GLOBAL EFFORTS TO combat climate change by reducing anthropogenic greenhouse gas (GHG) emissions have long focused on government-led negotiations under the United Nations Framework Convention on Climate Change (UNFCCC). However, the global climate governance system is rapidly expanding due to proliferating transnational climate initiatives between governments, companies, cities and regions. The system has become increasingly complex, characterized by institutional overlap and diversity, with no clear indications of performance. This thesis studies the structure, performance and coordination of the emerging global climate governance system. Its main focus is the relationship between transnational climate governance institutions – meaning cross-border collaborations among state, non-state and/or subnational actors – and the UNFCCC.

The thesis is divided into three parts. Part I explores the structure of the global climate governance system and measures its fragmentation. Part II assesses the system’s performance in terms of effectiveness, institutional fit, legitimacy, and accountability. Part III focuses on coordination of transnational climate governance initiatives.

C.1 Part I: Mapping and measuring fragmentation in the global climate governance system

Part I explores the structure of the global climate governance system. It begins with the assumption that all governance systems are to some extent fragmented and the empirical challenge is to establish the degree of fragmentation in the global climate governance system. Chapter 3 presents a method for mapping the structure and measuring its degree of fragmentation using network analysis. The empirical results suggest that the structure of global climate governance can be characterized as relatively dense, with institutions being well connected in terms of shared membership. Institutions at different public administration levels – government, regions, and cities – are connected through hybrid institutions and any member can reach any other member through a maximum of three steps in the network. This chapter also identifies key actors such as the United Kingdom, Germany, California, and Barcelona. These actors are, for one reason or another, highly active in several institutions other than the UNFCCC. The network-based approach untangles the complex relations and offers a structured and formal way to study global governance systems. Moreover, network visualizations can improve how researchers present and communicate data, which becomes increasingly important as connections and interactions between institutions increase. Finally,
identifying institution or actor hubs in the global climate governance system brings up questions of responsibility and leadership, legitimacy, and accountability. Who are the central actors responsible for the expanding climate governance system, and where and why do they engage?

C.2 Part II: Measuring performance in the global climate governance system

Part II explores the question: Is the emerging global climate governance system effective, legitimate, and accountable? The underlying assumption is that the structure and degree of fragmentation affect the system’s performance. This part comprises chapters 4, 5, and 6.

Chapter 4 surveys five databases that aggregate and order information about transnational climate governance initiatives. The conclusion is that the current data demonstrates an enormous growth in initiatives, diversity in type, membership constellations, geographical scope, modes of governance and subject areas. The chapter also discusses the significant potential for reducing GHG emissions. If all the commitments are fulfilled, a large portion of the major gap left by insufficient national mitigation pledges could be addressed. However, no data is available for assessing either how existing initiatives perform, or how different cooperatives align, scale up and develop low carbon pathways. Three issues in particular are of concern. First, most databases are not designed to monitor compliance but instead to showcase and ramp up ambition-levels among governments. Second, transparency is a crucial issue in several of the databases, since they are taken up and used in the political realm. Finally, there is a problem of potential overlaps between different initiatives. Most of the databases omit linkages between initiatives and actors, effectively hiding both functional and material overlaps such as the double-counting of commitments or actors that are part of more than one initiative. The chapter also suggests three remedies for addressing these data problems. The first of these is introducing criteria and mechanisms for measuring, and thus ensuring, progress for an initiative to be included in a database. Second, too narrow a conceptualization of effectiveness creates a bias towards quantifiable greenhouse gas reductions instead less tangible impacts, such as how initiatives foster information exchange, dialogue, capacity building and standard setting. Finally, it is important to understand that capturing all relevant information in one database is not possible, or even desirable, and to be aware of reductionist attempts to bring climate governance beyond the state into order and treat it as a coherent whole.
Chapter 5 critically assesses the governance aspects of the proposal that transnational climate initiatives could help close the emissions gap of 8–12 Gt CO₂ eq. between the national pledges and the GHG reduction levels necessary to keep climate change within safe limits. It creates and assessment framework consisting of three variables: effectiveness, legitimacy; and institutional fit. The chapter then applies this to nine case studies. The analysis shows that the majority of cooperative initiatives in the sample have a high degree of potential effectiveness, while legitimacy and institutional fit vary considerably. Three overarching observations stand out. First, the list of transnational initiatives on the UNFCCC homepage at the time of this study was compiled without any guiding principles, resulting in an interpretation of “cooperative action” that includes all kinds of action related to climate change at any level with any type of actor. This is reflected in our sample by the vast range of type, function, membership, decision-making rules, inclusiveness, information sharing, and institutional fit. Second, this heterogeneity makes any single one-dimensional approach incomplete, rendering comparisons between the cooperative initiatives difficult. Therefore, a multi-dimensional assessment framework is needed. The conclusion is that minimum standards should be developed to define transnational cooperative initiatives, including whether they conform to the goals and norms of the UNFCCC. Third, if transnational initiatives are to contribute to bridging the emissions gap, they must produce additional emission reductions above the pledged national mitigation targets, raising questions about additionality, double-counting, attribution, monitoring, and reporting. Additionally, if all GHG reduction is incorporated into national reporting to the UNFCCC, then it is difficult to see what additional emissions reduction they bring beyond supporting a country in fulfilling its pledges.

The chapter concludes with three concrete policy options. First, transnational initiatives should set quantifiable targets expressed in terms of GHG reductions. The heterogeneity among transnational initiatives in terms of goals and targets hinders any evaluation of their contribution to filling the emissions gap. Consequently, ICIs should communicate their goals in terms of concrete and measurable emissions reduction targets. Second, the international community should safeguard the “additionality” of transnational initiatives. This is particularly important when it comes to action by regions and cities, which are increasingly being perceived as important actors in climate mitigation (UNFCCC 2014d; Betsill and Bulkeley 2006). Third, transnational initiatives should be encouraged to have open and transparent goals, procedures, and reporting. This could improve the legitimacy of transnational initiatives and promote their acceptance among more skeptical countries in the UNFCCC process.
and other relevant stakeholders. For example, by having inclusive goal-setting processes or making their achievements and methods publicly available, they are more open to scrutiny and less vulnerable to mistrust and competition. Finally, there is a delicate balance between the key benefits of additional climate action and the need to integrate them into the UNCCC architecture in order to safeguard basic norms and principles of accountability, equity, and fairness.

Chapter 6 focuses on the issue of accountability. It presumes that by committing to climate action, transnational actors are taking on responsibility and authority for addressing global climate change. Consequently, holding the transnational initiatives accountable for the impacts of their actions is becoming increasingly urgent. The chapter scrutinizes transnational initiatives in the global climate governance system based on Mashaw’s six basic elements of an accountability regime, and highlights three accountability challenges. First, shifting from a monocentric system to a polycentric system has made it increasingly difficult to understand who is accountable to whom. The hierarchies of accountability, consisting of the multilateral level (the UNFCCC), states, and citizens, have been complemented by a networked and much more intricate accountability structure. Untangling this web is becoming essential as the aggregate effects of the NDCs are likely to be insufficient and the transnational sphere is expected to fill the gap. As in the previous chapter, one possible solution would be to introduce clear selection criteria for entering cooperative initiatives into NAZCA, followed by an open and transparent selection and evaluation procedure. This could clarify what to expect from the transnational sphere of the global climate governance system in terms of emissions reductions and other benefits. It would also provide initiatives with a “seal of approval,” confirming the commitment of its members to climate action. The second challenge concerns transparency, monitoring, and reporting. Despite a rapidly growing flow of data and repositories documenting the growth in types and sizes of initiatives, there are limited insights into their ex-post and ex-ante impacts. A few initiatives include quantifiable commitments that can be monitored over time. However, the majority are only expected to have an indirect impact on GHG mitigation and the wide diversity of topics inhibits comparative studies. Moreover, there is very little understanding of possible overlaps between different initiatives, in both geographical and functional terms. Again, this increases the risk of double-counting. The third challenge concerns the availability and utility of sanctions. There is anecdotal evidence concerning protests and sanctions against initiatives and their members. There is little
systematic knowledge of how such sanctions function and what their effects are in the context of transnational climate governance. Hence, more research on the role of sanctions in transnational climate governance is needed.

C.3 Part III: Coordinating the global climate governance system

The main question of Part III is: To what extent can the emerging global climate governance system be coordinated? It focuses on an orchestration attempt called the Lima-Paris Action Agenda (LPAA), which together with the Non-State Actor Zone for Climate Action (NAZCA) data platform, provides a framework for mobilizing existing and new transnational initiatives, bringing them closer to the UNFCCC process during the run-up to COP21. The chapter reconstructs the intervention theory of the LPAA, providing a foundation for future evaluations of its performance. The intervention theory elucidates the assumptions regarding how the LPAA is expected to work and explores how an evaluator might navigate the difficult task of assessing its performance. The chapter suggests a more detailed pathway for evaluating the impact of the LPAA and its associated events, and argues that an evaluation using the framework presented could yield important practical insight into improving the process. This requires looking at not only why and how initiatives emerge and are strengthened, but also to what extent international organizations and governments can support this process. The intervention theory of the LPAA shows that the link between the key problem (countries are not prepared to commit to sufficiently ambitious climate action) and the solution (showcasing non-state climate action) is dependent on a sequence of micro-steps, involving public and private actors and numerous assumptions about behavior in global climate governance.

The first chapter in Part II also includes specific policy options for coordination. It argues that the UNFCCC Secretariat should be mandated to develop minimum standards for transnational initiatives and screen current registries for compatibility, as well as make new requests for submissions according to the new criteria. Moreover, the scientific community should undertake a comprehensive review of the lessons learned from previous partnership experiences and other alternative governance arrangements in order to avoid preventable mistakes.
C.4 Future research

Finally, as is often the case, this thesis raises more questions than it answers. First, the processes of mapping the structure of global governance systems and measuring their structural components are only in their infancy. In my view, using network analysis, as presented in chapter 3, is a promising path forward, but the data collection is highly time-consuming, sensitive to human error, and only able to provide snapshots. Finding other linkages between institutions and actors that allows for more automated data-collection would be highly beneficial for this area of research. Moreover, moving beyond climate change and comparing its structure with other issues could yield important insights and new questions regarding why and how governance systems vary in structure.

Second, while numerous studies show how new institutions may contribute to global climate governance, there is a large gap in knowledge regarding the explanatory variables for what makes an initiative successful or unsuccessful. In particular, when moving beyond single initiatives into groups of initiatives, understanding how effective orchestration attempts are could provide useful assistance to existing and new initiatives. This relates particularly to micro-foundations for establishing and operating a successful initiative in the field of climate change. Third, establishing causal relationships in global governance systems is becoming increasingly difficult as actors and institutions proliferate, making it important to study interaction effects. Developing evaluation methods that take complicated system effects such as feedback loops and non-linear behavior into account is central to this task, moving away from a linear model of cause and effect. The global climate governance system is a good example of how difficult it has become for a government to pursue its interests internationally. It must account for an ever increasing number of forums to negotiate climate change, as well as subnational and non-state actors demanding authority. However, this situation also provides opportunities to exploit new leverage points and enlist new coalitions. International relations research must assist governments and other actors to pursue policy in a networked world, where actions, interactions, and reactions may be difficult to predict. Network analysis provides one promising avenue, but another might be evaluation theory, studying complex aspects of interventions.

An interesting avenue for future theoretical development and research is to conceptualize global governance in terms of complex systems. Complex systems thinking figures in a wide range of academic fields to describe how natural and social systems function. It emphasizes non-linearity, emergence,
self-organization, and open systems. Non-linearity implies that change in systems is neither linear nor proportional but may contain surprising shifts and tipping points; this could lead to emergent properties where “the sum is more than it parts,” that is, studying individual actors or institutions is not sufficient to explain the system. Self-organization refers to the fact that systems are built from the bottom up without a central steering authority. Open systems means that borders are permeable, exchanging information and resources with outside systems. The global climate governance system appears to have many of the properties of a complex system, in particular with the rise of new actors and arenas.