks. The four main centrality metrics are degree, eigenvector, closeness and betweenness.

The simplest of these metrics is degree centrality, which is simply a count of the number of edges a node has. This simple metric renders it useless for our purposes, as the number of edges attributed to a node only tells a very limited story about a node’s position or “importance” in the specific climate finance network (Hanneman and Riddle 2014a). An example from our own research is that the metric is biased towards actors who sit on very large boards with a multitude of board members. This will increase their degree-score, sure, but will only tell a partial story about the position or “importance” of an individual in a network encompassing 1679 organizations and 876 individuals.

Eigenvector centrality is a variation of degree centrality in that the number of nodes adjacent to a specific node is counted. However, the difference is that each of these adjacent nodes are in turn weighted by their centrality (Borgatti et al. 2013). This entails that the eigenvector centrality metric for a specific node is the sum of centrality scores of the nodes it is connected or adjacent to. This in turn implies that a node is only as central as its network. To this end, eigenvector centrality is typically viewed as function of popularity, in that a high eigenvector score implies that a node is connected to nodes that themselves are well connected (Borgatti and Halgin 2014:17).

Another centrality measure is that of closeness. This measure is the sum of geodesic distances from a specific node to all other nodes in the network, indicating whether a node is central or peripheral in the network (Borgatti et al. 2013). The closeness centrality metric is typically regarded as the “minimum time until arrival of something flowing in the network” (Borgatti et al. 2013:173). Thus, information originating from any possible node will theoretically reach a specific node with a high closeness score very quickly. However, with our objective of scrutinizing the actors who not only are
central in the network in terms of obtaining information rapidly, but also with the possibility to act as gatekeepers of knowledge flows between differing ecologies, we look to betweenness centrality.

Betweenness centrality is a function of how often a specific node falls along the shortest path (geodesic distance) between two other nodes (Borgatti et al. 2013). The score is derived by computing the proportion of all the shortest paths among other nodes that pass through a specific node. In other words, how often a node is instrumental in bridging different parts of the network with each other. This implies that many other nodes need the node with a high betweenness score to reach other nodes via efficient paths. As such, the betweenness centrality measure is often viewed in the light of the potential to control flows in a network and thus to act as a gatekeeper of knowledge and ideas (Hanneman and Riddle 2014a). For the purposes of this study, we have chosen to utilize this metric to attempt to draw inferences about the ability of nodes to bridge gaps between different knowledge pools and ecologies, and thus act as brokers, in the network shaping climate finance. It is thus also this particular metric that has informed our conceptualization of the most “central” or “prominent” individuals and organizations in the network.

4.2.2 Visualization
Beyond the centrality metrics, visualizations are a common method utilized to enable researchers to make inferences and interpretations based on network data. The spatial orientation of nodes embodies a way to convey a qualitative understanding of the network that may be hard to obtain quantitatively (Borgatti et al. 2013). This understanding, coupled with the last few decades’ advances in computer science, allows us as researchers to analyze very large networks with large amounts of data that we would have trouble understanding in its purely numerical form (Krempel 2014). It should be noted that the most common visualizations typically surrender mathematical interpretability in favor of more aesthetic or “cleaner” diagrams with regards to e.g. nodes not appearing too close, thus obscuring each other (Borgatti et al. 2013). This entails that whilst it would be unwise to rely solely on the quantitative measures of the nodes to make inferences about a given network, it in turn would also be unwise to rely solely on the qualitative understanding conveyed by visualization. Therefore, we argue that it is in the interplay between the two modalities that we can arrive at an understanding of the intricate social phenomena at play in the network.
Spatial visualizations of networks are commonly called socio-grams, thus the networks depicted in Appendix 1 are such ones. Another way to conceptualize and visualize networks are by employing adjacency matrices (Borgatti et al. 2013). However, given the vast amount of data in our dataset utilizing such a matrix to disseminate our data would be practically futile. An adjacency matrix of the data does exist however, as this is the data format we chose to utilize for data input into UCINET. Since the network is a two-mode network, the columns and rows constitute different entities, or modes. In the matrix the columns represent organizations and the rows represent individuals (Borgatti et al. 2013). Had it been a one-mode network, the columns and rows would represent the same entities. Adjacency matrices utilize a binary method for data input, where a “1” represents an affiliation and thus an edge between an individual and an organization. In turn, a “0” or a blank space, indicates the absence of such an affiliation.

An extract of a randomly selected part of our adjacency matrix, which shows a small sample of agents in the network and a small section of their organizational affiliations is presented below (for full adjacency matrix, please refer to Appendix 6):

<table>
<thead>
<tr>
<th></th>
<th>London Bel UNEP Finar Dufex</th>
<th>RSA’s Tom</th>
<th>NESTA Ivel</th>
<th>Commonwe</th>
<th>Internation</th>
<th>IL&amp;PS Invest</th>
<th>UNEP F1 N.</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Pitt-Watson</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Archana Hingorani</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Denise Hills</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Andreas Spiegel</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Frank Hovorka</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Tatiana Besteds</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Rosemary Bissett</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Oroshchak Victor-Laniyan</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Perrine Dutronic</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Gabriel Theumi</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>James Vencaro</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Susan Miller</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Philippa Birtwell</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hervé Guéz</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Denis Childs</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Guido Cordiner</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Namita Vikas</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ligia Neroxha</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

With regards to socio-grams, a number of visualization programs exist, such as: NetDraw (part of the UCINET-package), Gephi, Pajek, Visone and RStudio. Given our very large dataset we initially ran into some complications. Firstly, with the inability of the programs to compute our large dataset due to memory shortage and secondly, after solving the computational issues, a more aesthetically
driven complication, in that the amount of nodes in our network rendered it largely unreadable. Thus for analysis purposes, we utilized NetDraw and applied a set of aesthetic features that enabled us to better identify different ecologies, central nodes and distances, whilst at the same time reducing clutter. This helped convey the aforementioned qualitative understanding of the network, which in its interplay with the quantitative centrality metrics enabled a more thorough, holistic and ultimately methodologically sound analysis of the intricacies at play in the network. Below is the NetDraw rendering of the entire network on which we base our analysis. The aesthetic features applied are: squares indicate nodes representing organizations, circles indicate nodes representing agents. The size of either circle or square indicates the betweenness centrality metric or “prominence” of that node in the network.

![NetDraw rendering of the entire network](image)

*Figure 7: Visualization of network*

In order to enable processing of a graphic rendition of the network that takes into account the professional backgrounds of the actors, we introduced an attribute dataset to the analysis. All 876 actors were assigned an attribute, with the numbers 1 to 5 based on their profession: academic, IO, civil society, private sector and government, and are color coded according to the legend in Figure 6. In some cases, the assigning of attributes proved a difficult task, as many actors are engaged in
several sectors. In those cases, we made judgments based on their primary profession as listed on their LinkedIn pages or publicly available resumes.

4.2.3 Data collection

Due to the purposely large amount of data, we were careful in devising a plan to systematically collect and process this data on climate finance actors. Whilst systematic data collection is the backbone of any empirically driven academic work (Saunders et al. 2009) we deemed it particularly important for this thesis, as the data collected would be utilized in an iterative manner. Firstly, the data on climate finance actors would constitute the foundation of our SNA and secondly, the results of the quantitative metrics of this analysis would in turn inform which individuals we would approach for interviews. To this end we kept a methodology log in which we documented the steps and decisions taken during the course of our research. The section below thus constitutes a rewriting and elaboration on a part of this log.

An initial literature review on climate finance was carried out at the beginning of the research. This led to the identification of 13 main organizations engaging with climate finance. These organizations include the broader UN ecology, hereunder the United Nations Environment Programme Finance Initiative, the Green Climate Fund, The World Bank’s Climate Investment Funds as well as a palette of both national, regional and international development banks. Whilst the public fora dominated our initial findings, the initial batch of organizations did also include a handful of private initiatives such as the Climate Bonds Initiative and Network for Sustainable Financial Markets. Based on these core organizations we carried out a ‘harvest’ with the online tool IssueCrawler. IssueCrawler is a web-based tool that allows researchers to identify and visualize online issue networks via weblinks (Govcom.org 2016). To this end, the tool essentially allows a researcher to ‘snowball’ and discover linkages between the pre-identified websites and other websites within a given issue area. IssueCrawler does so by ‘crawling’ specified sites and capturing outlinks from these sites through a mode of analysis called snowball analysis and influenced by the ‘depth’ setting chosen by the researcher. Outlinks from the initially specified sites constitute one degree of separation. In turn,

4 For full list see Appendix 11
capturing the outlinks from this first batch of outlinks is called second degree of separation. We ran two iterations/harvests with a depth of one.

The initial harvest on the 13 identified organizations resulted in outlinks to a batch of around 40 organizations central to the network around climate finance. A mapping process thus ensued, in which the board of directors, steering committee as well as senior management of each organization were mapped. A second harvest was carried out based on the batch of 40 organizations, which resulted in our issue network encompassing a total of 65 organizations. For the sake of limitations, and realizing that “snowballing” could be an endless exercise it was decided that 65 organizations was an appropriate number of organizations for our issue network and for the study at hand.

The complete mapping of all individuals serving on the board of directors, steering committee or senior management of these 65 organizations provided us with a pool of 876 individuals. We then mapped these individuals’ primary profession, current as well as previous (limited to previous 5 years). Further, any current position held on boards, advisory/expert groups and committees were also included in the mapping, which expanded our organizational count quite substantially from 65 to 1679. Here it is important to note that our mapping, and thus our data, constitutes a snapshot of the climate finance space from late August to early November 2015. This entails, that there may have been changes since then, but also that we do not tell a temporal story, but rather provide a case assessment at one point in time. We will elaborate upon this in the section on limitations further below.

Our primary source of information came from the professionals-oriented social network LinkedIn. For professionals without a LinkedIn profile, we relied on CVs/biographies from employment databases such as Bloomberg or websites of organizations where the individuals are affiliated. In a few instances, and only if the above information was unavailable, we relied on rosters, agendas or attendee lists from conferences which the professional had attended5. Our reliance on LinkedIn

5 See Appendix 4 for all CVs
profiles as opposed to CVs from organizational websites, derives from the notion that a LinkedIn profile is one an agent manages him- or herself, and thus the likelihood of it being fully updated and including all relevant affiliations, the greatest.

Preparing our data for processing and analysis in UCINET, necessitated coding in a binary manner in an adjacency matrix (see a sample of our adjacency matrix on pp. 35). This included all 876 agents (rows) as well as all 1679 organizations (columns) these agents are affiliated with, based on the specifics as described above.

4.3 Interviews
While the interview as a concept is a relatively new tool in science, the conversation has long served as the basis for understanding social phenomena and dynamics (Kvale 2007). The interview gives the researcher the opportunity to interact with the very subjects of her study, and dynamically respond to the answers the respondent provides. Particularly due to the versatility of the methodology, the interview has become one of the most frequently used methods by social scientists (Kvale 2007): it can be employed as a stand-alone methodology or as part of a larger research design. The social network analysis conducted for this project provided important insights into who the most prominent agents are and how different organizations are clustered into ecologies by their shared agents and domains. While answering some key questions for this project, the analysis, however, provides several new questions and lines of inquiry that are needed to be answered fulfillingly in order to provide an account of the current state of authority in climate finance. While the first two methodological steps; identification of key actors and SNA have provided us with an overview, the interviews conducted for this project have, in general, had two purposes; 1) to provide a deeper understanding of power dynamics in climate finance, and 2) to open up new lines of inquiry and question old ones. The following section serves to provide a theoretical and methodological account of how semi-structured qualitative interviews have been employed in this project.
4.3.1 Purpose of interviewing: research design and interviews

While the SNA was employed as a method for “looking in” from the outside of the world of climate finance, the inherent constructivist thinking behind this project invites to gaining a deeper understanding of the life-worlds of those agents at the center of our study. The network analysis shows us who the most prominent agents and organizations are, but we do not know what these ties mean. In this way, the SNA opens up many new questions additional to those at the center of this project. While interesting in its own right, the data from the SNA, is thusly in practice of little use, besides showing who are connected. In other words, the SNA data can answer our “what?” and “who?” questions, but fails to answer our “why?” and “how?” questions. While we may have been able to build a story upon the data, that story would have been either thin in content or built on innuendo and lack of scientific rigor. While other methods, such as content analysis, may have been able to make up for the lack of subject matter knowledge, the interview is, in our opinion, still superior in understanding social relations. Simultaneously, the SNA data gave us an excellent starting point for interviewing with a purpose; we could sample the interview subjects based on the data and have them react to our findings in that data. The storysets (Godart and White 2010) provided by the interview subjects gave us real life stories as well as ideological and normative notions from which we can understand the development of the climate finance arena. This process will be elaborated upon in the following sections.

4.3.2 Semi-structured interviews

The semi-structured interview concept has become the most popular method of conducting qualitative interviews, particularly through the work of Steinar Kvale (2007) championing the methodology. Kvale’s notion of the semi-structured interview provides a distinct model for conducting interviews, from sampling over execution to transcription and coding (Kvale 2007). As this project is not a qualitative interview study, but rather a complementary mixed methods study, we do not employ the entire framework. This section serves to provide an account of the concepts we employ and we will, in a subsequent section, explain how they are utilized in this study.

The semi-structured interview acknowledges the inherent power relation between the interviewer and the interviewee, where the interviewer is requesting information that the interviewee is
holding. It is thusly structured differently than a regular conversation. The semi-structured interview is also different from a structured interview, as we know it from quantitative studies or qualitative surveys, in that it allows for the researcher to adjust to the responses provided by the interviewee. But the semi-structured interview is more than a methodology; it works in deep tandem with a constructivist approach to conducting social science (Kvale 2007), with an epistemology that insists on understanding the life-world of the interviewee and not merely the subjects that the researcher is interested in, or in different terms, focusing on “qualified naïveté” (Kvale 2007:6). The method insists that the interview exists in an inter-personal relation, where “the interviewer and subject act in relation to each other and reciprocally influence each other” (Kvale 2007:8). This epistemological stance has profound implications for how interviews are prepared, conducted, treated and analyzed.

In preparing an interview, the researcher should familiarize herself with the subject matter of the interview in order to understand if the knowledge that is being produced is actually new knowledge as well as being able to guide the interview in a direction, which will be useful to the overall aims of the research project. The obtained knowledge is also useful in formulating an interview guide (Kvale 2007), particularly when speaking to elites (Kvale 2007). An interview guide is an integral part of semi-structured interviewing, but it functions less as a script and more as a guide, compared to other types of interviews. In semi-structured interviewing, the interview guide can take the form of pre-formulated questions or a mere list of themes to be covered in the interview. It ensures that the interviewer remembers to cover the bases necessary for answering her research questions, but allows for free discussion and probing on questions (Kvale 2007). There are specific dynamics of formulating the interview guide, with emphasis on asking “why”, “what” and “how” questions in order to open up the discussion. Moreover, when formulating the interview guide, the researcher should keep later analysis in mind, remembering to ask clarifying questions.

There are a range of different types of questions (Kvale 2007) that the interviewer can ask, which each fulfills different purposes. Some of those can be integrated in the interview guide (“introductory questions”, “probing questions”, “direct questions”), while others are to be asked as part of the conversation; e.g. “follow-up questions”, “silence” and “structuring questions”.

41
Interviews can take different forms, from factual to discursive, and it is important for the researcher to decide on a type of interview in preparation for the interview, in order to have a consistent approach. However, as Kvale (2007) emphasizes, there is not one correct way to do interviews, and interview types may overlap. For the purposes of this project, for instance, a combination between “factual” and “conceptual” interviews was employed.

Kvale does not explicitly treat the subject of phone or online interviews (electronic interviews), but we find such a treatment in Saunders, Lewis, and Thornhill (2009). These types of interviews have significant advantages in terms of access, speed and costs, but do pose issues for the researcher to consider – in fact the authors argue that phone interviews should only be used in particular circumstances, e.g. follow-up interviews. The reason for this is that the inter-personal relation between the interviewer and the interviewee can disappear due to the lack of visual and physical intimacy and connection. Simultaneously, the interviewer loses the non-verbal communication of the interviewee, and the interviewee can, to a larger extend, control the flow of information. In the section on utilization, we will make an argument for the use of phone interviews for this particular study.

After the interview, the researcher must, according to Kvale, decide on a framework for transcribing. For some interviews it may prove most useful to merely condense meaning from the interview, and not transcribe the wording verbatim. For others, writing down the word-by-word conversation is most useful. Transcription typically means verbatim, but there are still a series of choices to be made; will the researcher make signs for intonation or pauses? Should coughs and laughs be recorded in the transcription? Ultimately, these choices matter more for researchers who outsource the transcription tasks to others, while researchers who transcribe their own interviews gain a different level of intimacy with the data recorded, as the interview itself may take place in a stressful setting for the interviewer, where she has to focus on externalities, rather than the words of the interviewee. The transcription data can then be used for coding, which will be described further on in this chapter.
4.3.3 Utilizing semi-structured interviews

Qualitative semi-structured interviews are an essential part of the research design for this project. As described above, they provide answers to the questions posed by the empirical data of the SNA. For this project, the framework for semi-structured interviewing by Steinar Kvale, described above, was employed. However, this research features some distinct differences from the qualitative interview studies, Kvale describes. Thusly, this section aims to provide an account of the interviewing process from sampling to coding.

4.3.3.1 Sampling

The social network data provides the starting point for interviewing, as the top 50 agents, measured by betweenness, were contacted with proposals for interviews. The similarly worded email was sent out on the same day. Over the next couple of days, 25 had responded and 20 in a positive fashion. Due to scheduling conflicts and other issues, this process yielded 12 interviews. This sampling process thusly works in tandem with the research design, sampling on the basis of the prominence of the actors.

<table>
<thead>
<tr>
<th>Ranking on betweenness</th>
<th>Name</th>
<th>Main Profession</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mark Fulton**</td>
<td>Independent consultant</td>
<td>Private</td>
</tr>
<tr>
<td>2</td>
<td>Gabriel Thoumi</td>
<td>Independent consultant</td>
<td>Private</td>
</tr>
<tr>
<td>7</td>
<td>Cary Krosinsky</td>
<td>Independent consultant</td>
<td>Private</td>
</tr>
<tr>
<td>8</td>
<td>Tessa Tennant</td>
<td>President and Co-founder, The ICE Organization</td>
<td>Private</td>
</tr>
<tr>
<td>10</td>
<td>Murray Birt*</td>
<td>Vice President, Deutsche Asset Management</td>
<td>Private</td>
</tr>
<tr>
<td>21</td>
<td>Hans Olav Ibrekk</td>
<td>Co-chair, Adaptation Fund and Policy Director at Norwegian MFA.</td>
<td>Public</td>
</tr>
</tbody>
</table>

* See Appendix 12
The categorizations above are somewhat limited in characterization, as the majority of these agents hold several professional roles. Particularly, many are involved with academic work or serve on the (advisory) boards of public commissions, etc. This, however, is a trait that is shared by many in the upper tier of our network, measured by betweenness – See table xxx. While the informants’ main careers may be in private sector work, most have a connection to the public sphere of climate finance. Similarly, there is a significant underrepresentation of female interviewees (2/12). While we regret this fact, that is actually not too far from being representative of the top 50, where only 12 females are found. When accounting for the fact that IO and public servants in general were less likely to answer positively, if at all, to our interview requests, and most of the women found here are in such positions, we must conclude that the gender distribution is as representative as possible. The sampling of interviewees for this study can thusly be argued to be of the opportunistic type (Bryman and Bell 2007), with the researchers setting delimitations and then relying on the access granted by the interviewees.
4.3.2.2 Interview preparations

In preparation for the social network analysis, we conducted a review of a series of academic, IO and industry texts on the matter of climate finance. This, combined with the theoretical basis of the project and the findings from the network analysis, formed the basis for the interview guide. The interview guide was based on Kvale’s (2007) conceptualization of the interview guide, with a focus on exploring themes through pre-formulated questions. This interview guide allowed us to explore the same themes with each interviewee, while providing time for adequate digression into the attitudes and views of the interviewee. The table below outlines the themes explored in the interview guide.

<table>
<thead>
<tr>
<th>Question</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Could you tell us a little bit about your background?</td>
<td>Background questions</td>
</tr>
<tr>
<td>Tell us about your role in [insert organization]?</td>
<td></td>
</tr>
<tr>
<td>Could you tell us a bit about your role in climate finance/how you work with climate finance?</td>
<td>General climate finance questions</td>
</tr>
<tr>
<td>Can you tell us a bit about recent developments in climate finance as you see them?</td>
<td></td>
</tr>
<tr>
<td>What do you see as the main challenges for climate finance?</td>
<td></td>
</tr>
<tr>
<td>Who do you see as powerful actors in climate finance? In what way?</td>
<td>Power in climate finance</td>
</tr>
<tr>
<td>Who have been successful in setting the agenda for climate finance in recent years? Historically?</td>
<td></td>
</tr>
<tr>
<td>If you revisit the list of organizations we sent you, do you think that that provides a truthful image of the most prominent organizations within the subject of climate finance?*</td>
<td></td>
</tr>
<tr>
<td>Who does your organization cooperate with? In which way?</td>
<td>Professional affiliations</td>
</tr>
<tr>
<td>What are you trying to promote in this collaboration?</td>
<td></td>
</tr>
<tr>
<td>Can you shed some light on the debate over public/private financing as pertaining to climate finance?</td>
<td>Public-private climate finance attitudes</td>
</tr>
<tr>
<td>How do you feel about private finance taking a more prevalent role, both within the UN system, but also outside of it?</td>
<td></td>
</tr>
</tbody>
</table>
### Table 2: Generic interview guide.

<table>
<thead>
<tr>
<th>Question</th>
<th>Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do you see as the main benefits and disadvantages of aiming for</td>
<td>UN Climate Finance</td>
</tr>
<tr>
<td>more private and less multilateral financing?</td>
<td></td>
</tr>
<tr>
<td>Can you tell us a bit about your expectations about COP21 and how/if</td>
<td></td>
</tr>
<tr>
<td>you feel reality met those expectations?</td>
<td></td>
</tr>
<tr>
<td>How do you see the efforts of the Green Climate fund? Are they</td>
<td>Specific technologies</td>
</tr>
<tr>
<td>sufficient? Do you think the fund will be able to raise the necessary</td>
<td></td>
</tr>
<tr>
<td>means?</td>
<td></td>
</tr>
<tr>
<td>Which mechanisms for finance do you see as having the best chance of</td>
<td></td>
</tr>
<tr>
<td>being successful? Probe: ETS, Climate Bonds, etc.</td>
<td></td>
</tr>
<tr>
<td>Why is that? Have you been actively pursuing making any of these</td>
<td></td>
</tr>
<tr>
<td>mechanisms successful?</td>
<td></td>
</tr>
</tbody>
</table>

*Question only posed to one respondent who wished to see the list in advance. **Question later adapted to include an understanding of increasing private finance, but no decrease in multilateral.*

The interview guide is designed mainly with open questions pertaining to specific areas, in order to let the interviewees digress and explain attitudes and conceptions. There are, meanwhile, some specific questions with regards to e.g. The Green Climate Fund and COP21, as we wanted to make sure to cover those specific organizations and events, due to their importance to the divide between public and private climate finance. The interviews were all conducted as phone interviews\(^7\), which was necessary due to the geographic spread of the interviewees. Simultaneously, phone interviews arguably removed barriers to access, as they are less time-consuming and more flexible for interviewees than in-person interviews.

#### 4.3.2.3 Interview conduction and transcripts

The interviews were conducted during January, February and March 2016 over the phone or Skype. The basic interview guide for the interviews was the same, due to the sampling criteria being similar for all interviewees. However, as the semi-structured interview concept prescribes, the interviews were never very similar in actuality. This was a result of interviewees being knowledgeable in different areas, not wanting to comment on certain things, or, as was most often the case, the

\(^7\) Seven interviews were conducted through Skype, five over the phone. There was no visual contact on any of the phone interviews.
conversations taking a turn due to follow-up questions and trains of thought from the side of the interviewee. We consciously used this as a method of both widening the discussion, but also to have the interviewees dig a bit deeper. This was particularly necessary due to the phone interview format, which we observed, invited for very concise and short answers, and less conversation. By anticipating the relative standoffishness of some interviewees and inviting them to follow up on their answers, we were able to turn from the more “expert interview” oriented conversation towards qualitative semi-structured interviews. Both researchers were present for the majority of the interviews.

The interviewees were all informed, that we recorded the interviews, and that quotes attributed to them would have to be cleared by themselves before submission of the thesis. As a result, several quotes have been reviewed and altered slightly by the interviewees, mostly to clear up sentences and change grammar, which explains why the precise wording, but not meaning, may differ from the interview transcript. This, we sensed, provided a feeling of security to the interviewees that let them speak more freely about the matters discussed. The recorded interviews were subsequently transcribed using the embedded transcription software in the qualitative research software tool NVivo 11 Pro for Windows and Mac. Due to the large amount of interview data and subsequent need for reliable data recording, the interviews were transcribed verbatim, omitting coughs and other bodily sounds (but including laughter). This method of transcribing is often recommended for large research projects (Bryman and Bell 2007; Kvale 2007; Saunders et al. 2009), because it generates data that can be revisited throughout the research process and records the contexts of the quotes, as opposed to notes jotted down by the interviewer during the interview, which might be misinterpreted afterwards. Particularly as this is a cooperative project, having the interviews recorded in their right context is important to avoid misunderstandings.

---

8 With the exception of the interviews with Gabriel Thoumi (Emil Linnet) and Hans Olav Ibrekk and Cary Krosinsky (Rune Riisbjerg Thomsen).

9 See Appendix 5 for transcriptions and audio
4.3.3.4 Coding

In order to understand narratives at play, important themes, and how different professions view different issues pertaining to climate finance, it was necessary to code the qualitative interview data into sensible categories. This was done during three rounds of coding. The first round of coding was done on the basis of a thorough reading of the interview transcripts and an attempt at synthesizing the interview guide into broad categories:

- Climate finance challenges
- Climate finance developments
- Climate finance profession
- People, organizations and events
- Power in climate finance
- Specific narratives

We deemed that these categories together would be able to catch largely all data, and at least all data pertinent to the issues at stake in this project. However, coding 13 interviews into six broad categories is not likely to reduce the complexity of the data particularly much. Therefore, during the first round of coding, categories were developed continuously throughout the coding process. This led to a proliferation of categories that were all developed in order to catch data that did not seem to fit in elsewhere. After the first round of coding, these categories and their contents were reviewed, condensed, collapsed, reduced and expanded in order to ensure consistent coding in the second round. Please refer to Appendix 10 for a complete overview of the coding tree at stages 1, 2 and 3 respectively.

The second round of coding built on the first round, by further saturating the categories developed at stages 1 and 2. It was decided that three additional coding categories would be necessary, as we became aware of additional narratives that had slid between the cracks in the initial rounds of coding. After stage 3 the coded data was reviewed and developed into the themes that will be explored in the analysis chapter below. The goal of coding all data (besides pleasantries and small-talk) presents an inherent problem in deeming what is relevant to the specific analysis conducted.
While attempting to provide a concise and coherent analysis, we will, however, attempt to utilize the statements that did not fit into the analysis into a separate section (5.2.4).

4.4 Limitations and methodological issues

There were several points in time during the research, where we had to compromise in order to make this study possible. This is particularly applicable with regards to the conduction of the interviews and the sampling. The phone interview is, as described in the literature (Saunders et al. 2009), an inherently substandard interview approach, as compared to in-person qualitative interviews. This is due to the diminishment of the interpersonal relation between interviewer and interviewee, which we also observed, with interviewees providing expert-like answers rather than participating in the conversation. As researchers we attempted to overcome this challenge by engaging ourselves personally in the conversation, reacting genuinely surprised to statements and asking several follow-up questions. We believe we were successful in this endeavor, and that the potential of the interviews was by and large saturated. At the same time, interviewing these high-level officials and professionals would not have been possible in person, both due to the travel costs this would incur for us as researchers, but also due to the fact that the interviewees are on busy schedules, and a phone interview by far is the most comfortable method for them.

The second methodological limitation is that our sampling is based on another part of the empirical data; the social network analysis. Thusly, while the interviews allow us to scrutinize the most prominent individuals in our study first-hand, they are not conducted on an independent basis from the rest of the study. In order to address this issue, we made sure to follow up on “leads” provided to us by our interviewees, when we asked open questions with regards to their conceptions of power in transnational climate finance. We reached out to several of the people, that were mentioned frequently, but featured less prominently in our SNA study (E.g. Abyd Karmali, Bank of America, Barbara Buchner, Climate Policy Initiative, Nick Robins, UNEP), and secured an extra interview with Barbara Buchner to address the significance of the Climate Policy Initiative and its related entities, The San Giorgio Group and The Global Innovation Lab for Climate Finance.
Further, a limitation to this study is the timeframe. While we acknowledge social networks as processual (Abbott 1995), our network data merely describes a moment in time: the Fall of 2015. It would be very difficult for us to reliably collect data on previous board positions, and thusly, our data may soon be outdated. We do not believe that this impacts the findings made in a negative way, but do invite further research into expanding the data on social networks in transnational climate finance. Simultaneously, and as mentioned previously, the size of boards and senior management teams has an effect on the network, skewing it towards organizations with large boards, and thusly reach. We do, however, on the basis of the interviews conducted feel that the inner circle as conceptualized below is a truthful depiction of the most central actors in transnational climate finance.

5. Analysis

The field of transnational climate finance is currently in a highly interesting and formative phase. While the groundwork was laid during the 90’s and 00’s, the real battles over who gets to decide what constitutes appropriate solutions (or knowledge) is very much ongoing, as the area is gaining increased political attention. In this analysis we show how professionals from the financial sector, civil society, UN system, academics and political actors link and diverge over different areas to provide policy and market-based solutions to the imminent threat of climate change.

Building on the previous sections, the analysis will provide an account of the two stages of empirical data, social network analysis and interviews, and analyze them through the theoretical framework provided in Chapter 2. This chapter is therefore divided into three section. The first part focuses on the social network of climate finance and locates different ecologies and their linkages as well as those agents that act as the binding ties between ecologies. The second part dives into the themes explored in the interviews by providing an account of the different narratives identified in the interview data. The third section provides an overarching analysis of the data by showing how expertise and networks are crucial determinants of being able to foster ideas and making them

10 For a comprehensive review of the history of climate finance, please visit Appendix 2
The chapter concludes with a summary and reflections upon the implications of this analysis, which will be discussed in Chapter 6.

While this analysis mainly draws upon our own empirical observations and theoretical framework, we draw in other scholarly work within environmental political economy (EPE) and international relations (IR). Particularly of interest here is the work conducted on the increasing private authority in climate governance (Green 2013; Hoffmann 2011; Meckling 2011; Park 2012) and the institutional reasons for delegating responsibility to private initiatives (Abbott et al. 2012).

5.1 The social network of climate finance professionals

The transnational field for climate finance is thin, dispersed and rapidly expanding. Simultaneously, there is little agreement on what actually constitutes “climate finance”; civil servants and government officials view it mostly as the finance that is running through the UN system or other types of funding by nation states, such as ODA, while private sector professionals and academics employ a broader categorization which includes private finance. It was evident from our interviews that even the actors at the very center of the field felt a general need for an overview of the climate finance world. Meanwhile, we wish to understand power relations within climate finance, and in order to do so, we not only needed an overview of the different actors and organizations, but also how they relate to one another.

At the basis of this study lies an understanding of power in social relations as being dependent upon knowledge and expertise, which in turn is dependent upon the nature of an actor’s network. This for two reasons; having a wide-spread network allows actors to draw upon different pools of knowledge, making possible information or epistemic arbitrage. But secondly, and importantly, in doing so actors become able to define what is knowing well or appropriate knowledge for the structural hole they plug. Thusly, in order to gain an understanding of the social network of climate finance practitioners and organizations, we employ a social network analysis framework to provide both quantitative and visual analysis. In this chapter we show, that while the transnational field of climate finance is indeed very thin, there is a core of actors and organizations that are deeply interconnected and are indeed very much setting the agenda in transnational climate finance.
Furthermore, drawing on insights from Granovetter (1973), Seabrooke (2014) and Burt (2004), we show how the nature of an actor or organization’s network is deeply determinant of the power that entity holds in the network.

5.1.1 The data at a glance

While the methodological decisions regarding treatment of data has been addressed in the methodology chapter above, this sections provides a general overview of the data, when analyzed and processed through network analysis software. The dataset employed here contains 876 actors and 1679 organizations totaling 2555 nodes. While we have not coded the organizations according to industry, the actors are divided, roughly, across 5 general sectors:

<table>
<thead>
<tr>
<th>Sector</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Society</td>
<td>150</td>
</tr>
<tr>
<td>Government</td>
<td>273</td>
</tr>
<tr>
<td>IO</td>
<td>126</td>
</tr>
<tr>
<td>Private Sector</td>
<td>273</td>
</tr>
<tr>
<td>Academic</td>
<td>54</td>
</tr>
</tbody>
</table>

*Table 3: Segmentation across sectors*

Due to the nature of the data collection, as well as the backgrounds of many agents, there are quite a few nodes with one connection or less, rendering a visualization of the entire network incomprehensible. Below is the “whole” network in two versions; at the top is the “untreated” version, and below we have introduced attributes, removed labels and sized the nodes according to their betweenness score.
While the bottom version does provide a clearer image of a network with a strong core and dispersed periphery, with a completely detached ecology (which we shall get to later), it is still very difficult to use the rendition for substantial analysis. In order to get to such a rendition however, we have taken an important step in understanding the central nodes in the network, by conducting
centrality measurements. As explained in the methodology section, centrality measures show us on a range of different scales, how central or “prominent” a given node is in a network.

For the purposes of this study we have utilized the “betweenness” score as a measurement for centrality for two main reasons. The first is that betweenness describes the phenomena that we would like to study well; we would like to know how much of a connector or broker an actor is, rather than their amount of connections. Secondly, there are some methodological issues with using other scores that rely on the amount of connections an actor has. This is because we have collected data on all positions of the actors in the network, meaning that there are actors, who are involved with an array of different organizations, that are not necessarily relevant to the social arena studied here (an example from our data could be a finance professional with board positions in 5 different hospitality companies).

5.1.1.1 Agents

The agents in the network amount to 876 and as mentioned above, they come from a range of different educational and occupational backgrounds. Most prominently featured are backgrounds within finance, law, political science and environmental science, which translates into the sectors most heavily represented being government, IO, finance, think tanks, interest groups, consultancies and academia. However, there is a quite low density across the network, meaning that few actors are particularly well-connected. For the purposes of this study, we have thusly decided to focus on the agents with the 50 highest betweenness-scores. Although the inner circle of climate finance may be larger\(^\text{11}\), the top 50 cut-off point constituted a point, where one would still be able to speak of a “core”. We will address this “core” in the section on the inner circle below.

There is a definite trend among the agents studied in this case, towards private sector individuals holding more positions than those employed in the public sector. Those in the public sector are predominantly positioned on the various boards of organizations due to an organizational capacity; that is, due to the country, IO or MDB they represent having a legal claim to a seat on a particular

\(^{11}\) See interview with Ben Caldecott
board, e.g. The Green Climate Fund. Simultaneously, civil servants or IO staff may face restrictions upon taking on board positions in fields that align with their work due to potential conflicts of interest.

<table>
<thead>
<tr>
<th>Top 50 Individuals</th>
<th>Betweenness Metric Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark Fulton</td>
<td>0.117925763</td>
</tr>
<tr>
<td>Gabriel Thoumi</td>
<td>0.084966235</td>
</tr>
<tr>
<td>Annette DETKEN</td>
<td>0.079520598</td>
</tr>
<tr>
<td>Pavan Sukhdev</td>
<td>0.069846421</td>
</tr>
<tr>
<td>Inger Andersen</td>
<td>0.051157288</td>
</tr>
<tr>
<td>Abigail Demopulos</td>
<td>0.049625888</td>
</tr>
<tr>
<td>Cary Krosinski</td>
<td>0.041947518</td>
</tr>
<tr>
<td>Tessa Tennant</td>
<td>0.041890305</td>
</tr>
<tr>
<td>Giulia Christianson</td>
<td>0.037786584</td>
</tr>
<tr>
<td>Caio Koch-Weser</td>
<td>0.037323821</td>
</tr>
<tr>
<td>Nino TKHILAVA</td>
<td>0.03669874</td>
</tr>
<tr>
<td>James Cameron</td>
<td>0.03552863</td>
</tr>
<tr>
<td>Jamshyd N. Godrej</td>
<td>0.034999844</td>
</tr>
<tr>
<td>Leena Srivastava</td>
<td>0.034087442</td>
</tr>
<tr>
<td>Masaaki Iizuka</td>
<td>0.032119036</td>
</tr>
<tr>
<td>Purna Saggurti</td>
<td>0.032084513</td>
</tr>
<tr>
<td>Putera Parthama</td>
<td>0.025112867</td>
</tr>
<tr>
<td>Yorio ITO</td>
<td>0.024583086</td>
</tr>
<tr>
<td>Frank Bsirske</td>
<td>0.023867771</td>
</tr>
<tr>
<td>Laurence Tubiana</td>
<td>0.023197554</td>
</tr>
<tr>
<td>Hans Olav Ibrekk</td>
<td>0.022393614</td>
</tr>
<tr>
<td>JOSEPH E. STIGLITZ</td>
<td>0.02207334</td>
</tr>
<tr>
<td>Geoffrey Heal</td>
<td>0.021441964</td>
</tr>
<tr>
<td>David Pitt-Watson</td>
<td>0.020900209</td>
</tr>
<tr>
<td>Paul Polman</td>
<td>0.020885861</td>
</tr>
<tr>
<td>Ben Caldecott</td>
<td>0.020471362</td>
</tr>
<tr>
<td>Stephen P. Groff</td>
<td>0.020207588</td>
</tr>
<tr>
<td>Richard Mattison</td>
<td>0.019718437</td>
</tr>
<tr>
<td>Adele Smith Simmons</td>
<td>0.019455582</td>
</tr>
<tr>
<td>Nathan WILLIAMS</td>
<td>0.019147687</td>
</tr>
<tr>
<td>Frank Hawkins</td>
<td>0.018464487</td>
</tr>
<tr>
<td>Andrew Steer</td>
<td>0.017774278</td>
</tr>
<tr>
<td>Michael Liebreich</td>
<td>0.017564714</td>
</tr>
<tr>
<td>James Gustave Speth</td>
<td>0.017375523</td>
</tr>
<tr>
<td>Janet Ranganathan</td>
<td>0.017301079</td>
</tr>
<tr>
<td>Tedd Saunders</td>
<td>0.017285749</td>
</tr>
<tr>
<td>Naina Lal Kidwai</td>
<td>0.016908122</td>
</tr>
<tr>
<td>José Luciano Penido</td>
<td>0.015961697</td>
</tr>
<tr>
<td>Marenglen GJONAJ</td>
<td>0.015751766</td>
</tr>
<tr>
<td>Susan Tierney</td>
<td>0.015615002</td>
</tr>
<tr>
<td>Chad O. Holliday</td>
<td>0.015582709</td>
</tr>
<tr>
<td>Sandeep Chamling Rai</td>
<td>0.015347459</td>
</tr>
<tr>
<td>Helen Clark</td>
<td>0.015079753</td>
</tr>
<tr>
<td>Rachel Kyte</td>
<td>0.014990729</td>
</tr>
<tr>
<td>Kolleh BANGURA</td>
<td>0.014691319</td>
</tr>
<tr>
<td>Peter Bakker</td>
<td>0.014283261</td>
</tr>
<tr>
<td>Elizabeth Littlefield</td>
<td>0.013934551</td>
</tr>
<tr>
<td>Gerd Müller</td>
<td>0.013704915</td>
</tr>
<tr>
<td>WILLIAM E. MAYER</td>
<td>0.013532847</td>
</tr>
<tr>
<td>James Rogers</td>
<td>0.013219687</td>
</tr>
</tbody>
</table>

Table 4: Top 50 agents
As is evident from Table 3, there is a fairly large overrepresentation of government and IO workers in the network as compared to private sector, civil society and academic staff. This is particularly due to the fact that UN/World Bank boards are quite large, with representatives from a wide range of governments. As we shall see later, that trend is not representative of the core of the network, however. Worth noting is also, that the betweenness scores for the agents reduces rapidly, with agent number 50, James Rogers, scoring close to 1/10 of the most central agent Mark Fulton, and with several agents only having one connection. Most of these are members of the boards of the Adaptation Fund, Climate Investment Funds or the Green Climate Fund. When looking at the overall picture of the agents, it is thusly very clear that there is a large periphery and a strong core around which many activities are centered. After reviewing the organizational aspects of the network next, we will turn to exploring the core of the network that is central to this study.

5.1.1.2 Organizations
As elaborated upon above, our network comprises 1679 organizations. However, as detailed in the section on data collection, these organizations stem from our initial utilization of the IssueCrawler

12 For Betweenness scores for all actors, see Appendix 9
tool and the 65 organizations working with climate finance identified through that tool. Naturally, an individual affiliated with one of these 65 organizations, cannot be expected to solely engage with organizations relevant to the climate finance arena. This entails that a vast number of the 1679 organizations are entirely unrelated to that field or, at least, can be considered to be highly peripheral.

In spite of that, we are able to identify some broader characteristics of the organizations present in the network on climate finance. By and large, they consist of a mix of well-established IOs and working groups, Ministries of Foreign Affairs, MDBs, ODA related government departments, think tanks, environmental CSOs, financial institutions, universities, investment management groups, interest groups, institutional investors and a range of private initiatives with different climate finance related objectives. Our analysis reveals that while the trifecta of traditionally perceived ‘usual suspects’ in climate finance; 1) organizations stemming from the broader multilateral UN-ecology and development banks 2) governmental ministries and departments and 3) CSOs and think tanks such as WWF, Climate Action Network, World Resources Institute and IUCN are very much present in the network, they do not wholly dominate the space per se.

Feeding into the notion of increased private authority in global environmental governance (Green 2013), a vast number of the organizations in the network are private initiatives and finance-related interest groups and think thanks. Many of these organizations are newer non-state initiatives formed in the mid to late 2000s or early 2010s, when the failure of multilateral advances to mitigate climate change and mobilize climate finance became increasingly salient (cf. Faulkner 2009; Green 2013; Hoffmann 2011; Meckling 2011). Examples of such initiatives that feature prominently in our network include: Natural Capital Declaration, The Global Innovation Lab for Climate Finance, San Giorgio Group, Bloomberg New Energy Finance, Carbon Tracker Initiative, Climate Bonds Initiative, Carbon Disclosure Project and 2 Degrees Investing Initiative. Also, we see a handful of older business-centric initiatives such as Ceres, World Business Council for Sustainable Development and the Institutional Investor Group on Climate Change, feature very prominently. This suggests a first-mover advantage embodied by several years of organizational capacity building, as well as bringing
business-centric actors into an otherwise NGO and IO dominated field, which seemingly has paid off in an era of increased private authority.

The organizational top 50 measured on betweenness score, which feature many of the organizations named above, will be scrutinized in detail in the Inner Circle section below.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Betweenness Metric Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Giorgio Group</td>
<td>0.249349892</td>
</tr>
<tr>
<td>World Resources Institute</td>
<td>0.144116521</td>
</tr>
<tr>
<td>KfW</td>
<td>0.122194879</td>
</tr>
<tr>
<td>Global Environment Facility</td>
<td>0.112476103</td>
</tr>
<tr>
<td>The Global Innovation Lab for Climate Finance</td>
<td>0.106144726</td>
</tr>
<tr>
<td>CERES</td>
<td>0.098181337</td>
</tr>
<tr>
<td>International Union for Conservation of Nature</td>
<td>0.089478761</td>
</tr>
<tr>
<td>New Climate Economy</td>
<td>0.087230057</td>
</tr>
<tr>
<td>Green Climate Fund</td>
<td>0.062216379</td>
</tr>
<tr>
<td>World Business Council for Sustainable Development</td>
<td>0.060491487</td>
</tr>
<tr>
<td>Principles for Responsible Investment</td>
<td>0.059951436</td>
</tr>
<tr>
<td>Global Reporting Initiative</td>
<td>0.056230426</td>
</tr>
<tr>
<td>Union of Concerned Scientists</td>
<td>0.055833556</td>
</tr>
<tr>
<td>UNEP</td>
<td>0.052211862</td>
</tr>
<tr>
<td>Green Growth Knowledge Platform</td>
<td>0.051161904</td>
</tr>
<tr>
<td>WB Climate Investment Fund: Clean Technology Trust fund</td>
<td>0.04963116</td>
</tr>
<tr>
<td>Council on Foreign Relations</td>
<td>0.047612451</td>
</tr>
<tr>
<td>Natural Capital Declaration</td>
<td>0.046859946</td>
</tr>
<tr>
<td>Acumen</td>
<td>0.045804903</td>
</tr>
<tr>
<td>UNEP Finance Initiative</td>
<td>0.041332114</td>
</tr>
<tr>
<td>UK Green Investment Bank</td>
<td>0.041213039</td>
</tr>
<tr>
<td>World Economic Forum’s Global Agenda Council on Climate Change</td>
<td>0.041163225</td>
</tr>
<tr>
<td>UN High Level Group on Sustainable Energy for All</td>
<td>0.040930044</td>
</tr>
<tr>
<td>Carbon Disclosure Project</td>
<td>0.040925533</td>
</tr>
<tr>
<td>Sustainable Energy For All</td>
<td>0.035915118</td>
</tr>
<tr>
<td>The Energy and Resources Institute</td>
<td>0.034603555</td>
</tr>
<tr>
<td>Organization</td>
<td>Score</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Overseas Development Institute</td>
<td>0,032198571</td>
</tr>
<tr>
<td>WB Climate Investment Fund: Forest Investment Programme Sub-committee</td>
<td>0,031350058</td>
</tr>
<tr>
<td>Climate Bonds Initiative</td>
<td>0,030847905</td>
</tr>
<tr>
<td>UN Global Compact</td>
<td>0,030384857</td>
</tr>
<tr>
<td>Network for Sustainable Financial Markets</td>
<td>0,030206334</td>
</tr>
<tr>
<td>Yale University</td>
<td>0,030117108</td>
</tr>
<tr>
<td>The Economics of Ecosystems and Biodiversity</td>
<td>0,030114753</td>
</tr>
<tr>
<td>UNFCCC Standing Committee on Finance</td>
<td>0,026554268</td>
</tr>
<tr>
<td>UNDP</td>
<td>0,026350149</td>
</tr>
<tr>
<td>Institutional Investor Group on Climate Change</td>
<td>0,026246337</td>
</tr>
<tr>
<td>German Bundestag</td>
<td>0,025820328</td>
</tr>
<tr>
<td>Deutsche Bank</td>
<td>0,025513114</td>
</tr>
<tr>
<td>Center for International Forestry Research</td>
<td>0,025082638</td>
</tr>
<tr>
<td>Commonwealth Expert Group on Climate Finance</td>
<td>0,024884552</td>
</tr>
<tr>
<td>The World Bank</td>
<td>0,023191437</td>
</tr>
<tr>
<td>Climate Action Network</td>
<td>0,022673013</td>
</tr>
<tr>
<td>Trucost</td>
<td>0,02250237</td>
</tr>
<tr>
<td>Global Footprint Network</td>
<td>0,02092644</td>
</tr>
<tr>
<td>Global Green Growth Institute</td>
<td>0,020590369</td>
</tr>
<tr>
<td>WWF International</td>
<td>0,020341322</td>
</tr>
<tr>
<td>University of Oxford’s Socially Responsible Investment Review Committee</td>
<td>0,020325176</td>
</tr>
<tr>
<td>Columbia University</td>
<td>0,019515006</td>
</tr>
<tr>
<td>Agence France de Developement</td>
<td>0,019218165</td>
</tr>
<tr>
<td>Adaptation Fund</td>
<td>0,018912049</td>
</tr>
</tbody>
</table>

Table 5: Top 50 organizations

5.1.1.3 Factions

Based on our social network analysis, we are able to identify and analyze substructures in the network. Substructures may be defined as factions, N-clusters, N-cliques or clans in SNA-terminology, each with a differing underlying mathematical basis. However, a general underlying notion of the presence of any substructure is that some parts of a network may be less connected to the whole than other parts (Hanneman and Riddle 2014b). To this end, we are, through the analysis of substructures, able to draw inferences regarding both constraint and opportunity for actors, such as possibilities of information brokerage and epistemic arbitrage as well as the presence of structural holes.
The majority of modalities for analyzing cohesive substructures in a network are only applicable to one-mode networks. Given that the network for present study is a two-mode or affiliation network, we turn to a form of block-modelling called factions to identify and analyze substructures in the network. This type of modeling can be applied directly to a binary adjacency matrix as it identifies connectivity patterns between individuals and organizations (Hanneman and Riddle 2005). Factions are substructures that have a high density within their grouping and a lower density of ties to other groupings. Essentially, block-modeling allows us to identify factions of actors and organizations that are as mutually exclusive as possible across the network and how these fit with our prior conceptions of groupings in the network. More specifically, block-modeling factions is way to measure the structural equivalence of the rows and columns in the adjacency matrix by sorting them according to patterns of homogeneity (Borgatti and Halgin 2014).

Before the visualization of factions in our network, a brief comment on how we actively employ structural holes for the purpose of this study is warranted. In our conceptualization of the term, structural holes mean epistemic gaps; gaps in knowledge between differing agents and organizations. In practical terms, this does not necessarily entail that a network gap between two ecologies, organizations or agents, is of a structural nature. Rather, such ecologies may possess similar or overlapping knowledge of the issue at hand. Where we find these structural holes, or expertise gaps, is thus in situations, where two organizations or ecologies possess differing, and ultimately insufficient, knowledge to solve given tasks or problems.

The presence of cohesive substructures is highly related to the overall low density of the network. This helps elucidate the notion of ‘degrees of separation’ and how inter-connectivity thrives in large and seemingly dispersed networks such as the climate finance space. While the nodes in our network may be clustered in ecologies or factions, these ecologies are in general fairly close to each other.

Computing the factions of the Top 50 actors in the network, where N = 4 as this was the best fit with our prior conceptions of the actors in the network, renders the following results:
Blue nodes by and large embody the broader UN-ecology including the Green Climate Fund, Global Environment Facility and related bodies. Whilst this faction does indeed harbor ties to other factions, it largely operates in the periphery of the Top 50 network.

Grey nodes consist primarily of development banks or development related governmental departments. Here we see that this faction is more dispersed and thus less homogenous, than the more cohesive UN-ecology. It is also a quite peripheral faction, despite many actors in this faction being notable actors in the climate finance and climate change space for several years.

In the core of the network we find two factions that occupy a similar space in the network, yet are embodied by vastly different actors. The red nodes are largely private business-initiatives, think tanks, institutional investor groups and other private fora. Notable actors include: The San Giorgio Group, World Resources Institute, New Climate Economy, Ceres, The Global Innovation Lab for
Climate Finance and the World Business Council for Sustainable Development. Interestingly, the computation renders the UNEP Finance Initiative part of this faction as well. A likely explanation may be that private financial authority renders large on the UNEP FI steering committee (Park 2012), comprising 15 of the 16 available seats. Further, UNEP FI is arguably one the most private sector centric UN-bodies, its raison d’etre being to scrutinize the relationship between ESG measures and financial performance (UNEP Finance Initiative 2015b). Enmeshed, with this faction are the black nodes, which embody UN or IO actors with a distinct private sector emphasis or involvement. These include UNEP, Global Reporting Initiative, Green Growth Knowledge Platform, Principles for Responsible Investment as well as the World Bank’s Climate Investment Funds that all occupy central spaces and largely serve to bridge the private faction with the two distinct UN and development bank factions. This entails that our notion of distinct factions embodied by highly differing and often contesting institutions within the climate finance network largely renders true. Further, UN or IO actors with a distinct private sector emphasis, occupy structurally advantageous positions in the network for the broader UN faction as well as the development bank faction to gain access to the core of the network. As discussed elsewhere in this thesis, the black nodes can therefore be seen as intermediaries in a OIT model.

The fact that some factions remains highly peripheral while others overlap in the core of the network, speaks volumes as to our notion of structural holes or epistemic gaps in the network. Ultimately it helps elucidate not only the presence of structural holes, but perhaps more importantly that actors in the network are actively plugging these holes through brokerage or arbitrage by drawing on differing knowledge pools to solve tasks and problems inherent to the climate finance space.

5.1.2 The inner circle
What we shall describe as the inner circle of this network is the 50 most prominent agents and organizations ranked by betweenness. The inner circle is therefore populated by the most well-established agents and the venues through which they meet. But the inner circle is not a coherent
place of one specific type of agent or organization. Rather, when zooming in to this level, we see arenas of contestation and knowledge sharing between agents with greatly differing backgrounds representing organizations whose objectives and means are often at odds with one another. Our interviews corroborated that the core of the network thusly can be viewed as the “true” network of climate finance; where ideas are negotiated and policy is developed. Going forward, we shall therefore treat this network as the primary unit of analysis, so as to focus on the essential story at play.

Figure 12: Inner circle network

The visualization of the inner circle as shown above gives clear indications as to which venues it is important to be part of, but it also shows us a story of how agents that are able to bridge ecologies are of particular importance in this network. Firstly, as indicated by Table 5, the venues controlled by the Climate Policy Initiative (San Giorgio Group and The Global Innovation Lab for Climate Finance) are important venues, because of their ability to attract agents from a variety of organizations; MDBs, private finance and insurance, institutional investors and governments. What is notable too, is the division between private and public organizations in the inner circle. We see that at the periphery of the core network are those organizations that are coordinated or “owned” by public actors, while at the center are those that are run by private organizations, think tanks, etc.
In the following, we shall provide an account of these factors along with a look at the backgrounds of the central agents in the network.

5.1.2.1 Central Venues in the inner circle

The most central organization in the inner circle is the San Giorgio Group, an affiliated series of networking meetings arranged by the Climate Policy Initiative. The San Giorgio Group meetings are central, because they encompass all key players across different sectors and bring them together for a weekend in Venice, Italy. The Climate Policy Initiative is also owner of The Global Innovation Lab for Climate Finance, which too employs a methodology of bridging public-private-academia gaps, by bringing together actors to develop novel policy and finance solutions. Notably, the Climate Policy Initiative itself is missing from the inner circle. However, that is mostly due to the organization having a board of three people, which also represent their senior management, and the methodology used here discriminating against small organizations. Also prominently featured is the World Resources Institute, an environmental think tank that works across climate change mitigation and adaptation as well as conservation. It does so by performing both expert and advocacy work on its own and in coalitions. It is thusly well-connected in both academia as well as policy work. Simultaneously we see purely private initiatives such as the Natural Capital Declaration, Ceres and the World Business Council for Sustainable Development that all work towards curbing climate change through standard setting or practice spreading.

In terms of intergovernmental cooperation, there are a few prominent ones, including the Global Environment Facility, New Climate Economy, The Green Climate Fund and UNEP. These thrive less on being central in the entire network, and exist in a rather insular world, with the Global Environment Facility and the Green Climate Fund sharing several agents – a point we shall address in a minute. New Climate Economy is rather more central, due to the emphasis of this initiative on private sector engagement. UNEP too is reputed for being good at inviting to cross-sectoral cooperation.

For the venues at play here, we understand that they are very much constituted by a base of shared connections. The organizations that are most central here, are those that are able to bridge the gap
between different professions, sectors and ecologies. By bringing agents and organizations together, these venues can become facilitators of change, and if they themselves constitute active ideational players, be powerful in implementing their own ideas. Of course, reaching a powerful position as a venue or organization is not merely contingent on inviting different people and organizations into cooperation. Rather, there is a deep dependence upon being seen as an organization that carries expertise and is knowledgeable. This, we shall address later in this chapter.

5.1.2.2 Public-Private Divide and Cooperation

As addressed briefly above, the network data indicates a divide between particularly the transnational UN organizations and the private initiatives at the center of the network. Some of this can be attributed to methodology; UN organizations are mainly governed by government representatives and UN staff, and thusly have few formal network ties with the private sector. We do, however, simultaneously find some more centrally located initiatives that are coordinated by the UN organs, but are populated by agents from other sectors. These include the Principles for Responsible Investment, the UNEP Finance Initiative, the Global Reporting Initiative (and the UN Global Compact which is, however, less prominently featured). We find that these initiatives provide the formal ties between the UN system and the private sector. They are simultaneously all initiatives that promote standards and soft law in their approaches to governance of transnational climate finance. It is of course difficult to deduce any generalizations as to the reason for this proliferation of soft law-initiatives created from the UN system, but the literature gives us some indications.

In recent studies of particularly sustainability and standard-setting, we find a model describing how transnational governing and regulatory bodies use “orchestration” (Abbott et al. 2012) as a response to their lack of coercive power to make hard law (cf. Abbott and Snidal 2009; Abbott, Zangl, and München 2012; Ponte and Daugbjerg 2015). Abbott and colleagues (2012) argue that, in recent years the UN system has had difficulty governing transnationally, and is thusly seeking a model of empowerment, by engaging an intermediary (as the initiatives listed above) in order to carry out the goals of the organization, “using their formal authority, functional capabilities and other attributes to enlist intermediaries” (Abbott et al. 2012:4). The model is thusly depicted as:
Orchestrator ➔ Intermediary ➔ Target

Or as an illustrative example

UN(Environment/Development Program) ➔ Principles for Responsible Investment ➔ Private investor

In this model, by sharing the power to write the rules, the Orchestrator is more efficiently able to regulate, due to the involvement of other actors. The power is not direct but “IGOs orchestrate primarily by providing material and ideational support to intermediaries. This strengthens the governance capacities of intermediaries while providing IGOs a channel of influence over their governance aims and activities.” (Abbott et al. 2012:9).

By supporting these well-positioned intermediaries, the orchestrators (in this case UNEP, UNDP and UNFCCC) are able to ideationally inform a debate among private sector organizations and agents seeking reform. In turn, by cooperating with UN affiliated intermediaries, agents from other sectors can ideationally influence processes within the governing bodies. This ties in well with Quack’s (2009) theorizing on expertise-based effectiveness or the ability to produce viable and effective policy solutions as being one (output) of three normative legitimacy standards for transnational actors. In other words, in a situation of legitimacy deficit, not uncommon for transnational actors, employing orchestration of intermediaries with expertise to enhance policy solutions may very well be an effective social legitimation tool.

However, the initiatives promoting reform through standards and soft law are not all orchestrated by the UN. The Natural Capital Declaration and the Carbon Disclosure Project, both coordinated by Ceres, are, for instance, also promoting codes and standards for private organizations to sign. In these two cases they describe how organizations should work towards limiting their environmental impact, and how they should begin disclosing their carbon footprint respectively. In this, and our observations regarding orchestration above, we can thusly see that there are indications of a regulatory vacuum being increasingly plugged by private actors.
This points towards a notable structural feature of the inner circle, which entails a large degree of private authority in the governance of climate change (finance) (Green 2013). This notion is prevalent in IPE and EPE literature, where particularly governance through standards (Ponte and Daugbjerg 2015) and soft law (Park 2012) as a result of private authority has received much attention. In short, this literature sees private authority as the ability of private companies to govern themselves and their surroundings, rather than governments and international organizations doing so (Green 2013; Pattberg 2005). The room for such actions in environmental governance is particularly large, due to the inability of governments to reach agreements on specific resolutions and the urgency of the climate crisis approaching (Green 2013; Park 2012; Thistlethwaite 2011).

This is a central point to this study, and one we shall return to in a bit when analyzing the interviews with the climate finance practitioners. First, however, we will take a closer look at who the agents in the inner circle are.

6.1.2.3 The Climate Finance Actors

The inner circle of climate finance is inhabited by a group of agents from a range of different backgrounds, representing different organizations and advocating different policy solutions. While there is convergence on the overall goal, curbing climate change, there are a myriad of solutions advocating on how to get there. If one were to speak of a climate finance profession, it would thusly be a profession with blurry jurisdictional boundaries, a point we shall address in the discussion. It is, however, possible to see what these agents share in terms of the markup of being a well-connected climate finance agent. Below we show the sectors that the agents in the inner circle have worked with in their professional lives.

<table>
<thead>
<tr>
<th>Private</th>
<th>Government</th>
<th>IO</th>
<th>Sector</th>
<th>CSO</th>
<th>Academia</th>
<th>Avg.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26</td>
<td>35</td>
<td>29</td>
<td>28</td>
<td>28</td>
<td>2,92</td>
</tr>
</tbody>
</table>

*Table 6: Inner circle career spans*

The 50 agents have on average been employed in just shy of 3 of the sectors listed above. This is quite remarkable, and shows that this is not a field that is dominated by any one profession or sector. Rather, the agents who are at the center are those that have experience from the different
sides of the debate, and are able to bridge the gaps or structural holes. We shall return to this point, when we analyze the interview data.

Meanwhile, it is also worth noting that there are significant gaps in terms of betweenness in the inner circle. The most “between” actor, Mark Fulton, has a betweenness score, that is almost 10 times that of number 50, James Rogers, whose score is more similar to that of the rest of the top 100. We thusly understand, that there is perhaps an even smaller core of the network, that are very much able to change the field with their actions, because these agents are able to draw on experience and knowledge from a variety of venues and use that to influence others. This is what we shall explore in the following section on the interview data.

5.2 Interviews

The social network analysis informed our process of interviewing in different ways. Firstly, our sampling was made on the basis of the most “between” agents in the dataset, and secondly, many of the lines of inquiry for the interviews were triggered by interesting findings from the network analysis. The following section details the content of the interviews, by structuring the narratives we found around four different themes; conceptions of climate finance, the privatization of climate finance, networks, expertise and bridging and lastly development and challenges for climate finance. These narratives were prevailing in the sense that a majority or all interviewees in one way or another addressed them from their respective standpoints. This we attribute to both a fairly coherent conversation taking space in the inner circle of climate finance, but of course also to the inherent bias in posing similar questions to all interviewees, however broad they might be. We similarly acknowledge, that the interview data analyzed here does not fully describe the contents of the interviews, but is rather selected on the basis of understanding the power dynamics of expertise, ideas and networks in climate finance.

This section will continue with separate descriptions of the themes. In Conceptions of climate finance we address the gap between understandings of the term climate finance, where public

13 For list of interviewees, see Table 1. For transcripts of interviews see Appendix 5
sector agents often view it as ODA or North-South funds and private sector agents see it as regular finance for a specific area. This is deeply tied to the section on the Privatization of climate finance where we address agents’ notions of the public-private divide in climate finance and how that should be moving forward. Further, we provide an account of the interviewees’ perceptions of the Networks and alliances they build, and how Expertise and ideas feed into these, as well as the legitimacy and power of agents and organizations in the field of climate finance. This feeds into a larger discussion of Developments and challenges of climate finance, where we analyze the statements of the agents in relation to their role and view of future climate finance. Lastly, we scrutinize notably missing actors in the top 50.

5.2.1 What is climate finance, really?

“In the last 5 years there’s been kind of big developments in climate finance in the areas of improving the understanding of what constitutes climate finance. As you know there’s still no real international fully agreed definition”

Barbara Buchner, Climate Policy Initiative

In preparation for the following sections, it is important to start at the very basis: what is climate finance? We have attempted to provide our own definition and historical review in Appendix 2, but when analyzing the interviews, it is clear that there are still large gaps in understanding what actually constitutes climate finance. This has profound implications for the conversation among professionals on climate finance, as there is a strong divide between public sector professionals and finance professionals. What we find is that civil servants and IO staff largely address climate finance in the traditional UNFCCC sense: as North-South funds or an ODA area. Private sector professionals on the other hand particularly see climate finance as an area within traditional finance. In neither definition does climate finance constitute its own area, but is rather building upon existing structures, indicating that professionals engage in acts of bricolage in order to discursively construct future areas of work (Carstensen 2011).
“Well, can you kind of tell me a bit more about how you define climate finance? Obviously there’s a UNFCCC version in relation to north-south flows and ODA and then there are more commercially relevant definitions.”

Ben Caldecott, Oxford University

We see this divide expressed both in direct statements, as above, but also in the very way that agents approach the subject of climate finance: what do they address when we ask them about challenges and developments in climate finance? To little surprise, the interviewees approach with a basis in their own field of work; the civil servants address the Paris Agreement, the various UN/MDB/World Bank mandated funds and international negotiations and eventually comment (after being specifically questioned on the matter) on the private side of climate finance:

“I think it is clear that private finance will play a role, whether that be through financial mechanisms such as green bonds or similar instruments, and it will be critical to achieving global targets. Clearly the private sector also has a very strong and central role as far as innovation and new technologies are concerned. But it is equally obvious that creating space for and incentivizing that kind of innovation is the responsibility of governments.”

Stephen P. Groff, Asian Development Bank

The private climate finance practitioners, meanwhile, address issues of stranded assets, divestment and private initiatives, but do also comment on the regulatory frameworks and the Paris Agreement as a major development in climate finance. When these professionals address climate finance, they are thusly speaking of two entirely different sectors; development aid and private finance. While they do recognize each other, they do not clearly agree on what constitutes climate finance. However, as Andrew Steer CEO of the World Resources Institute underscores below, there is basic agreement that the future will need both types of finance.

“There’s been a huge shift in climate finance understanding over the last 5 years. 5 years ago, basically the assumption was that climate finance was provided by rich country governments to poor country governments in the form of grants. So originally it was very much sort of entitlement...
on the part of poor countries to get money. And the assumption was it would come from
governments and go to governments. We now are a million miles from that, there's now a sort of
broad recognition that climate finance includes private sector finance. The nature of the debate
has shifted towards figuring out how we can use relatively modest amounts of official finance to
leveraging larger sums of money.”

Andrew Steer, World Resources Institute

While this quote points towards a greater recognition between the sectors than what we find here,
it also gives indications towards how power has shifted in climate finance. Whereas the definition
of climate finance previously belonged to the UN system and NGOs, it is now a mix of the two. This
is manifested in the interviewees’ attitude towards the Green Climate Fund, with few arguing that
it will have actual financial impact, while all agree that it does have political value. What is required
to be a knowledgeable and authoritative actor within the field of climate finance has thusly also
changed. This underscores a profound change in the knowledge politics of climate finance. As we
shall explore in the following section, what has changed is not just the sources of capital, but indeed
the very ontology of climate finance actors. Being able to bridge private and public sources of
finance is now a crucial feature of any organization or agent hoping to have an impact on the field.

Bridging these gaps starts at the fundamental point of being able to bring together the languages of
different actors in the field. As the most central agent in the social network said:

“And I see my role, and people like me as... I would say: bringing together the languages of civil
society and financial markets, and expressing them in a way that makes sense to both.”

Mark Fulton, Independent consultant

Because of the lack of a common vocabulary, this stage in the formulation of climate finance,
provides a crucial mark for those who are able to bridge the gaps in language, and express policy
goals to bond traders and financial issues to policymakers. We shall return to this point in the section
on networks and expertise further below. Before doing so, however, we will address the rise of the
private sector as a provider of expertise and regulation in transnational climate finance.
5.2.2 The privatization of climate finance

"Look, I mean I don’t think this is a matter of ideology.... it’s a matter of necessity. What we try and do is solve the problem. And the problem is very urgent - we need to address climate change. [...] The only way to solve the problem is to try and get as much public money as you can, but recognize that you can only get so much and then coop the private finance and influence it, so that it’s part of the solution. So this is not an issue of ideology.. or it shouldn’t be an issue of ideology.. it’s an issue of trying to get the job done”

Andrew Steer, CEO, World Resources Institute

In the IPE literature, increased private authority in environmental governance is largely attributed to the failure of multilateral advancements such as the Kyoto Protocol to effectively curtail the onset of anthropogenic climate change and mobilize climate finance (Green 2013; Hoffmann 2011; Meckling 2011; Park 2012). As attested to above, the conceptualization of climate finance has in a relatively recent timeframe evolved from embodying finance in a ODA context, to more wholesomely considering capital market instruments directed towards projects for climate change mitigation or adaptation. This shift entails that private authority has largely overtaken the reins in the climate finance space, a position formerly occupied by the UN and MDB faction. A shift that remains highly controversial and politicized, particularly amongst CSOs and a faction of IO actors. In this vein, among the actors interviewed for this study, a predominant notion is that the magnitude of the challenge that climate change poses to life on earth is of such a scale that public funds alone will not suffice. Thus, the goal embedded in the Paris Agreement of $100bn mobilized per year by 2020 is widely considered a mere drop in the ocean compared to the amount of funds that needs to be mobilized to address the challenge at hand. This discrepancy is perhaps best emphasized by the projection made by the People’s Bank of China, that:

“...China alone needs an injection of 2 trillion renmibi, which is about 330 billion dollars per year. So... just one nation, albeit a big nation, that’s 330 billion. So international proposals for a global climate fund of 100 billion seem way too small and I would say it’s not ambitious enough to meet the challenge”

Richard Mattison, Trucost
Another important point in furthering the understanding of climate finance to include notions of private finance instruments has been the role of stakeholder activism vis-à-vis the policy role of institutional investors, increased understanding of ESG-factors and risk measurement as well as the increased competitiveness and minimized risk of renewable energy technologies. In other words: mainstream finance, such as the space occupied by institutional investors and investment banking has increasingly begun to ‘green’. Not solely due to notions of sustainable investing at the demands of stakeholders, but also because investing with a keen eye on ESG-factors and related risks, increasingly makes very solid economic sense (Randall 2016). This entails that a mode of climate finance entirely revolves around the economic viability of projects and investments, very much adhering to a traditional notion of finance as the efficient allocator of resources with a view to secure high rates of return. While nationally endowed subsidies and regulatory frameworks play a significant role in furthering renewable energy technologies, many of our interviewees point to the increased competitiveness of said technologies in advancing this agenda, as well as increased emphasis on the business case of investing while accounting for ESG-disclosures.

“Certainly what we’ve seen also, is that there has been, particularly the last year, a really strong increase in the overall amount of money being spent on climate finance. And amongst others this is driven by the fact that the technology costs of renewables have come down and I think that’s a really important point, because it means that renewables and climate friendly technologies are slowly getting competitive. I think that’s been a big factor driving the overall developments in the amounts of climate finance”

Barbara Buchner, Climate Policy Initiative

In this context, a prevailing notion set forth by the interviewees is that the regulatory regime for finance has been, and largely still is, ‘institutionally fossilist’ with its emphasis on short-termism and customs and practices which steer investors towards brown as opposed to green investments. Developments towards the greening of finance ties in with the recent mobilization around the fossil fuel divestment campaign with roots in the environmental organization 350.org and its founder Bill McKibben. However, recent advances in the finance space on such notions as ‘the carbon bubble’
and stranded assets risks suggests that these are just a few of a multitude of advances, which have worked in a complementary fashion to further a greening of capital market instruments, as well as investing modalities.

In sum, a prevalent viewpoint is that in an era of decarbonization, especially in the wake of the Paris Agreement, fossil fuel investments are faced with such inherent risks of premature write-downs and of becoming stranded assets that their business case is slowly eroding.

“I mean, if you look at our regulatory regimes, for securities, for banking, for investment, the regulators have looked only at the micro regulations of individual markets. They've never taken a step back and said 'What do we want the finance industry to do in the first place?' And therefore (...).. if you were a regulator, you would have, by now, noted that the credit rating agency only looks at the safety of a bond for 2-3 years. “So a bond issued on a dirty coal plant, gets exactly the same bond rating as one that is issued on a solar farm. That can't possibly be right, because the coal plant is going to have to close in the next 15 years. But that won't be recognized by credit rating agencies, and nor has any regulator said that there's a problem with that”

David Pitt Watson, Co-Chair of UNEP Finance Initiative

The prominence of private authority in the climate finance space is perhaps most notably embodied by the multitude of initiatives initiated in recent years. Just while undertaking this study notable voluntary standards initiatives, which embody the bridging of public, private and CSO actors such as the Carbon Pricing Leadership Coalition, The Task Force on Climate-related Financial Disclosures and the Carbon Asset Risk Discussion Framework from The WRI and UNEP-FI Portfolio Carbon Initiative have risen to prominence. This ties in well with our findings as well as theoretical underpinning, that organizations and actors which can speak the language of finance, policy and climate change science and thus effectively bridge this divide can carve out strategically advantageous brokerage positions for themselves in the network. These characteristics largely fit the most prominent or “between” of organizations and actors in the network, as elaborated upon above. It seems that new initiatives in the climate finance space, typically spearheaded by prominent climate finance actors, are acutely aware that in order to have a relevant voice in this network, a very particular institutional markup
of public, private and CSO actors is essential. Attesting to the salience of the climate finance
discussion at the highest political level is the newly formed G20 Green Finance Study Group, which
convened in the beginning of 2016 and gathers the most powerful nation states as well as a group
of IOs and MDBs. Interestingly private actors are, for now, sorely missing from its institutional
markup.

The notion of private authority in the transnational climate finance space ties in well with recent
advances in the literature on transnational governance. Particularly the notion of “orchestration”
helps to understand how the IO sphere increasingly seeks empowerment by utilizing their formal
authority as regulators and facilitators through an intermediary, rather than being initiators and
practitioners themselves (Abbott et al. 2012). In this Orchestrate → Intermediary → Target (OIT)
model, any exercise of power is not direct but rather is a proxy of the material and ideational support
provided to the intermediary by the orchestrator. This helps elucidate the prominence of soft law
and voluntary standards approaches as the gold standard in the transnational space, as
intermediaries seldomly (if ever) harbor a legal mandate to set forth and codify hard law
approaches.

"LPAA was on one side of the Champs Elysees, and the negotiations on the other side. When you
crossed the Champs Elysees, I left the LPAA room hearing about trillions of dollars, trillions and
billions in investment opportunities and commitments. On the other side – where negotiations took
place – they were in essence arguing over tens of billions of dollars. So, it was an order of
magnitude difference in terms of resources that were being discussed in Paris. To me, I think the
guys negotiating initially missed the real boat, that has actually left the harbor, some time back. I
also saw this at SG’s climate summit, a year and a half back, that business is now taking charge
and that public climate finance will be small compared to private flows. Maybe we now should
focus on the larger flows and not continue peddling over these tens of billions or a hundred billion
in climate finance"

Hans Olav Ibrekk, Ministry of Foreign Affairs, Norway and Co-Chair of Adaptation Fund
While the prominence of private authority in the climate finance space cannot be overstated, our interviewees do in fact point to the most prominent venue for public authority in this space as highly central and conducive for progress. This venue is naturally the UNFCCC Conference of the Parties (COP) negotiations, with added emphasis on the fruitful COP21 negotiations and the adopted Paris Agreement. Thus, many of our interviewees point to the success of COP21 as providing much needed momentum and salience for the climate finance discussion. Meanwhile, they do agree that the goal of mobilizing $100bn in climate finance by 2020, is simply too modest an amount, the ideational victory of the worlds’ countries, after several failed attempts, coming together to agree on a carbon neutral path forward is of absolute pivotal significance for this space. As illustrated in the quote above, in accepting this ideational victory, also lies the notion that it is no longer the UN system that is taking charge in terms of finance.

“IT’S QUITE CLEAR NOW THAT THE DIRECTION OF TRAVEL HAS BEEN SET. NOW WE NEED TO DO WHATEVER NEEDS TO BE DONE IN AN ORDERLY FASHION. YOU CANNOT JUST CLOSE DOWN OIL AND GAS IMMEDIATELY, THAT’S NOT POLITICALLY FeASIBLE AND THE WORLD CANNOT DEAL WITH THAT. WE STILL WOULD NEED OIL AND GAS FOR AT LEAST THE FORESEEABLE FUTURE. BUT AT LEAST THE DIRECTION IS CLEAR ON WHERE WE NEED TO BE GOING: WE NEED TO BE CARBON NEUTRAL, AS PART OF PARIS, AFTER 2050, BUT... IF YOU LOOK AT IT, IT HAS TO BE DONE WAY BEFORE 2050”

Hans Olav Ibrekk, Ministry of Foreign Affairs, Norway and Co-Chair of Adaptation Fund

“What you’re seeing now and certainly post-Paris is a new vitality around a long-standing discourse about carbon risk. It was there before the carbon bubble, but the financial risk is better described now and groups like the Bank of England taking it up is very significant“

Tessa Tennant, The ICE Organization

5.2.3 Expertise, networks and bridging

So far, this analysis has attempted to show how transnational climate finance in recent years has moved from being a domain dominated by the UN system, towards a large degree of private authority. In this section, we attempt to provide an understanding of how networks, expertise and the ability to bridge and broker between different ecologies has become increasingly important as
a result of this development. Firstly, we shall explore the role of expertise in the power relations of transnational climate finance, before moving on to an understanding of how actors utilize their networks in order to improve their position. Finally, we look at how these elements combine to the crucial role of agents and initiatives that are able to bridge epistemic gaps.

“Increasingly, regulators are the last to the party in terms of green finance. Practitioners have been there before.”

David Pitt-Watson, Co-chair of the UNEP Finance Initiative

As the landscape of climate finance has shifted from a UN/MDB perspective towards private finance, so has the definition of expertise. Whereas expertise previously was intimately tied to development work, climate change science and international diplomacy, it now stretches to incorporate structured finance, asset management and the demands of private shareholders. If we recall Abbott’s (1995) notion of how boundaries change over time, one might refer to this as the yoking of different fields into a wholly new one. We can see how this yoking is taking place within the most prominent organization in the social network analyzed here, the San Giorgio Group, where experts from different fields are brought together to create both policy and finance solutions to climate change related issues:

“The idea is to get feedback from experts on what the key issues are, what is it that we need to address this year to make progress and how can we help advance the discussions on some of the technical issues in order to make sure that governments and private actors are moving in the right direction.”

Barbara Buchner, Climate Policy Initiative

Knowledge plays a crucial role in an emergent area such as climate finance. The interviewees expressed how the knowledge of agents working with policy is crucial to finance people in order to establish the services or products that the policy people in turn are reliant upon. Different types of expertise will be in demand at different stages, with expertise around policy being in demand in the
process of establishing the Paris Agreement, while there is now a demand for agents with financial expertise.

“Given the media attention on Paris one might think it is all about COP 21 and putting a price on carbon but there’s such a wide array of environmental problems. For example, in China the pressing issue may be air pollution while in India it may be water availability and drought risk - we need to make sure we are addressing all of these problems systematically.”

Richard Mattison, Trucost

The fluctuating need for different types of expertise means that cooperation through networks is key to leveraging the position of different types of ideas and knowledge. In this, we see how the networks analyzed previously are so important to the flows of knowledge and power dynamics in this field. The interviewees all emphasize the importance of the exchange of ideas and knowledge through networks, as it allows for innovation and as such helps them leverage their position by employing authoritative knowledge to create new policy solutions.

“How do ideas get picked up by other organizations? The community is key: people in a similar vicinity meeting regularly, ideas being shared. Organisations and individuals have forums for intelligence sharing, finding out what other people are doing, and these can be mechanisms for starting to push some ideas, and those ideas get picked up by allies and other institutions. London is definitely the largest and most important such centre for these issues”

Ben Caldecott, Oxford University

Due to the high degree of uncertainty, dispersion and low transparency as to who are important actors and possible allies, the formalization of networks is important. This formalization includes different acts of membership ranging from regular physical meetings over phone conferences to email groups. In gaining membership, expertise is of importance, as membership is granted on the basis of expertise and knowing well and there is a strong sense of professional respect among the professionals in various networks. What we find is, then, that the agents and organizations that are particularly well networked, are often seen as being more important than otherwise. While we are
unable to make definite causal inferences about whether a central position in the network leads to expertise, or if expertise determines the position of an agent in the network, we argue, that due to the emergent status of transnational climate finance as a field, expertise is prior. This is due to the fact, that we see climate finance as an interdisciplinary field, a combination of previously existing professional fields, and thusly incorporating existing notions of expertise.

“There is no agreed upon climate finance pedagogy with a universal set of frameworks and assumptions. We teach Calculus 1 in the United States and I take Calculus 1 in Denmark, it’s going to be the same thing. If I take Spanish 101, first year Spanish here and Spanish in Denmark, it’s going to be same thing, right? So what is climate finance? Much less who describes what the pedagogy is, who ascribes to the pedagogy and who accurately and actively applies climate finance to their day-to-day financial modeling? And so there exists a power struggle that occurs broadly between markets, NGOs, governments, corporations and communities. Each sector wants to describe what climate finance is on behalf of the others, yet most individuals and institutions have only a nascent understanding of climate finance. This results in competition between the sectors for ‘who believes they are correct?’ instead of developing a rich discussion based on which financial models are known to be valid via rigorous testing of data”

Gabriel Thoumi, Yale University

This points us to a fundamental insight of this project: the separation of experts and expertise as a result of yoking. A person might be an expert on finance (e.g. chartered financial analyst), but that person does not necessarily have expertise of climate finance, due to the need to understand the specific political and environmental dynamics of this field. Expertise of climate finance is thusly highly reliant on networks, in which experts from different areas come together. We shall discuss the idea of a separate climate finance profession later on, but here we shall just note that this organizing of expertise has given birth to experts; the agents that are able to broker between different ecologies.
“I think the Climate Bonds Initiative is very important, because it’s speaking climate science in a vocabulary that can be understood by bond traders. Likewise, Chain Reaction Research speaks the vocabulary of climate change to the financial risk management community”

Gabriel Thoumi, Yale University

“One thing about this community is, that to be effective, you also need some policy savviness, because you have got to understand how policy relates to finance and economics, but you also need to be aware of finance, and how finance works. And I think the people that are most successful in this space are the people who can have the policy conversation but also understand how finance works. There aren’t very many people who can do that, really. Some people and organisations have no idea of policy or politics and vice versa, which can actually be very counter-productive for moving issues forward productively.”

Ben Caldecott, Oxford University

Being able to bridge the gaps between public and private, civil society and interest groups as well as different conceptions of climate finance is seen as one of the most important traits of successful agents and organizations working with climate finance. As noted earlier, this includes bridging the different languages, both literally and figuratively, but also being able to create forceful alliances under the domain that one is occupying.

Expertise, networks and brokerage are thusly deeply intertwined in the power dynamics of transnational climate finance. Due to the thinness of the space, there is much uncertainty, but also many structural holes for brokers or epistemic arbiters to plug. Being able to bridge holes and draw from different pools of knowledge is therefore here seen as the ultimate expertise within this area, where there are few real experts. These notions will be studied at length at a later stage, but first we must turn towards the conceptions of developments and challenges for transnational climate finance as perceived by the interviewees.
5.2.4 Other developments and challenges in transnational climate finance

While many recent developments within climate finance, as described by our interviewees, pertain to the move from a domain dominated by public actors towards private authority, there are several other themes to explore. In this section we attempt to gather the most prominent of these and to describe their connection to the larger story described in this study.

The fossil fuel divestment movement and other stakeholder activism initiatives are a seen as a major game changer by asset managers and risk analysts alike. In short, these initiatives aim to use e.g. pension fund members’ voting rights to divest from fossil fuels or sees investors pooling their votes to change the trajectories of specific companies. The interviewees speaking to this theme emphasize the sheer size of the global pool of institutional investors. When these investors make moves in coalition, it is felt in the market. The narrative around stakeholder activism is thusly one that is dominated by respect for what is being done. But it is also a narrative that suggests that the way citizens can influence how climate finance is being conducted is not through the national democratic systems, but rather through the capital markets.

“One of the really big drivers over the past two years in the investment community was the 350 divestment campaign in the US, started by Bill McKibben. This has successfully raised awareness of the problems and allowed endowment fund beneficiaries to get connected with the climate agenda. Beneficiaries have realized that their money is funding, perhaps, things they don’t believe in and their campaigns against the managers of their endowment funds in the US has really created a momentum for change. Now divestment is not something that asset managers or owners are particularly keen on, because divestment, by its very nature, can mean a shift away from the market returns in the near term. So most asset owners would not be comfortable with a sudden shift away from the market but they have to balance this against concerns that the fund is allocating capital to activities that contribute towards climate change - this is the current challenge for asset managers.”

Richard Mattison, Trucost
What we also see is that stakeholder activism is seen as a risk to investment managers, because of campaigns’ ability to limit their room for potential investments through merely campaigning and connecting on an emotional level with the savers/members. What we also see here is a different type of power, than the one studied here, because it demonstrates an agent (Bill McKibben) who is largely formally unconnected to the space of climate finance, but is able to create an ideational paradigm change (cf. UNEP Finance Initiative, 2 Degrees Investing Initiative, and World Resources Institute 2015) through campaigning those not in the inner circle. As such, the case of 350.org and the Divestment Campaign provides an addition to our findings, in that it provides an example of someone with knowledge of activism and campaigning, environmental change as well as knowledge of pension funds putting these skills to use and creating an arena for different divestment initiatives. This shows us, much akin to the substructure occupied by the World Economic Forum being disconnected from the rest of the network, that formal ties do not always provide a completely clear image of how networks perpetuate power.

In the absence of meaningful multilateral action of financing climate mitigation and adaption, the interviewees also note how China has increasingly begun to take the reins, investing large sums of money in primarily domestic projects.

“So again, what the U.S. is bringing in, would be political leadership. China is bringing in political leadership as well as financial leadership, they've pledged 3 billion to the China South-South Climate Cooperation Fund. They're also setting up the Asian Infrastructure Investment Bank [...] So I think China is a huge investor if you look at renewable energy investments”

Hans Olav Ibrekk, Ministry of Foreign Affairs Norway and Chair of Adaptation Fund

It is clear that the interviewees are generally excited and relieved that China is committing to curbing climate change, due to its size and share of total global GHG emissions. But China is also becoming an ideational leader, in using new instruments for private finance for public projects, through e.g. green/climate bonds. This is important, as in becoming the testing ground for new types of financing, the Chinese government is able to dominate the discussion around impact measurement
metrics. This is, of course, part of a larger trend of China taking a dominant role in the world economy, but it is novel given China’s continued stance on being exempted from climate action.

While China is investing and developing mitigation and adaptation projects en masse, the interviewees speak of a general deficit of projects for investors. The notion here is, that while there long has been a deficit of funding, that funding is now pouring in through private finance mechanisms quickly saturating the market, and leaving capital without a home. The problem here seems not to be that there is a lack of projects in general, but rather that there is a lack of bankable projects. In other words, the interviewees see a major challenge in project developers’ inability to create projects that are bankable, or even just to describe them in a way that is satisfying to investors.

“The third need is around project development. Developers of projects in emerging markets can be “non-traditional” or relatively new to a particular sector. There is also a shortage of bankable projects in many countries. As well, we have seen instances of public capital from development banks competing with each other for those few good projects and also crowding out private capital. These reasons are why more support is needed for initial project development and project preparation facilities, with more coordination between project preparation facilities”

Murray Birt, Deutsche Bank

This speaks into a larger issue of a lack of knowledge and tools around how to leverage public funds towards projects. With an increase in private finance coming in to support, primarily, a transition towards green energy, there is a large issue on how to best leverage the smaller amount of public funds for mitigation and adaptation. A transition towards renewable energy solutions represents the lowest hanging fruits, because the technology has come a long way and measurement of impact is easily achieved. But other types of projects, that are particularly dependent upon risk measurement, are vulnerable to a lack of expertise around making the decisions that deliver most value.
“There's little historical data, some of the issues are non-linear, if you think about climate risk and so on and feedback loops with policy. And it also touches upon a whole range of disciplines within the social sciences and physical sciences. So it's very hard... how do you turn that into actual repricing of risk or into something that's actionable. Can you put it into excel spreadsheets and do something with that information or not? So that integration challenge is massive.”

Ben Caldecott, Oxford University

The issue of measurement, calculation and pricing is one that is also present in the analysis put forth by private sector analysts. What is being argued here is, that while sustainable finance may be on the rise, there is a significant knowledge gap with regards to the “metrics” of climate finance. This again feeds into a story of financial analysts being unable to grasp the rapidly changing regulatory environment, and policy analysts lacking the necessary financial skills to put their knowledge into pricing and risk models. The need for those agents that are able to bridge this gap is again apparent.

5.2.5 Notable agents and organizations missing from the inner circle

While we utilized social network analysis to identify the inner circle of the network, we are fully aware, that this methodology and our application have some inherent limitations. In our application, we measure formal ties, and do thusly not consider events, co-authorship of reports and other, less formal ties that agents may engage in. Therefore, we wanted to have an open discussion about the most powerful agents and organizations in climate finance. While we found that the interviewees largely agree with the general markup of the inner circle as defined here, we also see that there are notable exemptions. In the following, we shall address these agents and what their role in climate finance is.

The most notable missing agent is Abyd Karmali who is the managing director of climate finance at Bank of America Merrill Lynch:

“Another person who I know you'll come across is Abyd Karmali right? [...] he is a very important player in the whole space as a bridge between private sector financial institutions and the UN system.”

Mark Fulton, Independent consultant
Abyd Karmali is indeed an important agent in this field, as he is able to combine technical and policy expertise. But he is simultaneously an agent with few, but high-impact, formal ties. He works with the Global Innovation Lab for Climate finance, is a private sector advisor to the Green Climate Fund and regularly attends the San Giorgio Group meetings. While he is surely a key missing agent in the network, the findings around him do not diverge significantly from the portrayal of key actors in climate finance as we have argued so far. Mr. Karmali’s ability to bridge the gaps between private and public climate finance along with a leading position in one of the world’s largest financial corporations makes him key to ideational development in policy and finance.

Nick Robins (ranked 156 on betweenness) is similar to Abyd Karmali in many ways, and is also mentioned as a key missing actor from our conceptualization of the inner circle. Nick Robins is the head of HSBC’s Climate Centre of Excellence and simultaneously acts as the co-director of UNEP FI’s Inquiry into the Design of a Sustainable Financial System. In this, he too displays the traits that are of great value in this network: the ability to bridge the gaps between policy and finance and being situated in an organization that is highly esteemed.

Barbara Buchner (ranked 468 on betweenness) is the director of the Climate Policy Initiative, and is thusly overseeing the activities of the most prominent venues in the network, The Global Innovation Lab for Climate Finance and the San Giorgio Group. In this capacity, she is very important to the network, as these venues act as organizational brokers, but she is less prominent as an agent herself. Due to her role, we were happy to be able to include an interview with her in the data.

In terms of organizations, the most notable missing is Carbon Tracker Initiative (ranked 78th on betweenness). This is mostly due to the methodology, where the executive board and advisory board are coded as two separate venues, due to our demand for co-presence of agents in order for them to be connected. The Carbon Tracker Initiative is famed for their ability to “speak in the language” of finance people, while actually organizing like an NGO/think tank. It has thusly been efficient in implementing specific ideas, by adjusting the language of climate science practitioners:
“The most distinctive things are, first and foremost Carbon Tracker. You know, the influence of the stranded assets discourse and the carbon bubble has had an extraordinary impact on thinking. It has also resulted in the divestment movement which is the second highly significant development.”

Tessa Tennant, The ICE Organization

While there are many more agents and organizations that are brought up during our discussions, few are so often as these three. As we have previously discussed, the methodology has its inherent limitations, but we do believe that the interviews confirmed our findings in the network analysis, with regards to prominence of specific agents and organizations.

5.3 Linked ecologies and structural holes

As elaborated upon the in the chapter on theory, crucial to this study is the understanding of power and authority as being manifested through inter-personal and organizational relations e.g. through communities, networks or ecologies. This understanding builds on the argument set forth by Granovetter (1973), on the immense value of possessing weak social ties beyond ones’ immediate and more densely knit network and how these ties may enhance opportunity and professional recognition for the actor in question. For the purposes of this study it is thus prudent to scrutinize the presence of substructures within the network - whether they can be deemed factions, ecologies or communities – and elucidate how the most central actors in the network are connected through such structures and bridge structural holes.

In the SNA above we presented four apparent factions in our network, each with a differing institutional markup. As we know, factions are substructures that have a high density within its grouping and a lower amount of ties to other groupings. The ecologies approach as originally coined by Abbott (Abbott 1988) and later developed with the linked ecologies approach (Abbott 2005; Seabrooke and Tsingou 2015), stresses how professionals interact via ecologies to set forth jurisdictional claims to tasks and issues and whom should treat or solve these tasks. To this end, the linked ecologies approach sets forth a more processual or fluid notion of such ecologies, departing from a rigid notion of ecologies as mere formal professional associations: “Rather than professions, these professional ecologies are self-identified by their work role, by what tasks they do and from
what basis they make jurisdictional claims over how an issue should be treated based on their skill set and knowledge” (Seabrooke 2014:53). This conceptualization allows us to equate the four factions with four professional ecologies: a UN ecology, a government and MDB ecology, a private sector ecology and a UN-private sector intermediary ecology, each with competing jurisdictional claims to the tasks and issues at hand: solving the climate change crisis by mobilizing climate finance for adaptation and mitigation projects. This entails that the ecologies agree on the tasks and issues, but propose very different modalities to solving them. This is embodied by the ecologies’ highly differing conceptions of climate finance and which venues that should serve as a main vehicles for the mobilization of this finance. Most notably is naturally the contestation over public and private capital for climate finance as well as whether the optimal venue for this mobilization is through the capital markets or in a format more akin to bilateral ODA.

While not suggesting that these ecologies are entirely cohesive and stable structures, the linked ecologies approach does posit that knowledge and expertise play a dominating role in determining the world-view, beliefs and ultimately jurisdictional claims of these ecologies (Seabrooke 2014). The competing and highly differing claims of these ecologies entail that structural holes or epistemic gaps are present in the network and that these holes can be exploited or plugged by epistemic arbiters or brokers. As we shall discuss in the next section, these agents effectively ‘links’ ecologies by seeking alliances, resources, and support across ecological boundaries (Abbott 2005).

A method for seeking alliances or links across ecological boundaries is through the pursuit of dual rewards, which entails positive outcomes in two different ecologies. Such outcomes may be obtained through hinges or avatars. A hinge is simply an alliance between two ecologies, which agree on a common solution to a defined task or problem, but may seek to solve it for different objectives. We argue that the hinge or alliance between the private sector ecology and UN ecology on the field of responsible investing and related areas has resulted in an institutionalized hinge, embodied by the UNEP Finance Initiative and its related venues, which has as a result become an ecology in itself. Here we see how UNEP is able to provide a probable solution to the issue of financing climate change mitigation and adaptation, while private investors gain ability to influence regulation and share knowledge on the increasingly profitable sustainable economy. While it is
certainly possible, that ecologies have also linked through avatars, it is beyond the data and scope of this study to examine such relations.

The presence of structural holes between the ecologies in our network entail that these ecologies are entirely dependent on harboring prominent or “between” actors that know well, if they wish to legitimately lay jurisdictional claims to solve tasks and issues in a particular way. In turn, these structural holes entail that for an agent be considered prominent in the network, she must be able to bridge contesting professional ecologies and knowledge pools and thus their inherent terminologies and world-views. We argue that a proxy of this ability is the ties an agent harbors to the ecologies. Attesting to this notion is, as shown in the analysis above, that the professional trajectory of the Top 50 agents in our network on average spans 2.9 out of 5 professional sectors we find relevant to the climate finance arena. Further, we see that the most prominent organizations in our network are ones, which gather prominent actors from contesting ecologies.

Based on the interviews it is our clear indication that the climate finance space is such an emerging and contested space that any talk of consolidation to the degree that calling it a separate ecology or profession is premature. To this end, several of our interviewers specifically pointed to a lack of knowledge on who the actual practitioners are.

“Our 3rd recommendation is the idea of a practitioners network. Less a policy one, although obviously policy is part of it. But this is primarily about the deal flow, getting people who are doing the deals speaking to each other.”

Tessa Tennant, The ICE Foundation

While we we argue that talking of a demarcated professional climate finance ecology or profession is premature, we posit that in its place we can talk of formations of issue distinction and the notion of community of practice in tandem. Specifically we align with Seabrooke and Tsingou (2015:4, citation in original) in that: "..professional emergence can be identified through the creation of issue distinctions, which take place prior to professional ecologies arriving at a clear position on who is tasked with the issue and how the issue is treated. Abbott has described such fluid social space as
‘zones of difference’ or ‘arenas’ from which entities can be created that can become identified as tasks to act upon or out (Abbott 1995: 877; Abbott 2005: 249). Issue distinctions emerge from these arenas as professionals articulate their positions on ‘what’ is important to address, even if the ‘how’ is not yet clear”. To this end, we argue that in this network it is apparent than an inner circle of prominent actors, entirely agree on the ‘what’ and are now very actively articulating and attempting to institutionalize their visions of the ‘how’.

Following this notion, we argue that we see initial strides of zones of difference, the professional jurisdictions and ecologies of finance, climate change science and policy, shaping into proto-boundaries, which can then be ‘yoked’ together through relational processes into becoming defined as belonging to the same ecology or “thing” and thus a new boundary (Abbott 1995). Utilizing this terminology, we argue that the above mentioned institutionalized hinge between the private sector ecology and UN ecology, through a yoking process, has become an ecology or “thing” in and of itself: namely the UN-private sector intermediary ecology, embodied by UNEP FI and related initiatives.

While we do not find evidence, that there exists a general climate finance ecology, we argue that an applicable theoretical term to describe this group of professionals is that of a community of practice: “A community of practice is neither a haven of togetherness nor an island of intimacy insulated from political and social relations. Disagreement, challenges, and competition can all be forms of participation. As a form of participation, rebellion often reveals a greater commitment than does passive conformity” (Wenger 1998:77). More specifically, Wenger emphasizes joint enterprise, shared repertoire and mutual engagement as being the sources of coherence as well as modalities of knowledge-creation in a community of practitioners. This definition thus allows for both the contestation and coherence that is evident among the inner circle of actors in the network.

The presence of a community of practice in the climate finance space aligns with the transnational notion of such a community as set forth by Djelic and Quack (2010) and Adler and Pouliot (2011), with an emphasis on the mutual orientation of members as well as articulation around a common project, as opposed to national identities. This theory further helps elucidate how the transnational
community of practice in climate finance is pivotal to the production and dissemination of knowledge in this highly technical and emerging transnational space. To this end, the community of practice in the climate finance arena can be thought of as both a social structure that embodies a distinct epistemic foundation, but also agents who are able to utilize this knowledge in appropriate venues due to their advantageous position in the network.

We thusly find, that while there is a degree of yoking among the different ecologies laying jurisdictional knowledge claims to transnational climate finance, the arena is not consolidated enough to warrant an ecology label to itself yet. Rather, we find, that a more appropriate term is that of a community of practice, due to the inherent conflict aligned with different ecologies and professions laying claims to knowing well in the space. In the following section, we shall look at the holes between the ecologies, and the agents that link different ecologies, through their knowledge and expertise.

5.4 Epistemic arbitrage in transnational climate finance

While it is indeed possible to see how different ecologies link over issues in transnational climate finance, we find it more useful here to employ an epistemic arbitrage approach to understanding how professionals organize around different issues. This is due to the highly emergent and fluid nature of the field and particularly due to the low transparency across professional and issue boundaries. In other words, transnational climate finance constitutes a thin space, and thusly fertile ground for acts of epistemic arbitrage (Seabrooke 2014).

As we have shown, organizations and ecologies demand the skills that lay outside their traditional operational areas, in order to respond to the skillset required to be successful in climate finance. These skills include, most prominently but not exclusively, intimate knowledge of: 1) finance and financial markets, 2) climate change science and sustainable energy solutions and 3) policy and regulation on climate finance and sustainable energy as well as being positioned to set forth ideas in the network (Burt 2004). The issue, of course, is that there are very few single individuals that have that specific skillset, or in more appropriate terms expertise. While this often results in
coalition building as described above, it also positions the people with the specific expertise to distribute knowledge and define what knowing well should be.

Previously, we have described how the most central agents in this study share the trait, that they have been employed across multiple sectors during their professional lives, with the inner circle having been employed in an average of almost three different sectors during their careers. This shows us, that central agents often carry an understanding of those actors that agent cooperates with. Simultaneously we find, in agreement with Thistlethwaite et al. (2016), that these agents hold great agentic freedom from their principals (employers). We also see that the organizations that are most central to the network, and seen as most ideationally powerful by the interviewees, are those that are able to bridge the gap between sectors.

For this section, we shall focus on three specific agents who, we argue, can be seen as having transcended mere acts of epistemic arbitrage and have rather become epistemic arbiters (Seabrooke 2014). These are Mark Fulton, Gabriel Thoumi and Cary Krosinsky, respectively ranking 1st, 2nd and 7th on the betweenness metric in the network. These three share several traits: working as independent consultants, backgrounds in finance and intimacy with the UN system and regulatory bodies. We show how these agents bridge epistemic and lingual gaps and provide examples of acts of epistemic arbitrage undertaken, and on this basis attempt to provide an understanding of how these agents have been able to exploit structural holes to their advantage. In this, we follow Burt’s notion, that the ideas suggested by these “brokers” or “arbiters” are “good” because of their network position (Burt 2004), which in turn is determined by their specific expertise. Below, we see how these three agents are situated in the inner circle network.
What we find in common between these three agents is their ability to transcend jurisdictional boundaries, and how they have employed that ability to carve out markets for their services. These services particularly revolve around creating metrics and setting up areas for market actors to focus on in their work around climate finance and sustainable investing.
5.4.1 Mark Fulton

Mark Fulton is by great lengths the most prominent agent in the network. We see why above; he is well-connected to both private and public initiatives, and is simultaneously connected to other prominent agents such as Gabriel Thoumi, Annette Detken, Andrew Steer, Cary Krosinsky, Inger Andersen, Tessa Tennant and many more. He has been working with climate finance for about 10 years, starting out in Deutsche Bank before becoming an independent consultant, expert and advisor to a variety of organizations.

He is fully aware of his status ("Well, you see why I’m so central") and how he reached this status ("I see my role, and people like me as... I would say: bringing together the languages of civil society and financial markets, and expressing them in a way that makes sense to both"). Having been a part of climate finance for longer than most and thusly having built a big network also provides Mr. Fulton with a larger degree of transparency in the area than most. During our interviews with him, he was keen on asserting that he indeed has a large network, and showing his merits. It is clear, that what Seabrooke (2014) refers to as “style”, is indeed important in being able to impose expertise in an area.
We find Mr. Fulton’s more specific acts of epistemic arbitrage within his work for Carbon Tracker Initiative. By enacting the language around “stranded assets” and “carbon bubbles”, Carbon Tracker Initiative has been able to coin some of the most important terms in climate finance. Mr. Fulton’s contribution to this cannot be understated. His argument was, in 2013, that Carbon Tracker Initiative should focus on restraining capital expenditure for fossil fuel companies. By using this argument, and introducing a language that bridges an argument, which is similar to that of the activist divestment campaign but can be understood by asset managers, Mr. Fulton and Carbon Tracker Initiative became the champions of a new field, between divestment and the finance sector. We see how this argument uses expertise from policy circles (assessing the risk of new regulation towards fossil fuels), finance (pricing that risk) as well as activist/CSO work (inventing a “campaigning” language).

The framework set forth by Carbon Tracker Initiative during those years was mentioned by several interviewees, as one of the most authoritative in climate finance. Significantly, these terms and ideas have been implemented in the framework of the UNEP Finance Initiative (UNEP Finance Initiative et al. 2015; UNEP Finance Initiative 2015b), through reports that Mr. Fulton has co-authored (cf. UNEP Finance Initiative 2015a) and general working groups that he is deeply involved with. As we recall, the UNEP Finance Initiative is very active in informing UNEP on the regulatory needs of the finance sector. It is noted in a report by UNEP FI, World Resources Institute and 2 Degrees Investing Initiative that “the Carbon Tracker Initiative added a financial risk dimension, warning about a potential asset bubble related to energy companies if 2°C policies are eventually implemented” (UNEP Finance Initiative et al. 2015:16). We thusly see how the acts of epistemic arbitrage carried out by Mr. Fulton and his associated organization has made its way into the official language of a UN organ and generally into the epistemic language of the whole community.
5.4.2 Gabriel Thoumi

An academic and chartered financial analyst with a strong focus on innovation, Gabriel Thoumi has played a part in climate finance related activities, particularly around forestry and conservation metrics and investments. He is the second most prominent actor in the network, and is well-connected within academia, private finance and the UN system. Like Mark Fulton his connections include several of the most well-connected individuals in the network. He too asserts himself with “style”, mentioning his status as CFA, numerous educations and accolades several times. He is not afraid to say that there are some areas, where he has been the driving actor in implementing new ideas.

He, too, is important to this network, because of his ability to not just broker between ecologies and implement ideas into existing structures (Burt 2004), but also to create new initiatives on the basis of his ability to draw on different pools of knowledge, and thusly becoming a champion of that area. He describes the intersection in his educational background in finance, natural resources & environment and real estate as sustainability defined. He employed these skills in becoming the first
implementer of a UN REDD project “in the Western hemisphere”\textsuperscript{14}, by drawing on his expertise within conservation and finance respectively.

In our interview with him, Mr. Thoumi emphasized how he had been successful in becoming the champion of introducing climate risk into the assessment models of credit rating agencies and stock exchanges. He did so by employing a range of skills including his knowledge of capital markets, his financial skills for valuing natural capital, his natural resources science skills as a trained scientist and his networking skills while employed at Calvert Investment Management. He told us two stories about how he did so. These can be read in full in the interview transcript\textsuperscript{15}, but as they are essential to understanding how he works, we shall try to provide a summary here.

The two cases both involve Mr. Thoumi filing proxy resolutions with the Securities and Exchange Commission (SEC). In the first case, he filed a resolution, to get NASDAQ to encourage ESG-disclosures in the markets in which they operate (for full correspondance please see Thoumi 2014b). This type of filing of course requires expertise within both finance and sustainability. Mr. Thoumi tells us how he developed a great working relationship with the senior management team at NASDAQ, despite them seeing the proxy resolution as a hostile act. He used this relationship to later be a major supporter of the World Federation Exchange and ITS writing the first ESG listing standards for the global exchanges. The second story is similar, in that Mr. Thoumi filed a proxy resolution with the SEC in order to convince Moody’s to include ESG risk assessments in their credit rating scores (for full correspondance see Thoumi 2014a). 18 months later, Mr. Thoumi meets the head of ESG Integration for Moody’s at a business conference and tells him that it is he who has filed the resolution. Through this, Thoumi encourages Moody’s in their work on ESG, and now Moody’s has provided support for green bonds issuance and natural capital valuation.

These two stories, anecdotal as they may be, shows us how Mr. Thoumi has been able to position himself by drawing upon different pools of knowledge and asserting his style in acts of epistemic

\textsuperscript{14} Gabriel Thoumi CV, see Appendix 4

\textsuperscript{15} See Appendix 5
arbitrage. In doing so, he has become an epistemic arbiter within the area for metrics, risks and pricing on ESG factors within financial markets.

5.4.3 Cary Krosinsky

Cary Krosinsky is an independent consultant, lecturer, author and a promoter of the ideals of socially responsible investment. He has over the past decade been successful in positioning himself as one of the most authoritative experts on the subject, and is ranking 7th on betweenness among agents in the network studied here. As is the case with the other two individuals, he is connected across different sectors, and his formal network includes several of the most prominent actors in the network. His work particularly involves developing specific metrics for responsible investment, and is thusly occupying a space that is mostly related to the financial sector side of matters. He is not a big believer in governments’ ability to efficiently regulate the market (“I don’t think governments or governmental agencies have demonstrated that they have the ability to manage finance successfully”), and is thusly arguing from a pro-market position of private entities taking matters into their own hands.
By drawing upon professional knowledge from different fields, Mr. Krosinsky is able to position ideas of how to measure responsible investments, as he has done in his books *Sustainable Investing: The Art of Long Term Performance* and *Evolutions in Sustainable Investing: Strategies, Funds and Thought Leadership*. But he is also doing so through the venues of the UN mandated UNEP FI and Principles for Responsible Investment, which work towards improving regulations and regulatory frameworks, as well as corporate governance on ESG factors. He is, simultaneously, consulting to private organizations and public ones such as UNEP.

**5.4.4 Epistemic arbiters**

The three epistemic arbiters share several traits in that they all come from a background in finance but have knowledge within environmental matters, work primarily as independent consultants and are involved with UN orchestrated efforts on climate finance. Their use of style to invoke deference in other professionals is clear; by flashing their credentials they are able to institute a particular way of knowing well, which speaks to their specific expertise. Simultaneously, they share a different trait, and that is a general wish to institutionalize the different areas they aid in yoking. In other words, when these agents engage in acts of epistemic arbitrage and become epistemic arbiters, they seem to wish to institutionalize and formalize the area that they have championed by their use of different knowledge pools. By institutionalizing a specific language on a particular issue, they are able to define *expertise* within that area.

**5.5 Summary**

In order to answer the research question “*who can make authoritative claims to transnational climate finance?*” this chapter has provided an analysis of the governance of transnational climate finance. We have attempted to give an account of how the dispersed nature of the field as well as the historical failure of multilateral action has given room for particular modes of governance, with private authority and governance through standards and soft law currently prevailing.

The network analysis provided insights into who the main agents and organizations are within transnational climate finance. We showed that the inner circle is a diverse group, with varied
backgrounds, and that the organizations at the center of the study are to a large degree coordinating venues, where main actors meet to discuss, disseminate and develop policy, expertise and ideas. The interview data showed how the climate finance arena has shifted from being largely dominated by public actors towards more private authority. We showed how there are still different notions of what actually constitutes climate finance, and that it is over this and other epistemic divides that the most influential actors are able to carve out spaces for themselves and their allies. This they do through drawing upon different pools of knowledge to develop expertise that is able to plug structural holes between ecologies and knowledge communities in the network.

Finally, the analysis provided an exploration, drawing on the theoretical framework of the study, to understand who the authoritative actors are within the space, and how they achieve such powerful positions. We show that this is a combination of different ecologies linking over issues, but also a few epistemic arbiters and ideational entrepreneurs that drive forward progress within the area.

What we find is, then, that those who are able to make authoritative claims to transnational climate finance are those agents and organizations that can successfully bridge epistemic, network and information gaps between different ecologies in order to provide authoritative solutions to problems. But it is not only in the sense, that those that are able to bridge gaps are providing new solutions. The very sense of an expertise within transnational climate finance is centered around possessing the ability to provide solutions that span ecological bounds. In this, we understand that those able to make authoritative claims are trans-boundary actors, that can speak the languages of accountants, bankers, UN staff and CSO professionals at the same time. In the following section, we shall discuss these findings and their theoretical as well as political implications.

6.0 Discussion

This section takes it point of departure in the main findings as presented in the analysis above and seeks to further scrutinize and problematize the implications thereof. We do so in a two-folder manner: one of theoretical nature and one with basis in policy. Firstly, we argue for our theoretical contributions to the theoretical concept of epistemic arbitrage. Then, we account for the tension between interests and expertise for arbiters in the climate finance space. Building on this discussion we seek to answer if a climate finance profession exists in its own right. Secondly, we problematize
and set forth points of discussion based on the implications of increased prominence of private authority in the climate finance space, as well as more generally in the public space governed by multilateralism. More specifically, we discuss the implications that private authority may harbor for adaptation finance as well as finance for the states most vulnerable to climate change.

6.1 Theoretical implications

In this study, we have attempted to elucidate the contestation over knowing well in the thin transnational space of climate finance. In this, differing professional ecologies engage in jurisdictional battles over setting forth solutions to a rather well defined problem: curbing anthropogenic climate change. As we have argued above, climate finance is still of such an emergent nature that talks of a demarcated climate finance profession is premature. Rather, we argue, processes of issue distinction are currently taking place, a stage prior to the formation of professional ecologies, where actors are actively articulating and attempting to institutionalize their specific solutions (Seabrooke and Tsingou 2015). In other words: the ‘what’ is widely agreed upon, but jurisdictional battles between ecologies are playing out over the ‘how’. We further set forth the point that the group of practitioners in the climate finance space can be thought of as a transnational community of practice, as this notion allows for a more apt blend of both contestation and coherence within this group (Adler and Pouliot 2011; Wenger 1998).

In this vein, it is appropriate to discuss the distinction between the agentic qualities of expertise and interests and how these may be at odds with each other over acts of arbitrage. As we have established, expertise in the climate finance space is not something an actor possesses, but rather entails a very specific markup of both a structurally advantageous network position as well as the ability to bridge and synthesize epistemic gaps. As several of our interviewees attest to “ [...] there aren’t very many people who can do that”16 suggesting that the inner circle of climate finance practitioners is of a relatively modest size for what remains a transnational space attempting to solve a borderless issue. Further, it is a space that largely due to the Paris Agreement, the

16 Interview with Ben Caldecott, Appendix 5
Sustainable Development Goals and the Addis Ababa SDG agenda has been propelled into the very apex of political salience.

These developments entail certain exclusivity on the part of climate finance practitioners and it is here that the tension between expertise and interests is apparent. Surely, following a rational choice perspective agents who know well in the climate finance space would, in carving out markets for their own services, seek to perpetuate structural holes between ecologies as opposed to attempt to institutionalize the bridging of such holes. This because these structural holes are essentially the phenomenon, which furthers demand for their specific expertise. In other words, as Seabrooke (2014:54) puts it: “As arbitrage relies on having access to knowledge others do not, [...] [epistemic arbiters] have an interest in keeping their mouths shut to protect their role within and across professional ecologies.”. To this end, this discussion is largely one of perceptions or motivations. Is an agent interested in furthering progress in this emerging transnational space by utilizing her expertise or rather, is the agent more preoccupied with her own economic, social and authority-related interests, that engaging in this prominent epistemic field may afford her?

We argue that our theoretical contribution to the theory of epistemic arbitrage is that while arbiters may exploit their positions to carve out markets for their own services, they do not necessarily do so in an exclusionary manner. In fact, many of our interviewees point to the idea of practitioners’ networks, as well as emphasizing the ones that already exist, such as the San Giorgio Group, as highly important for knowledge sharing and ultimately progress in this field. To this end, we argue that while arbiters indeed do carve out markets for their own services, they are eager to institutionalize and legitimize these services and thus permanently plug the structural holes that exist between ecologies. Further, as long as actors are viewed to have expertise or know well in this space, their contribution or participation in such institutions seems to be welcomed. As we know, communities of practice embody an ‘open’ sense of community in that one of their main purposes is to introduce outsiders or newcomers to their practices (Djelic and Quack 2010). For the community of practice in this space such outsiders might be actors with expertise who have not yet discovered the possibility for them to plug structural holes through acts of epistemic arbitrage in this space.
Whatever the reason for this inclusionary modus operandi - whether an objective of working for a noble cause or seeking to legitimize their practice and solutions through institutionalization – the actors in the inner circle of the network are keen on keeping the door ajar to qualified agents and in fact condone the creation of practitioners’ networks. Here again it is important to note that the specific markup it entails to be seen as having expertise in this space is of such specificity that only a small handful of transnational actors seem to fit the bill. This entails, that despite an inclusionary modus operandi, this space is and seems to remain highly exclusive for the foreseeable future and actors already present in this space, can invite new actors in, seemingly without jeopardizing their own prominence or position in the network.

6.1.1 A climate finance profession?
As we have shown in this study the arena for transnational climate finance is an area that is in constant flux due to regulatory changes and jurisdictional battles between different ecologies and simultaneously which actors that are seen as legitimate to make authoritative claims to solving the issue of climate change. However, concurrently we do see an increasing amount of institutionalization in this thin transnational space embodied by the development of new venues, communities, and knowledge networks – not least more specific guidelines for the constitution of climate finance. To this end, a fitting point of discussion seems to arise from the question: Is there a climate finance profession?

Surely, no climate finance accreditation, licensing or professionals association exists for now. Further, while do see broad agreement that successful climate finance practitioners typically have relevant experience or know well in fields such as finance, climate change science and policy, these traits are by no means institutionalized as of yet. We say ‘yet’ because any institutionalization in such a technical and transnational thin space is very likely to be centered on specific knowledge, which may be hard to obtain without a specific set of skills and expertise. Further, we might expect the broader notion of ‘sustainability’, where it is taught and practiced, to also more wholesomely embody ideas and concepts from climate finance. Following these arguments, it is especially interesting to note that the University of Edinburgh Business School offers a MSc in Carbon Finance,
which includes coursework in: Climate Change Science and Policy, Low Carbon Investment, Investment Management and Global Financial Markets and Emerging Economies. However, the fact that this is the sole specific university program on this subject area we could find, only further emphasizes the highly emerging nature of this space.

It is our clear indication that while professional ecologies dominate the network, any talk of a climate finance profession in its own right is premature. For this, the climate finance space is simply in a too emergent and contested state. However, the presence of both issue distinction and a community of practice in this space elucidates that a professionalization process is indeed taking place and that through the institutionalizing of yoking differing expertises, a climate finance profession may come into being considered an independent entity or “thing” (Abbott 1995). However, for now even a definition of climate finance is a source of dispute among the practitioners interviewed for this study, and thus the ‘conditions of possibility’ of such a climate finance profession or “thing” is far from being either comprehensively developed or defined.

6.2 Policy implications

In spite of the differing conceptions of climate finance between ecologies, we see a definite convergence towards the notion that private finance should bear the bulk of the task of financing mitigation for curbing climate change. As we have shown in this study, this has been the almost inevitable result of the inaction and inability to reach agreements in the multilateral system. Meanwhile, how arrangements are made to accommodate and structure private finance is still contested in a highly important discussion. Simultaneously the different metrics around measuring the success of climate mitigation and adaptation projects financed through public or private sources is still emerging. In this section, we shall discuss the increase of private authority in climate finance and the findings of this study against these important developments.

This study finds, in agreement with much recent literature (cf. Faulkner 2009; Green 2013; Hoffmann 2011; Newell and Paterson 2010; Park 2012; Pattberg 2005), that climate change governance is increasingly dominated by private authority. What we particularly see is that the inability of the UN system agree on regulation and government mechanisms to curb climate change
has resulted in a proliferation of public-private/private standards, accords, codes, etc. These standards cover widely differing areas such as limiting GHG emissions, investment practices and environmental protection practices, and have in common that they are voluntary with few-to-no enforcement mechanisms or sanctions. While it is certainly an important step, that the private sector at large has acknowledged its role in anthropogenic climate change, and meanwhile is realizing the economic potential of curbing it, the prevailing “institutionally fossilist” short-termism of the private sector should prompt some hesitance towards a completely privately governed transnational climate finance. In other words, the fiduciary duty of companies comes before voluntary standards, which makes any progress on financing climate change mitigation and adaption vulnerable to fluctuations in the financial markets.

In the case of climate finance, we see the proliferation of private standard-setting in the Principles for Responsible Investment, the Natural Capital Declaration and the body of the UNEP Finance Initiative, which works on developing regulation and standards for the finance sector in relation to environmental matters. This presents an issue that is not easily resolved: the standards exist because of a lack of regulation, and thusly resolves the policy vacuum created by inaction on climate change. These standards are welcomed by the governing transnational bodies; indeed, UNEP sponsors the Principles for Responsible Investment, UNEP FI and UN Global Compact. We have analyzed this as a model of orchestration (Abbott et al. 2012), where UNEP due to a lack of governing capacity, authority and legitimacy is delegating responsibility for governance to an intermediary, and is thusly still able to provide input and guidance for the processes of governing through standards (Ponte and Daugbjerg 2015). As mentioned, however, such standards hold little in the way of enforcement mechanisms.

While private finance is now flowing in towards particularly renewable energy projects, this model of governance presents an issue in that finance is seldomly directed towards adaptation projects or the poorest countries, where projects may be less immediately bankable. Simultaneously, it is evident that finding adequate public financing to reach the goal of $100bn by 2020 is now becoming increasingly difficult. One might speculate that the massive inflow of private capital is making governments complacent. The agenda of adaptation finance has taken several significant hits, at
the same time as it has become increasingly evident that the small island states and the world’s poorest nations will be those most severely affected by climate change (Pachauri et al. 2014).

The most detrimental development has been that the fundamental function for financing adaptation in the Kyoto Protocol was the CDM mechanism, as described in Appendix 2. The issue is, of course, that the CDM mechanism has proven itself inefficient in allocating means, due to, among other factors, poor implementation of emissions trading schemes. This means that the Adaptation Fund is currently being starved to death: while there appears to be a “pissing contest” over who can pledge the most money to the Green Climate Fund, little is being done in the way of adaptation funding. This due to 30 years of neoliberal development thought which emphasizes “returns on investment” in development aid. The very imminent threat of small island states and swathes of land disappearing in the least developed countries around the world has thusly not been met with adequate urgency, and continues to seem low on the list of priorities of both public and private actors.

Another important implication of the increasing private authority and removal of expertise status from the public towards the private sector, is on which metrics climate finance is measured (and thusly developed). The epistemic arbiters we emphasized in the analysis chapter are all to a certain degree engaged with developing metrics and measurements for climate finance. This, of course, is important because investors rely on data to make decisions regarding which projects/companies to invest in. But the way in which these metrics are developed has a profound impact upon the phenomena they portray, as they can encourage or discourage companies from pursuing certain types of work, based on what is measured and what is not (Callon 2009; Henriksen 2013). In other words, you get what you measure. This is further problematized by the apparent lack of CSO/NGO saliency within the network on climate finance. While these may focus on the implementation of projects and trying to make clear the effects of climate change, they do presumably not hold the necessary expertise to inform the debate around metrics, leaving a vacuum where the voice of the poor should be.

17 Interview with Hans Olav Ibrekk, see Appendix xxx
The implication of increased private authority in relation to the development of metrics in climate finance can be, that measurement is skewed towards projects being “bankable”, where metrics are developed to describe financial success to a larger extent than perhaps the materialized human or infrastructural capital developed by the project. This risk is not merely pertinent to those projects financed by private sources, but due to the large degree of private authority in the knowledge networks, and thus epistemic authority, also in purely publicly funded projects. Such developments are notably prevalent in bilateral ODA, where an emphasis on business objectives such as export promotion and domestic job creation now stand firmly side-by-side with more long-term humanitarian objectives. To this end, the recent decade has witnessed the merging of the policy areas of development and trade under the guise “economic diplomacy” (Ministry of Foreign Affairs of Denmark 2014; Okano-Heijmans 2011). This emphasizes how even in a purely public space such as ODA, private sector and highly business-centric logics prevail.

We thusly understand, that the greater amount of private capital and expertise in transnational climate finance can come at a dear price. Firstly, we have found that private initiatives and governance standards are being put in place rather than public regulation of climate finance. While this is welcome due to the lack of multilateral regulatory action, the danger here becomes that there is little in the way of enforcement of these standards. They are mere declarations of intent, and thusly not binding in any way, shape or form. This is particularly worrisome due to the emergent nature of climate finance – it is exactly in these years that responsible investment practices are being developed, and we would argue that private finance is very far away from convincing anyone that it can regulate itself without harm to public interests. Particularly because there is a general consensus that the world’s poorest countries are most vulnerable to climate change, this shift in authority is worrisome. Firstly, because the growing amount of private capital seems to have instated a sense of complacency among the developed countries, in that the capital flowing towards climate adaptation projects in the poorest countries, either through bilateral ODA or through MDB’s/multilateral funds is nowhere near enough to mitigate the disastrous projections of climate change. Meanwhile, we argue, private authority within knowledge networks and expertise-driven governance too is problematic. We find this particularly within how private sector experts are used
to develop the metrics and measurements related to climate finance, in terms of the success and risk of projects. What we argue here, is that these measurements are not objective, but are rather politicized, in that they are developed by people with a certain agenda. This means that they will develop these metrics on the basis of their own notion of how financial instruments should be constructed. Due to the heavy anti-government sentiment we find among many of the interviewees, we find that this neoliberal approach to deeming the success of projects is worrisome. Particularly if success and risk is only/mainly measured in financial terms, we fear that the actual goals of adaptation, capacity building and improving life conditions, may fall in the background because of the sentiment that projects should be bankable to be good.

It is indeed positive that the private sector is contributing towards a renewable energy transition. However, public regulators should be wary of the increased private authority and lack of multilateral capability and legitimacy. While there is no doubt that the UN system is unable and incapable of solving the issue on its own, we argue that the multilateral system still has an important role to play in regulating to ensure a fair transition towards a “green economy”.

7. Conclusion

This thesis has sought to empirically answer the question *who can make authoritative claims to transnational climate finance?* by examining expertise, knowledge production and network positions. This focus stems from the emergent nature of the field and the empirical insight that the field is “thin” with little transparency and regulation on central issues. What we find is, then, that while knowledge and network positions indeed are important, they do not make possible the ability to produce authoritative knowledge without working in tandem as *expertise*. We find that the most central actors in the network employ their network position, by drawing upon different pools of knowledge, to situate novel ideas and solve policy problems that span finance, climate change science and policy. In this ability, these agents occupy highly powerful positions due to the thinness and high degree of private authority within transnational governance of climate finance. Our findings with regards to organizations are similar; the organizations that successfully bring together actors from different fields are seen as powerful and able to provide salient solutions to policy problems.
In order to reach such an understanding, we conducted a mixed methods study encompassing a social network analysis of 876 agents and 1679 organizations, as well as 13 semi-structured interviews with prominent actors uncovered by the SNA. The empirical work enabled us to firstly in the network analysis understand who the main actors within the climate finance arena are and how they are connected. Secondly, through the interviews, to understand how and why these actors connect, as well as what constitutes legitimate expertise and claims to knowledge in this space.

Utilizing the network data, we were able to identify not only which actors are most connected, but more importantly how these actors are connected to each other within and between different ecologies. We have showed, that the transnational network for climate finance in 2015 was constituted by four different ecologies, that all embody different conceptualizations of - and approaches to - climate finance. While this finding is interesting in its own right, we find that it is in the instances, where ecologies link or form alliances over certain issues they become able to make authoritative claims to these issues, as no ecology has established itself as an epistemic hegemon within the climate finance space. Rather, we see a diminishing role of the UN ecology in the climate finance space, a move towards a more nuanced knowledge network, that encompasses the private sector, from think tanks to investor groups and business initiatives, as well.

We find that the increase in private sector knowledge authority stems from a general notion that the multilateral system has failed in adequately addressing climate change through decades of less than fruitful negotiations, and that adequate regulation and incentives for underpinning sustainable finance therefore too are sorely missing. Our interviewees addressed this through statements such as: “Being realistic, what we should have done 15 years ago was to set a decent high carbon price and we’d be well on the way by now. It’s taken us 23 years to get any sort of agreement and we should welcome, hugely, the agreement that we got in Paris”, “Governments don’t work” and “I don’t think governments have proven that they can manage finance”. What we see as a result is a proliferation of private initiatives to instate standards, codes of conduct and principles; in other words, soft law initiatives. The UN system is sponsoring several of these, and thusly engaging in what is referred to as “orchestration”. By engaging intermediaries, UNEP is able to inform the debate within the Principles for Responsible Investment or the UNEP FI and thus to a certain degree
influence the information reaching the target, in this case private investors, despite waning authority in this space when doing so. Intermediaries typically do not have a mandate to formulate and codify hard law, but rather engages private companies through standards and soft law. This type of governing through networks thusly shows us how business-centric initiatives have gained increased ability in regulating private companies, indicating a radical shift from the traditional principal-agent relationship between governments and companies in the transnational space.

We also find that while there is a relatively defined set of skills required to be a successful broker in climate finance, very few agents possess that skillset. To this end, we align with the sociology of expertise in that expertise is not something an agent can possess, but rather that it is a function of having both a structurally advantageous network position and a very specific skillset. Thus, we argue that expertise is essential in rendering an agent able to not only bridge different knowledge pools but also to employ this knowledge in acts of epistemic arbitrage. This claim we support by highlighting three epistemic arbiters in our network, Mark Fulton, Gabriel Thoumi and Cary Krosinski, who have actively utilized their expertise to institutionalize and make salient their specific policy solutions.

In this vein, we argue that the modality of expertise required to be a successful actor in this space, has been further underpinned by the increased prevalence of private authority. Private capital and climate finance solutions emanating from the capital markets are forces increasingly embedded in this space and with HSBC projecting the issuing of green bonds to the tune of $158bn in 2016 alone, this capital seems set to continue to dwarf any mobilization of capital rooted in the public or multilateral sphere. This entails that besides an understanding of policy, extensive knowledge of finance and climate change science are, and will continue to be, absolutely pivotal skills in this space.

Our findings constitute several implications of both a theoretical and political nature. First and foremost we contribute to Seabrooke’s (2014) epistemic arbitrage framework by setting forth a dimension of institutionalizing arbiters: actors who seek to institutionalize and legitimize the ideas and knowledge they produce, by establishing clubs and venues for other actors to join. We further argue, that while we witness processes of professionalization as well as a community of practice in
this space, the notion of a climate finance profession in its own right is premature. Of a more political nature, we welcome the increasing ‘greening’ of private finance as a pivotal and much needed development. However, we do argue that the prevalence of private authority and the complacency of developed states sorely jeopardizes flows of capital for adaptation projects and thus the states and peoples most vulnerable to the detrimental effects of climate change.

7.1 Further research

While this study constitutes a starting point for understanding power relations in climate finance, the macro view taken here certainly invites for more research to add nuance to the findings. Transnational climate finance is, as we have shown, a fairly incoherent issue area, and across climate finance there are several interesting topics to uncover. In this short section we shall detail a few of those.

Firstly, it would be of great value to gain increased insight into the specific issue networks around e.g. green bonds, adaptation finance and the divestment campaign/stranded assets debate. While these are all pertaining to the overall issue area “climate finance”, the configuration of power relations as well as necessary expertise will be very different across these issue areas.

Secondly, and partly related to more work on e.g. adaptation finance and divestment, is a need to understand the role of CSOs and NGOs in climate finance governance. We have found the big NGOs to be of very little importance in the network around climate finance, possibly due to their lack of technical expertise in the area of finance. CSOs have historically played an important role in climate change governance, and their lack of saliency in what is arguably the biggest current debate should lay the groundwork for interesting inquiries into challenges and possibilities.

Thirdly, the issue of climate finance metrics and measurements would be an interesting addition to the research agenda around the performativity of finance metrics. As described in the discussion here, metrics are not developed independently from political agendas and in turn to a great degree incentivize actors through rewarding some behaviors over others (Callon 2009; Henriksen 2013). Thusly, a deeper look at both a) who creates the metrics and how are these actors chosen and b)
what do the metrics measure and omit, would foster a greater understanding of the role of (the development of) metrics and benchmarks in transnational climate finance.

Lastly, we suggest two methodological expansions on the current research. Firstly, we regret that we were unable to stretch the temporal element of the network analysis in this study. Here, it would have been interesting to see how the network evolves over time, and particularly how core elements change position and rise and fall from prominence. This falls in line with our processual view of social life as in constant flux (Abbott 1995). Secondly, and in line with our discussion on the possibility of a climate finance profession, a study analyzing the career trajectories, e.g. sequence analysis (Abbot 1990), of the agents in the inner circle, would be of great value in understanding both the markup of a given profession, but also what epistemic sentiments the professionals carry into their work.
Bibliography


London: Palgrave Macmillan.


Markets.” University of Waterloo.


Appendix 1.0 Inner circle with labels
Appendix 1.1 Inner circle with Mark Fulton, Cary Kroinski and Gabriel Thoumi.
Appendix 1.3 Mark Fulton ego network
Appendix 1.4 Gabriel Thoumi ego network
Appendix 1.5 Cary Krohinski ego network
Appendix 2: A Short History of Climate Finance

Emil Linnet & Rune Riisbjerg Thomsen

2.1 Multilateral efforts

2.1.1 Early Stages: UN Conference on Human Environment and The Bruntland Commission

Since 1972 environmental issues and climate change has moved from being practically non-existent on the United Nations agenda to sitting at the absolute top (Downie 2015). This has, however, been a slow process, with little progress, despite growing attention and interest from developed and developing countries, as well as private interests and civil society groups. The advent of the environmental paradigm in the UN, is by most scholars argued to have begun at the UN Conference on the Human Environment (Downie 2015; Gomez-Echeverri and Müller 2009; United Nations 1992). The conference in Stockholm gathered the UN member states, as well as more than 170 civil society organizations (Downie 2015) with the goal of reaching common ground and addressing growing environmental concerns and was the culmination of four years of preceding meetings both internally in the UN system and through other venues, such as the OECD (Borowy 2013). At the Stockholm Conference, environmental issues were put center stage, with the participants proclaiming that:

“The protection and improvement of the human environment is a major issue which affects the well-being of peoples and economic development throughout the world; it is the urgent desire of the peoples of the whole world and the duty of all Governments”

(Strong 1972:3)

While bold in its proclamations, principles and recommendations, the final text of the conference included little in terms of binding commitments (Downie 2015). The conference represents a turning point, predominantly in the way the UN system views and treats environmental issues, and less in terms of multilateral action. Simultaneously, the establishment of The United Nations Environmental Program came at a price: while environmental issues were now being treated separately in the UN, the new program was less integrated with other efforts and had a weak mandate (Borowy 2013). The declaration did, however, emphasize the pivotal role of development
in combatting environmental issues and in this vein initiated a series of projects with the goal of reducing environmental harm (Gomez-Echeverri and Müller 2009). Almost twenty years would go by, before any significant coordinated action would take place.

The Stockholm Declaration provided a window for international environmental action in the 70’s, particularly marked by the Club of Rome publication of Limits to Growth (Club of Rome 1972) and a joint declaration by UNEP, UNCTAD and experts describing the need to decrease consumption in order to change climate change trajectories. Both of these reports were vehemently attacked, particularly by the United States and its supporters in the international organizations, including former Secretary of State, and at the time World Bank Director, Robert McNamara, due to their focus on curbing consumption (Borowy 2013). The World Bank would go on to regain the initiative in development debates, but fail to address environmental issues in that context for several decades (Borowy 2013). In tandem with an increasingly neoliberal political discourse in international policy debates, which was fueled by the appointment of Alden Clausen as new Director of the World Bank by Ronald Reagan, these developments provided a large setback for UNEP and its collaborators, due to their initial focus on resource scarcity and decreasing consumption. Furthermore, an anti-environmentalism moved gained traction, both in scientific circles as well as in the public debate, particularly in the U.S.

Despite the considerable backlash UNEP and the general environmental movement was facing, UNEP felt it was appropriate to mark the 10th anniversary of the Stockholm Convention, despite the lack of progress made. This resulted in a conference in Nairobi in 1982, which was celebratory, but also critical of the lacking progress, particularly in the developing world.

“Overall the world had experienced a massive increase in environmental degradation and a huge decline in environmental indicators, especially in developing countries”

(Macneill 1984, quoted in Borowy 2013:49)

In order to ensure more traction on the issue, UNEP wished to set up a commission with the goal of making environmental projections towards the year 2000. It was decided that this commission
should be independent, and thusly not directly affiliated with UNEP. In this respect UNEP lost another important regime battle, but had initiated the arguably most influential inquiry in environmental matters up to that point (Borowy 2013): the World Commission on Environment and Development (WCED), popularly referred to as the Brundtland Commission, owing to its chair Gro Harlem Brundtland. It would be the first report focusing on environmental matters in connection with development, barring a short chapter in the UNEP and IUCN report World Conservation Strategy: Living Resource Conservation for Sustainable Development (IUCN and UNEP 1980). The Brundtland Commission was the third commission set up by the UN in a short span of years, following the Brandt Commission on North South Issues and the Palme Commission on Security and Disarmament Issues (World Commission on Environment and Development 1987). Thousands of people worked on the report for the commission and members of the commission came from 21 different countries, spanning both the developed and developing world. The final report ‘Our Common Future’ was presented at the UN General Assembly in 1987 (World Commission on Environment and Development 1987).

‘Our Common Future’ came to define sustainable development for several years following the publication (Borowy 2013). Particularly influential was the definition of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development 1987) and the notion of interlocking global crises. Furthermore, the commission placed emphasis on economic growth being an integral part of sustainable development and the report did not, in this respect, discriminate between developing and developed countries, leading to the conclusion that market-led growth would be possible with reforms and expansion.

In the 15 years since the lofty ambitions of the Stockholm Declaration, UNEP and the environmental movement in international politics and diplomacy had faced severe backlash. As a result, the first important definition of sustainable development was heavily influenced by the Washington Consensus and view of development in the World Bank at the time, leading to a lesser focus on sustainability and a larger on economic development (Borowy 2013).
2.1.2 The UNFCCC and the Kyoto Protocol

Whilst the Brundtland Report in itself constitutes a pivotal cornerstone in the global climate change agenda, it simultaneously played a fundamental role in advancing response to climate change within the United Nations ecology. This entails, that the report served as a significant catalyst for the General Assembly of the UN in 1988 adopting resolution A/RES/43/53 (Streck, Terhalle, and Gomez-Echeverri 2013) as well as the Montreal Protocol, the first universally ratified treaty of the climate, in 1989, . This resolution in turn culminated in the negotiation and signing of the United Nations Framework Convention on Climate Change (UNFCCC) at the Earth Summit in Rio de Janeiro in 1992 (United Nations 1992). Along with the United Nations Convention on Biological Diversity and the United Nations Convention to Combat Desertification, the UNFCCC is referred to as a Rio Convention. The UNFCCC entered into force in 1994 and thus became the first formal international agreement to acknowledge and address anthropogenic climate change (Lattanzio 2014). It should be noted that the UNFCCC bears almost universal support as 195 countries (including all UN members) are parties to the convention. Further, it is important to mention that close to 2000 NGOs and IGOs are admitted as observers to the UNFCCC and can thus attend Conference of the Parties (COP) negotiations. The convention is still, to this day, the centerpiece to which all international advancement to curb climate change is measured against, as the ultimate aim of the convention is:

“Stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”

(United Nations 1992)

The articles of the UNFCCC introduced core concepts to the climate change debate, such as the “common but differentiated responsibilities” (Article 3:1, UNFCCC), historical responsibility (Article 4:6, UNFCCC) as well as alluding to the potential conflict of interest inherent to the question of climate finance (Article 4:7, UNFCCC) (United Nations 1992). Of further conceptual importance is the fact that it is within the articles of the UNFCCC that we find the controversial division of parties to the convention into Annex I, Annex II and Non-Annex I parties (see full list in Appendix). In short, Annex I countries encompass the industrialized countries, the major historical emitters of GHG, that were members of the OECD in 1992. The Annex I countries also encompass economies in transition
(EIT), a moniker utilized in the early 1990s to refer to Eastern Bloc countries after the fall of the Soviet Union and their subsequent transition to market economies. Annex II countries encompass the Annex I countries but excluding the EIT. The Non-Annex I group refers to developing countries at large and encompass around 150 countries. Of these countries, around 50 are deemed least developed countries (LDCs) and are given special consideration by the UNFCCC with regard to their limited capacity to respond to climate change by carrying out mitigation and adaptation activities (UNFCCC 2015d). Based on this threefold party division, the convention commits the Annex II parties to provide unspecified financial assistance to assist other parties to the convention in meeting the obligations as outlined below (Article 4:3,4,5, UNFCCC). It is this “north”“south” divide between what was at the time, industrialized countries on one hand, and developing countries on the other, that fuels controversy in the COP negotiations to this day.

In short, the convention recognizes that climate change and its adverse effects are of common concern to humankind and to this end provides a formal structure for responding to climate change within the international community. Strikingly however, its inherent obligations, commitments and responsibilities for achieving its ultimate aim and objectives remain largely unspecified. Thus, the convention rather laxly requires its parties to gather and share information on GHG emissions, national policies and best practices and that national strategies for addressing GHG emissions should be launched. Most significantly, this entails that the level of financial resources to be provided by Annex II Parties, as well as any quantitative and time-specific targets for the reduction of GHG emissions, are not specified in the convention (Lattanzio 2014) (Gomez-Echeverri and Müller 2009).

2.1.3 Road to Kyoto

Whilst the UNFCCC did indeed lay the groundwork for any international advancement in curbing the onset of climate change, one has to look to the Kyoto Protocol for time-specific as well as quantitative targets on the reduction of GHG emissions as well as legally binding commitments. To this end, it is agreed that the Kyoto Protocol is the result of the parties to the convention realizing that the provisions for reduction of GHG emission stipulated in the UNFCCC were inadequate and
that most industrialized countries had yet to live up to their commitments (UNFCCC 2004:84) (UNFCCC 2015e).

At COP 1 in Berlin in 1995, only one year after the UNFCCC entered into force, the parties agreed through the Berlin Mandate to establish a process to negotiate strengthened commitments for developed countries – this time encompassing the Annex I parties - through the adoption of a legal instrument (UNFCCC 2004). It was further specified that any such legal instrument should not introduce new commitments on the part of Non-Annex I parties, but to further the implementation of their existing commitments stipulated in the UNFCCC (Article 2:b, Berlin Mandate). The negotiations were fruitful and at COP 3 in Kyoto, Japan in 1997, the parties to the convention adopted the Kyoto Protocol. However, due to a rigorous and cumbersome ratification process in national legislatures, including a demand for ratification by at least 55 parties to the UNFCCC, the protocol did not enter into force until eight years after in 2005. Today, the protocol is almost universally ratified, with the exception of major emitters such as the United States and Canada – the latter withdrew from the protocol in 2012.

According to the UNFCCC website, the Kyoto Protocol is what operationalizes the commitments and principles that the UNFCCC only encouraged its parties to carry out (UNFCCC 2015b). To this end, it only binds Annex I countries to GHG emission reduction targets, honoring the concepts of “historical responsibility” and “common but differentiated responsibility”. The protocol does so by setting legally binding GHG emission reduction targets for the Annex I parties. To this end, the Annex I parties committed to an at least 5% reduction in GHG emissions compared to 1990 levels under the first commitment period of the protocol from 2008-2012 (UNFCCC 2015b). This entails individual targets for differing parties; e.g. the European Community committed to reduce emissions by 8%, whereas the target for Iceland was 10% above 1990 level (UNFCCC 2004).

As a consequence of the binding emissions targets for Annex I parties, GHG emissions essentially became a commodity qua the possibility of international trade with emission permits. The most notable example emissions trading schemes remain the EU Emission Trading Scheme launched in 2005. To facilitate the trade of emission permits under provisions of the Kyoto Protocol as well, so
called flexible market mechanisms exist within the protocols framework. These mechanisms are embodied in the Clean Development Mechanism which allows for Annex I countries to finance mitigation projects in developing countries and on this basis earn emissions credits to meet their commitments under the protocol. The second flexible market mechanism is Joint Implementation, which allows industrialized countries to financially support emissions reduction projects in other industrial countries, and on this basis earn emissions credits. (UNFCCC 2004). These emissions trading schemes as an essential tools in curbing climate change, will be discussed at length in section 2.3

At COP 18 in Doha, Qatar, the Doha Amendment to Kyoto Protocol was adopted. This simultaneously marked the launch of the second commitment period under the protocol, which was extended until 2020. It was also agreed that the successor to Kyoto Protocol were to be agreed upon at COP 21 in Paris 2015 and thus constitute a legally binding framework for curbing climate change post 2020. (UNFCCC 2015b)

2.1.4 The Global Environment Facility

In 1989 The World Resources Institute released a report commissioned by UNDP, that would initiate the age of multilateral green funds. The report suggested the creation of an international fund for the environment, and the proposals which would emerge over the coming decades can be seen as responses to this (Gomez-Echeverri and Müller 2009). In the same year, at the annual meeting of the Development Committee, the idea began to take shape, based on a World Bank proposal suggesting a fund for additional funding, separate from development funding. The Global Environment Facility (GEF) then started as a pilot project in 1991 and officially established at the UN Earth Summit in 1992, with The World Bank, UNDP and UNEP as the initial establishing partners. In preparation for the Earth Summit in 1992, developing countries called for a Green Fund, and perceived the GEF as the developed world’s attempt to pre-empt this, which resulted in one of the core principles of the UNFCCC to this day; the common but differentiated responsibilities (Gomez-Echeverri and Müller 2009). After intense political debates, the GEF was restructured in 1994 to act as the operating financial arm of both the UN Convention on Biological Diversity and the UN Framework Convention on Climate Change, while simultaneously providing funds for projects

**Figure 1: GEF Timeline** (Global Environment Facility 2015b)

At COP2 and COP3, the structure of the GEF and its legal relationship with the UNFCCC was established. The GEF would have its own governance structure, but act under the guidance and supervision of the COP (Gomez-Echeverri and Müller 2009). The governance structure of the GEF is thusly that conventions and GEF assembly (representatives from 183 member countries) provide guidance to the GEF Council which oversees strategic and operational affairs. Below the council, the secretariat disperses operations and funds to the various agencies (typically development

**Figure 2: Governance Structure of the GEF** (Global Environment Facility 2015a)
banks) (Global Enviroment Facility 2015a).

The divided governance became an issue at a later point, when a perception of two “bosses” giving diverging orders emerged. This manifested itself in unclear guidance from the COP, giving more discretionary powers to the GEF Council and Secretariat, leading to some ill-conceived decisions, including the failed Resource Allocation Framework (Gomez-Echeverri and Müller 2009). The intention was for the GEF and COP to allocate funds based on needs in cooperation, while in reality it has, to a large extent, been the role of the GEF Council and Trustee (The World Bank) to determine the need for funds and attract capital.

Despite its governance shortcomings, the GEF has in some respects been successful. Particularly in terms of attracting private capital; since 1991 the GEF Trust Fund has provided $13.5 billion in grants and leveraged $65 billion in private capital for adaption and mitigation projects worldwide (Global Enviroment Facility 2015a). Since the Green Climate Fund was officially established in 2012, it has existed in tandem with this (as well as the Adaptation Fund) as the financial mechanism of the UNFCCC, with the two separate entities operating under the COP and dispersing funds through different means and towards different areas or types of projects (Global Enviroment Facility 2015a). Furthermore, the experiences from the GEF have proven valuable in the establishment of later multilateral climate funds, including the Adaptation Fund, the Green Climate Fund and the UN REDD program.

2.1.5 The Adaptation Fund

The Adaptation Fund was founded as an instrument of the Kyoto Protocol, and functions as a financial arm of the Kyoto Protocol (Trujillo and Nakhhooda 2013). While climate change mitigation efforts usually provide a return on investment, harnessing financial value from adaptation projects is more difficult for investors (Buchner et al. 2015). Thusly, the Adaptation Fund plays a crucial role for the, usually, developing countries that are going to be most severely hit by climate change in the coming years.
The Fund has had a tumultuous beginning, being agreed on in the Marrakech accords in 2001, coming into effect through the Kyoto Protocol and becoming operational in 2009. Much of this is owed to continuous political discussions regarding the framework and scope of the Fund (Trujillo and Nakhooda 2013). The stated goal and objectives for the Fund are:

- “Goal: Support vulnerable developing countries that are Parties to the Kyoto Protocol to take own climate resilient measures.
- Impact: Increased resiliency at country level to climate change, including climate variability.
- Objective 1: Reduce vulnerability to the adverse impacts of climate change, including variability at local and national levels.
- Objective 2: Increase adaptive capacity to respond to the impacts of climate change, including variability at local and national levels.”

(Adaptation Fund 2010:4)

The Adaptation Fund mobilizes capital and fully funds projects in climate change adaptation. It is a requirement, that the projects include metrics and objectives that can be measured and that the project can be evaluated through these (Adaptation Fund 2011). While the Adaptation Fund was supposed to be primarily funded by revenue from the CDM in the Kyoto protocol, the volatility of carbon prices have provided difficulties in sustaining a steady income stream from that end. Instead, the Fund has relied heavily on country donations, mainly from members of the European Union (Trujillo and Nakhooda 2013). This is the result of a targeted fundraising effort from the Adaptation Fund Board, set out in 2011 to mitigate the consequences of low carbon prices. For the foreseeable future, donations will continue to play a critical part in raising funds for the Adaptation Fund (Trujillo and Nakhooda 2013). The Adaptation Fund has functioned with the GEF acting as secretariat and the World Bank as trustee on an interim basis since its inception (Horstmann 2011).

Adaptation funding is a heavily contested area, due to the fact that it is seldom profitable. Therefore it is, by some, seen as development aid and by others as reparations for damage incurred by developed nations on their path to wealth (Grasso 2011). The Adaptation Fund is thusly a victory for the developing countries that are vulnerable to climate change, but it has been and is an ongoing battle to achieve equity in funding and representation in the governing bodies of the fund. These
debates both took place in the design phase and later through the Adaption Fund Board (Grasso 2011; Horstmann 2011; Persson and Remling 2014). For now, the need for adaptation funding is relatively low, compared to what it most likely will be in the future. The hope is that the CDM mechanism will work better then in generating funds, than it is now, so as to render the Adaptation Fund completely independent from ODA and donations (Horstmann 2011).

2.1.6 COP 15

COP 15, also called the Copenhagen Summit, is perhaps the most notorious of all COP summits in UNFCCC history. Held in December 2009 on the basis of the Bali Action Plan, the COP was intended to be the conclusion of securing a successor to the Kyoto Protocol, but became synonymous with the failure of multilateral system to effectively address the most formidable challenge currently facing the globe: anthropogenic climate change (Dimitrov 2010; McGregor 2011; Parker et al. 2012; Prys and Wojczewski 2015). The result of the COP 15 thus did not become a comprehensive and legally binding treaty, but rather a political agreement commonly known as the Copenhagen Accord. In that regard, UN-Secretary General Ban Ki-Moon has even stated:

“After Copenhagen, many world leaders believed that the United Nations process would no longer work for tackling climate change” (Davenport 2015)

Expanding on this notion, many academics have declared the summit an embodiment of the return to zero-sum realpolitik where the negotiating COP-parties pursued narrow self-interests as opposed to common interests and collective norms for curbing climate change (Bernstein et al. 2010:162–163). Viable theories for this breakdown in multilateral negotiation are plentiful and are still hotly contested to this day. However, academic consensus does seem to revolve around: 1) fragmentation of the climate leadership landscape, especially the role of the EU vis-à-vis China and the US (Parker et al. 2012), 2) the increased clout of the BASIC coalition in multilateral fora (Prys and Wojczewski 2015) , 3) disfranchisement of both CSOs and select countries (Fisher 2010), 4) poor planning and diplomacy on the part of the Danish hosts (McGregor 2011).
Perhaps most noticeable has been the widespread agreement concerning the notion that emerging economies such as Brazil, South Africa, India and China (BASIC) did indeed play a hitherto unprecedented role in international negotiations and catalyzed divergence over the ideal outcome of COP 15. One of a multiplicity of factors that has prompted this de-facto shift in global climate governance is the growing material and non-material power resources (Prys and Wojczewski 2015) of countries in mention, which entails a growing share of GHG emissions. The inclusion of major emitters of GHG-emissions are naturally key to the success of a legally binding treaty to curb climate change and thus the efforts to secure a successor to the Kyoto Protocol. Following this trajectory, there seems to be little doubt among scholars and policymakers alike, that the BASIC countries are adamant in making their increased political and economic presence felt on the international stage (Vestergaard and Wade 2014; Woods 2008) and this paper argues that the COP 15 negotiations are a very tangible example thereof.

As the above factors entailed that multilateral negotiations failed, The Copenhagen Accord was pieced together in the final hours of COP 15 by diplomats of around 30 countries (European Commission 2016a).

2.2.6.1 The Copenhagen Accord
Whilst much can be said to the detriment of the COP 15 negotiations, the resulting political agreement of the Copenhagen Accord did first and foremost express a clear political intent to respond to climate change on behalf of the international community, as well as setting forth a range of commitments with regards to the institutional design of successor to the Kyoto Protocol and climate financing (Lattanzio 2014). The Accord, however, did remain decidedly unspecific on the actual implementation of these commitments (Prys and Wojczewski 2015). These commitments have since become codified in the legally binding successor to Kyoto Protocol, The Paris Agreement, which was agreed upon at the COP 21 negotiations in France in December 2015 (UNFCCC 2015a).

First and foremost The Accord is noticeable for its bottom-up GHG-emission framework with an emphasis on the nationally determined models underlining the “common but differentiated responsibility” notion, a stark contrast to the top-down implementation of the Kyoto Protocol (Lattanzio 2014). To this end, the Accord featured the concept of Nationally Appropriate Mitigation
Actions (NAMA) but did not specify their mark-up or mode of implementation (UNFCCC 2009). The underlying idea of the NAMAs eventually evolved to become the Intended Nationally Determined Contributions (INDC) that came to define the Paris Agreement, further emphasizing a switch to a bottom-up modality of the UNFCCC framework. Of further ideational importance, the Accord included the goal of keeping the global average temperature increase below 2° compared with pre-industrial levels (UNFCCC 2009).

Of utmost importance to this thesis are article 8-10 of the Accord which sets forth a range of proposals for climate finance including the establishment of the Green Climate Fund (GCF) as an operating entity of the financial mechanism of the UNFCCC to “to support projects, programme, policies and other activities in developing countries related to mitigation including REDD-plus, adaptation, capacity building, technology development and transfer.” (UNFCCC 2009: Article 10). Further the now immortalized goal of jointly mobilizing $100 billion in scaled up, new and additional, predictable and adequate climate finance by 2020 stems from Article 8 of the Accord. Further the Article stipulates the sources of this funding to be both public and private as well as bilateral and multilateral and further that a significant portion of the funding should flow through the GCF (UNFCCC 2009). Following this trajectory and especially the ensuing schism and controversy over public and private funding for climate finance, it should be noted that the main beneficiaries of climate finance, including the BASIC coalition, in public statements emphasized that climate finance should not be equated with climate aid and that the primary source of climate finance should be public (Prys and Wojczewski 2015)

2.1.7 The Green Climate Fund

The Green Climate fund is currently the main multilateral vehicle for climate finance within the UN system. Since it was first agreed upon in the Copenhagen Accords, it has undergone a major transformation in goals and design towards its current status and goals of a yearly $100 billion in climate adaptation and mitigation from 2020 onwards. This sections seeks to briefly describe the history, politics and legal and institutional setup of the fund.
In terms of immediate climate action, the COP15 in Copenhagen has long been depicted as a disaster of diplomacy. It did, however, yield one important decision for climate finance. In the Copenhagen Accords is the first mention of a Green Climate Fund in an official UN document (UNFCCC 2009). A year later, at COP16 in Cancun, the Green Climate Fund was formally written into the Cancun Agreement (UNFCCC 2011). In the Cancun Agreement, it is stipulated that the Green Climate Fund should be capitalized by developed countries by $30 billion in the period 2010-2012 “with a balanced allocation between mitigation and adaptation; funding for adaptation will be prioritized for the most vulnerable developing countries, such as the least developed countries, small island developing States and Africa” (UNFCCC 2011). The agreement further stipulates that the Fund’s governing board should consist of 24 members; 12 from developing countries and 12 from developed countries, with an alternate member from each. Moreover, it is agreed that the countries should reflect regional groupings within the UN and pay respect to least developed countries and small island states, due to their significant exposure to climate change events (UNFCCC 2011).

The governing body of the Green Climate Fund constitutes the result of a significant power struggle between developed countries, developing countries, civil society observers and private actors (Bracking 2015). The significance of the Fund in future climate finance seemed immediately evident to the different actors, and as such, the design of the governance structures of the fund was to be fought over between 2011-2014, leading to the Fund only becoming fully operational in 2015 (Bracking 2015). The debates were over several aspects of governance, although mostly pertinent to representation. The result of these debates have primarily been tough towards the developing nations, with the discussions postponing any actual climate finance work being carried out, and at the same time ending in the exclusion of CSOs from any actual decision making. We will elaborate on this later on.

The goal of the fund is to disperse Funds towards both mitigation and adaptation projects. In service of doing so, the fund has established an accreditation mechanism for entities wishing to become partners with the Fund. An accredited entity can have several roles, including implementation, project management, lending, awarding, etc. (Green Climate Fund Board Secretariat 2015). The group of accredited entities includes a range of different actors, but they share a feature of being
experienced in development finance projects. There are private actors such as Deutsche Bank, multilateral entities such as the World Bank and regional/national development banks, such as the Asian Development Bank or KfW. These implementing partners work to find projects that qualify for receiving financing from the Green Climate Fund. The implementing partners are selected based on their technical or regional expertise, and the base is expected to grow over the coming years (Green Climate Fund Board 2015).

The Green Climate Fund is funding projects both within adaptation and mitigation, which leads to some overlap with existing entities, such as the Adaptation Fund and the CIFs. With the prevalent role the Green Climate Fund has taken in multilateral climate finance, this has led to issues in terms of new financing for especially the Adaptation Fund. The chair of the Adaptation Fund, Hans Olav Ibrekk described the current situation as a “pissing contest” where countries put their finance where the public attention is. This has, according to him, led to the Adaptation Fund being starved to death because of the simultaneous failure of the CDM mechanism, which was expected to raise means for that fund.

The Green Climate Fund is simultaneously facing two rather contradictory, but serious, issues. The first is the lack of multilateral finance, with the status of pledged financing standing 10.263 billion USD as of January 15, 2016 and realized means at 6.781 billion (Green Climate Fund Board Secretariat 2016), a far cry from the 100 billion in multilateral finance required in 2020. The simultaneous issue is something we uncovered in the interviews, where several interview subjects argued that there is a significant lack of qualified projects to finance. Thusly, money is left in the funds and MDBs, instead of creating returns and results.

2.1.8 COP 21

After the multilateral failure at the COP 15 to secure a legally binding successor to the Kyoto Protocol, a cumbersome and extensive diplomatic campaign, spearheaded by the EU and dubbed *The Road to Paris*, was initiated to prevent another COP failure (European Commission 2016a). In many ways the Paris Agreement can thus be said to be culmination of six years of intense diplomacy, to this end Laurent Fabius, Minister of Foreign Affairs of France and President of the COP 21 stated
at negotiations in Paris: “Nobody here wants a repetition of what happened in Copenhagen. Perhaps not all the planets were aligned, but today they are.” (Chan 2015)

Following the Copenhagen Accord, the UNFCCC agreed at COP 17 in 2011 in Durban with the Durban Platform for Enhanced Action, that a legally binding deal comprising all countries should be agreed upon in 2015 and enter into effect in 2020 (European Commission 2016a, 2016b). To this end, the following COPs set forth draft elements as well as introducing new initiatives to ensure success at COP 21. Most notable are perhaps the COP 19 in Warsaw and COP 20 in Lima which introduced the nationally driven INDCs and required countries to submit their intended contributions in a timely manner ahead of COP21 (European Commission 2016a; UNFCCC 2016a). Further, these COPs, as well as COP 16 in Cancun, enhanced the implementation of some of the measures laid out in the Copenhagen Accord including measures on mobilizing the $100 bn. in climate finance and the institutional design of the Green Climate Fund (UNFCCC 2016b).

With the world’s collective eyes pointed towards COP 21 it seems the French hosts put immense efforts into combating the major criticisms directed at COP 15 from the international community, as well as working to emphasize the bottom-up approach of the INDCs to curb any notion of disfranchisement (Davenport 2015). Further, some commentators point to a shift in the global perception of the urgency of action on climate change, perhaps as a result of large-scale mobilization efforts from NGOs, IOs, countries and even media personalities and celebrities. Most notable was the mobilization around the UN Climate Summit in New York City in September 2014, including the People’s Climate March organized by Bill McKibben and the NGO 350.org, the largest global climate march in history (Visser 2014), as well as a thunderous speech held by actor and climate-activist Leonardo DiCaprio before the UN General Assembly at the climate summit (DiCaprio 2014). Another notable episode for the advancement of action on climate change has been the bilateral efforts by the United States and China as embodied by the historic U.S. – China Joint Announcement on Climate Change in 2014. In this statement President Barack Obama and President Xi Jinping outlined their personal commitment to a successful climate agreement in Paris and the ushering in of a new era of multilateral climate diplomacy (The White House 2015). The statement further stresses their shared conviction of climate change as one of the greatest threats facing
humanity, as well as outlining bilateral coordination to reduce their domestic GHG-emissions and promoting sustainable and low-carbon development. These advancements by the worlds two largest GHG-emitters undoubtedly catalyzed momentum around COP 21 and lifted it to the very apex of political levels.

That the immediacy of legally binding action to curb climate change remains the highest political priority was effectively stressed at the opening of the COP 21 on November 30th, 2015, when over 150+ heads of state participated – the largest amount to ever attend a UN event in a single day (UNFCCC 2015c).

2.1.9 The Paris Agreement
As we now know, on Saturday December 12th, Laurent Fabius was able to bang his gavel at Le Bourget in Paris and successfully announce that all member states of the UN, and thus virtually all countries in the world, had come together and adopted a legally binding successor to the Kyoto Protocol slated to enter into effect in 2020. Immediately following the announcement, World Bank President Jim Yong Kim stated “It was a wonderful surprise that after the incredible disappointment of Copenhagen, these 195 countries could come to an agreement more ambitious than anyone imagined,”(Davenport 2015). The ambitiousness he speaks to is naturally the commitment to pursue efforts of limiting the temperature increase to 1.5° above pre-industrial levels, as opposed to 2.0° as outlined in the Copenhagen Accord(UNFCCC 2015a:Article 2) as well as an aim to reach global peaking of GHG-emissions “as soon as possible” (UNFCCC 2015a:Article 4). As expected, the adoption of the Paris Agreement prompted a multitude of accolades from world leaders, NGOs, IOs and communities around the world for constituting a historic turning point in the global efforts to curb climate change and perhaps the worlds greatest diplomatic success (Harvey 2015). Whilst the ideational importance of a legally binding agreement that aims to reduce carbon output is troublesome to negate, the Agreement has drawn criticism from the environmental community in that it constitutes “No action, just promises” (Millman 2015).

With regards to climate finance, the Agreement commits the parties to continue the existing mobilization goal of $100 bn. per year through 2025 as well as “making finance flows consistent with a pathway towards low greenhouse gas emissions and climate- resilient development” (UNFCCC
After this year, a new collective goal from a floor of $100 bn. shall be agreed upon (UNFCCC 2015a:8). The Agreement further stipulates that developed countries should continue to take the lead in mobilizing climate finance, whilst noting the significant role of public funds (UNFCCC 2015a:Article 9).

2.2 Private Mechanisms

2.2.1 CDM, ETS and other Cap-and-Trade schemes

In its essence, the cap-and-trade approach attempts to put an overall cap on the emissions of a given gas, and over time reduce that cap to a set target. Companies can then, in the system, buy emissions allowances (or are given some at the initiation of the regime) and trade the allowances between them. As allowances are used, and less are issued, the price of allowances should increase with the result of incentivizing companies away from emitting the targeted gas.

The idea of solving the issue of greenhouse gas emissions through a market-based approach has existed since the 1960’s (Schmalansee et al. 1998), but did not gain significant saliency before it was included in the US efforts to limit acid rain, through the caps on NOx and SO2 gasses included in the Clean Air Act of 1990, taking effect in 1995 (Maraseni 2013). The system was a success in terms of proving that a cap-and-trade system with a built-in allowance mechanism can reduce emissions over the short term (Schmalansee et al. 1998). This proved Tietenberg (1985) theory, that a cap-and-trade system would be superior to a command-and-control regime in regulating GHG emissions. In the case of the Acid Rain Program, the system proved to be efficient, both in economic as well as temporal terms, and simultaneously satisfied the neoliberal political agenda of reducing government interference in business (Newell and Paterson 2010).

Under the Kyoto Protocol, the Clean Development Mechanism (CDM) was set up to guide the process of lowering emissions in the developed world, while contributing to sustainable development in the developing world (Maraseni 2013). The idea was to introduce emissions trading schemes, such as the cap-and-trade acid rain scheme in the U.S., in the developed world to raise funds for projects in the developing world. In the run-up to the Kyoto negotiations, the U.S. in particular attempted to position the idea at the center of the negotiations, due to its successful
experience with the tool as well as the country’s affinity for “flexible” market-based approaches to environmental regulation (Meckling 2011; Newell and Paterson 2010). There was, however, significant resistance from Europe as well as the developing countries, but for different reasons. The Europeans argued, in concert with a group of CSO’s, that international emissions trading in effect was a way of avoiding dealing with GHG emissions domestically, while the developing countries in no way were interested in capping their emissions in respect of their development path (Newell and Paterson 2010). The biggest issue for the developing countries was solved by constructing a relatively ‘fair’ capping system (Newell and Paterson 2010) and setting emissions targets towards which the mechanisms should aim (Meckling 2011). Other criticisms have included the commodification of natural commons and therefore reinforces power and capital relations in the North-Side divide as well as the CDM system having an unnecessarily rigid project approval mechanism, which has led investors from developing countries without the expertise and institutional capacity to provide convincing arguments for the projects (Maraseni 2013). The first CDM project was initiated in Brazil in 2004 and since then, the value of CDM projects has risen exponentially up to 735 in 2010 (Maraseni 2013). However, as the carbon markets contracted significantly during 2011-2012-2013, the CDM mechanism lost importance in the world’s carbon markets, contracting to constituting a mere percent of the market (REDD Monitor 2014). As described elsewhere in this section, this has amounted to a significant blow for CDM funded projects, not least the Adaptation Fund, which is entirely dependent upon the CDM mechanism, asides from donations.

The European resistance towards emissions trading did not last long, and was perhaps not as sincere as diplomatic moves at the time would suggest (Newell and Paterson 2010), and soon after signing the Kyoto Protocol, European leaders started working towards emissions trading scheme for GHG. With the advent of President George W. Bush’s retraction of the U.S. from the protocol, the EU saw the possibility for becoming leaders on climate and emissions trading, and moved towards implementing a system soon (Meckling 2011; Newell and Paterson 2010).

The European ETS (Emissions Trading Scheme) was launched in January 2005, covering 11,500 entities or about 45% of the European emissions market, as the end result of a process in particular
propelled forward by the European Commission and British oil and gas businesses (Meckling 2011). The emissions trading system was seen as ambitious in scope by international observers and subsequently became the yardstick other ETS were measured against. However, while the market included a large portion of the emitters, its first 10 years have, overall, been a disappointment in terms of curbing GHG emissions. This has in large part been due to the amount of allowances given out initially and annually in the first years. The allowances were in practice worth very little due to excess supply (Goulder and Schein 2013). The European ETS did, nonetheless, represent a milestone in carbon trading, as it was the first comprehensive system under the Kyoto Protocol, and it thusly went on to inspire other cap-and-trade systems around the world (Meckling 2011).

2.2.2 Bonds

With the issues facing the CDM mechanism as well as the multilateral donor mechanisms, project owners have had to look novel ways to finance their climate adaptation or mitigation projects. In this short section, we will outline how municipal bonds/climate bonds/green bonds have gained saliency over the past few years, and what the projected future of these products will be.
Green bonds and climate bonds are similar to regular bonds, that is, loans or IOUs that companies, governments and banks can issue with the goal of financing projects. Green bonds refer to all environmental projects, while climate bonds refers to projects that are specifically targeted towards curbing climate change or the effects of it. In reality, however, the two terms are conflated and used interchangeably (Climate Bonds Initiative n.d.). Green/Climate bonds are, as visible from Figure 3, used mainly to fund large infrastructure projects, particularly within climate mitigation and to a lesser extent adaptation. Green bonds include government bonds, corporate bonds and multilateral development bank bonds (The World Bank Treasury 2015), with the Asian Development Bank issuing the first $500,000,000 green bond in 2013 (The World Bank Treasury 2015).

As shown in Figure 3, the market for green bonds is rising exponentially, with money particularly pouring in to renewable energy (Climate Bonds Initiative 2015). This development is expected to continue, with HSBC forecasting that the market will grow to $156 billion in 2016 (Shankleman 2016). Moody’s Investor Services are, due to using a different set of measurement principles, a bit more hesitant, expecting issuance to reach 50 billion in 2016 (Reuters 2016). As we will describe in further detail later on, there is a growing appetite for green bonds in the market due to particularly institutional investors switching their investment strategies towards green(er) investments. Green bonds are popular because of their decent returns in fairly non-volatile markets. At the same time, investors are increasingly divesting from fossil fuels, creating an opportunity for investments with a more positive image.
Bibliography for Appendix 2

Adaptation Fund. 2010. *An Approach To Implementing Results Based Management*.


Climate Bonds Initiative. n.d. “Climate Bonds for Beginners.”


Global Enviroment Facility. 2015a. A-Z of the GEF.


Green Climate Fund Board Secretariat. 2015. List of Accredited Entities.


REDD Monitor. 2014. “Global Carbon Markets Have Shrunk in Value by 60% since 2011 | REDD-
Monitor.”
The World Bank Treasury. 2015. What Are Green Bonds?
UNFCCC. 2011. Cancun Agreement.


