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European Political Economy, Networked Interest and Sustainable Investment

A Conceptual and Qualifying Study on the Ability of Interest Groups to Influence Environmental Regulatory Outcomes: The European Action Plan on Financing Sustainable Growth, 2015-2019

by

Moritz Lorenz Heribert Neubauer

mo7572ne-s@student.lu.se

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Abstract

To this day, the question of how economic development and lasting transformation take place remains both highly controversial and relevant for future growth perspectives. Questions of influence, representation of interests and power to shape legislation are faded out of the focus of economic research. By combining these aspects with network modelling techniques and a newly compiled dataset of 112 consultation replies concerning the European regulation of sustainable investment, this thesis contributes to the growing work on economic transformation processes. Together with data on bilateral meetings and expert group memberships, a picture of asymmetrical influence appears. The thesis finds that inter-temporality of power resource allocation leads to higher regime resistance against stricter environmental regulation. Furthermore, contextual change translates into regulatory change with a time lag, dependent on network characteristics and the ability to influence the institutional and public discourse. The results of this thesis show the need for closer further and more interdisciplinary research on sustainable investment.

Keywords: Sustainability, investment, transformation, political economy

Preamble and Acknowledgements

For long it has been said that international development efforts, expanding trade and innovation, transitions towards more sustainability and the management of complex public goods have to be though as supranational rather than national projects. However, the global Covid-19 pandemic has proven the worldwide reflects to fall into nationalism. It is the thinking of closed borders, national health as well as national procurement, export quotas and measures to reduce domestic recession. The European Union, both as an institutional framework and a shared idea of progress through collaboration, stands in the shadows of perceived strong leaders of nation states.

However, already before the Covid-19 pandemic, many European citizens did not have the best picture of this transnational endeavour and met European politics, legislation and economic strategies with scepticism. Even for the interested ones, European affairs and especially the legislative process is hard to understand and to explain. Nevertheless, both steps are crucial for counteracting nationalistic tendencies.

The connection of deep economic crisis, social unrest and national political rhetoric is nothing new for economic historians. It is this intersection of economy, society and politics that led to the darkest hours on the European continent but also to an unprecedented peaceful integration. The European Coal and Steel Community in 1951, the Treaty of Rome in 1957 creating the European Economic Community or the Élysée Treaty in 1963 had a shared vision of a peaceful, ambitious and integrated Europe. In the future it will be challenged by a rapidly warming climate, environmental depletion and connected nationalistic narratives of transformation.

With rising complexity and influence being shifted from national capitals to Brussels, understanding its processes and mechanism became harder. Looking at contemporary policies, many citizens and commentators refer to the *Brussel Business*, *Lobbyists' Gam*e or *Regulation Jungle*. This is exploited by populists, nationalists and climate change deniers.

To contribute to a more nuanced analysis of interest groups and power within the European legislative process was the driving urge behind this research project and the Department for Economic History the right place to do so.

I want to thank my supervisor, Jonas Ljungberg, for his input, feedback and guidance during the research process. I highly appreciate the critical feedback by my fellow students and the insightful experience within the Association of Foreign Affairs Lund. Furthermore, I am indebted to the Friedrich-Ebert-Foundation, which has supported me since the beginning of my studies.

To locate power is also to fix moral responsibility.
Jeffrey C. Isaac, 1987:5

Table of Contents

Abbreviations

EU	=	European Union
EC	=	European Commission
EP	=	European Parliament
HLEG	=	High Level Expert Group
TEG	=	Technical Expert Group
IPCC	=	Intergovernmental Panel on Climate Change
GHG	=	Greenhouse gases

List of Figures and Tables

Figures

Tables

Appendix

1 Introduction

Since the emergence of modern nation states, questions of economic development and regulation have been linked to questions of power and influence. Decisions on trade, taxes or economic stimulation have never been and never will be made in a vacuum. Which decisions and frameworks societies agree upon is determined by political, social and economic power. However, power remains one of the most intangible concepts in the research of economic history, even though it holds influence on present and future realities. Power underlies every direction of development, areas of coordination and the distribution of income and capital. It also harbours the ability to influence. Rather, the power to influence and to convince others of one's own interest is at the heart of discursive compromise systems within which the economy operates.

For a long time, the research of economic history has dealt with questions of individual, collective and systemic power based on sociological, political and economic contexts. However, in recent decades the focus has shifted more towards the assessment of long-term empirical observations due to new possibilities of quantitative analysis has offered. This focus on comparable data and figures, as well as a narrow focus on output growth as an indicator of macroeconomic systems, decreased the room for comprehensive analyses of the role of power structures on economic development.

Considering these origins, a return to the systemic analysis of power – and its effects on society, the economy and politics – seems to be called for. Instead of relying on large existing data sets and applying regression-based causal analysis, new theoretical, conceptual and operational models must be developed. This understanding of causal structures behind economic decision-making and regulatory processes seems particularly necessary for the discussion of one of the greatest current challenges: the global, man-made climate and ecological crisis.

This challenge is only new at first glance. Since the 1970s, a large number of natural scientists and later other researchers have been studying the changing climate and its environmental consequences (Flohn, 1977; Jaeger, 1988; Nordhaus, 1977; Rotmans & Swart, 1990; WCED, 1987). In this context, the problem areas and their consequences have already been described, which occupy today's societies and politics as urgent and seemingly new tasks, most prominently the warming of the climate, the increased consumption of fossil with rising CO2 emissions and the excessive depletion of natural resources. These issues shape the development paths of countries worldwide.

But if these problem areas have been known for so long and proposals have been made to reduce them, why has effective regulation not been implemented throughout the European Union, one of the most innovative and well-off regions in the world?

1.1 Research problem

This thesis originates from the discrepancy between public political commitment towards environmental goals and the rather restrained regulatory achievements at the European level. There seems to be a universal understanding that the next socio-economic transformation needs to focus on sustainability, circularity and green innovation both by leading politicians (Merkel, 2019; Obama, 2013) and international institutions (OECD, 2017; OECD, The World Bank & United Nations Environment Programme, 2018; The World Bank, 2018). Yet, the progress made in the required legal framework and regulatory commitment unveils a different story. The stagnated pace makes it nearly impossible to fulfil the Paris Agreement, leaving the next generation to grapple with accelerating global warming levels and environmental depletion (IPPC, 2018, 2019). The necessity to avoid a more devastating environmental future, drives global activism, a new generation of local politicians and this research project.

Questions of economic power relations and interest groups influencing environmental regulation are attracting increasing public interest and are highly relevant for policy makers. However, the research problem of how this influence is understood within a historical context of European economic transformation is by nature multidisciplinary and fragmented. While advances have been made in the theoretical realms of economics, political science and sustainability science, the translation into applicable and intuitive frameworks remains underdeveloped. In general, the research of networked interest and regulatory outcomes has to weight the specificity of case studies against the generalisability of theoretical and mathematical models. With this, economic history offers concepts on how to merge theory and empirical observations within shifting contextualities.

There is isolated progress being made in the areas of conceptualising networked interest, economic transformation and environmental regulation which is accompanied by growing data availability on political processes and regulatory outcomes. Despite this there are few attempts at conceptualising the network mechanism connected to European environmental regulations at present. Within the field of network analysis, new visualization techniques are adopted to enable both a macro and micro analysis of the connection between policy makers, interest groups and processes in the form of public consultations (Sluban et al., 2018). The authors show not only the close connection between EU lobby organisations in banking and finance but also further develop a stepwise methodology on appreciating the true influence of interest groups.

Another stream of research has emerged from the fields of sustainability and transition studies such as conceptualising systems of transition in a multi-level perspective (Geels, 2010, 2019;

Geels & Schot, 2007), triggering numerous case studies on local, regional and national transformation paths. These approaches are intuitive and insightful when applied to subsystems like the energy or mobility sector. Nevertheless, the multi-level perspective falls short when analysing processes within transnational systems like the European Union. Transnational and global frameworks are slowly emerging but remain to be rare exceptions. While a global perspective on networks behind global transformations is provided by Binz and Tuffer (2017) and Fuenfschilling and Binz (2018a) there is currently no conceptual formulation for the European Union. However, the abovementioned approaches focus on the transformation and innovation of socio-technical systems rather than directly on regulatory systems. Yet they offer valuable insights into transformation processes that have been neglected in network research and political economy so far.

Despite theoretical advances and extensive research in the respective fields, a gap remains in the neglection of the role power and political influences during transformations towards sustainability. With the current structures that are in place theoretical advances will remain isolated and a thorough understanding of the real-world processes missing. While Fuenfschilling and Binz (2018b) call for more context-specific conceptualisation and in-depth network analysis to better understand intra-regime dynamics, Avelino and Wittmayer (2016) stress the need for more research of the specific influence strategies different group. This research gap as well as the lack of network analysis in the field of environmental regulation in general set the agenda for the research project. This thesis tackles this acute research problem by proposing an integrated network approach of regulative processes and applying it to the analysis of European environmental policies.

1.2 Aim and scope

The ongoing debates in sustainability studies and political economy regarding the transformation mechanism of socio-economic structures and political influence can be regarded as theoretical points of departure (Avelino & Wittmayer, 2016; Fuenfschilling & Binz, 2018a; Geels, 2019; Klüver, Braun & Beyers, 2015). An understanding of real policy outcomes in the field of environmental regulation are crucial and connected to the diverse strands of structural and network analysis within the research areas of political economy, theory and network science (Castells, 2011; Katz et al., 2004; Matsueda, 2020; Sluban et al., 2018).

The thesis is qualitative and conceptual in nature and follows a mixed-methods approach. It connects the previous theoretical and case-study-based research with an analytical framework focused on context specificity and trans-nationality, leading to an integrated network analysis of European regulation. Subsequently, the conceptual model is applied to a case study of the environmental regulation concerning the European *Action Plan on Financing Sustainable Growth* (hereafter *Action Plan*). In a methodological triangulation, compiled empirical data on networked interests in the EU completes the analysis.

Despite singular similarities with exiting conceptual approaches, this work focuses on bridging disciplinary divides and stressing the trans-national nature of interest groups in contemporary environmental politics. It investigates the pivotal roles of specific actors, power and networks to understand environmental politics and policies. The predominantly theoretical and conceptual work is adopted in a case study of the European *Action Plan* on sustainable investment.

This study's aims exist in a twofold direction. First, it provides a more a more competent and conceptual approach of networked interest and applies it to the policy field of environmental regulation. Secondly, it offers a comprehensive framework for further empirical analysis. This empirical work becomes possible due to the growing data available on regulatory processes and networked interests within the EU as well as many national states. This all pivots on a strong theoretical foundation. While the main contribution is in theory development, the case study acts as a tangible example of the research.

More specifically, the thesis offers a methodological translation of existing theory on transformation processes and socio-economic power into an applicable and quantifiable model. Additionally, it puts forward a visualisation of transformation processes understood as actor-process-networks. To achieve the above the thesis merges theoretical analysis with historical regulatory documents and a dataset of actors and networks in the field of European environmental regulation. The work aspires to tighten the current research gap concerning the inner-working mechanisms behind European environmental regulation and networked interest.

The research question follows from above mentioned intersection of political economy, sustainability studies and representation of interests. Anticipating the following research process, the thesis answers the following question: *to what extent can an integrated network approach of transformation help to understand processual and power-induced dynamics in the European environmental regulation?*

To narrow down the qualitative scope of the research question, it is broken down into a conceptual section and three heuristic hypotheses. The hypotheses are developed in the end of section 2 and are anticipated here.

H1: Inter-temporality of resource allocation leads to higher regime resistance against stronger environmental regulation.

H2: Discrepancy between public environmental policy and regulatory outcomes can be accounted for by imbalances of networked power.

H3: Contextual change translate into regulatory change with a time lag, dependent on network characteristics and the ability to influence the institutional and public discourse.

Based on the aforementioned aim, the research question and the hypothesis this thesis meets three objectives. First, to build on multi-disciplinary theory, an integrated network approach of transformation has to be developed. Second, the concept will be tested both in a case study of the European *Action Plan* and with relevant empirical data. Third, the results need to be discussed in the light of previous research and contextual change in the European political economy. By meeting these objectives, the thesis contributes to the growing body of research on transformation processes and regulatory implementation as well as the analysis European policy making. Furthermore, this work provides a conceptual framework for further empirical analysis of networks and their impact on regulatory processes.

1.3 Outline and results of the thesis

The following work is divided into 7 main sections, which have the following content. Chapter 2 reviews the existing literature on transformation processes with a focus on the European political economy and characteristics of environmental regulation. Chapter 3 describes various data sources, the Mixed-Methods approach and methodological limitations. Chapter 4 contains the underlying individual theory development, which is conceptualised to the integrated network approach of transformation in Chapter 5. Chapter 6 provides a background and analysis of the case study of the *Action Plan* and applies the newly developed approach. The findings and limitations are discussed in Chapter 7. Chapter 8 summarises the aims, methods and results of the thesis and highlights both practical implications and potential future research.

Anticipating and summarising the results, it can be given support to the hypothesis that the inter-temporality of power resource allocation leads to higher regime resistance against stronger environmental regulation. If the discrepancy between public environmental policy and regulatory outcomes can be accounted for by imbalances of networked power, remained unclear. Then hypothesis that contextual change translates into regulatory change with a time lag, dependent on network characteristics and the ability to influence the institutional and public discourse can be given support by this thesis. Overall, the integrated network approach proved highly helpful to understand processual and power-induced dynamics in the European environmental regulation.

2 Theoretical background

Transformation processes, networks of political economy and interest-driven influence are all comprehensive concepts that attract attention in various areas of economic, political and network science. They have points of intersection but are partly based on different fundamental assumptions and process understandings. In the following, previous relevant research is considered with special attention paid to the field of economic transformation frameworks.

2.1 Previous research

It seems to be a characteristic of social science research in particular that the trend of recent decades has been towards specialisation rather than cross-disciplinary approaches of analysis. Thus, the questions of the transformation of economic structures, the European economic system and regulatory processes were predominantly thought strictly within disciplinary categories. Great progress made within the disciplines, especially in the combination of established models with newly available historical and current empirical data. However, the capacity to grasp major processes of change and the underlying structures of influence systematically and across disciplines has declined to some degree.

In order to point out this problem and to support the research question as well as to point out the necessity of developing and conceptualizing the theory, economic change processes will be examined first. These change processes carry different names such as *development*, *integration* or *transformation*. While the focus lies on economic development, this is theoretically and historically inseparable from social and political influences, which makes it necessary to investigate this connection in itself before moving into the specific contemporary research.

2.1.1 Transformation of economic structures

Both classical and neoclassical economic literature pays great attention to the origins and impacts of regulation such as trade quotas, taxes, state funding for industries or trade unions. While the influences of politics, state, and society were taken for granted by the contemporaries of classical economic theory and was only disputed in terms of its objectives, economic research `purified´ these influences partly by exclusion and partly by internalisation into its own language and methodologies. This trend, which Joseph Schumpeter already

criticised in 1954 (Schumpeter, 1954, pp.33–35), leads to a closed understanding of transformation. At the same time, the author also providesan influential theory by seeing economic transformation as long-term cycles triggered by innovation, replacing previous economic practices with new ones (Schumpeter, 1954, pp.1160–1169). In this understanding, economic progress and transformation are the results of individual innovation, understood as more productive solutions that can be modelled to a certain extent.

A different view, seeing economic progress and transformation as a rather structural endeavour, influenced by several socio-political factors as well as industrial infrastructure, was developed by Alexander Gerschenkron. Identifying specific factors of economic backwardness, drawn from historical experiences in continental Europe, Gerschenkron (1962) provides an implicit optimistic approach, that structures can be influenced not only by individual innovation but systemic change and, therefore, policies. Even though written in a very different time to the one analysed in this thesis, the Gerschenkronian idea of considering technological, social, political, ideological and structural factors when discussing the transformation of economic systems can help to understand why patterns change or not. Furthermore, Gerschenkron (1962) already stressed the transformative power and influence of financial networks and banks as enablers of economic progress.

As valuable as early considerations of economic transformation are, environmental protection issues received little attention during the period of the Industrial Revolution and the economic upswing after the end of the Second World War. The pollution caused by the first industrialisation was well known and played, for example, in the form of air pollution a central role in the 1845 description of the working class in England by Friedrich Engels. However, it was only of secondary importance to nature than the effect of air pollution on the productive forces of the workers. A similar rationale was applied after 1945, when the first pollution regulations were implemented to protect factory workers, but not the environment as such.

While there was a shift of attention towards the scarcity of environmental resources, giving rise to the field of environmental and natural resource economics, this was many concerned with mechanical solutions to allocation problems. As of today, neoclassical natural resource economics, as comprehended by Tietenberg and Lewis (2012), does rather address internalisation strategies and perfect pricing than political or socio-economic issues concerning the distribution and usage of environmental resources or their regulation.

Despite a vivid discussion within economics and economic history about the nature and the drivers of economic transformation, with explanations ranging from geographical and structural factors to underlying structures and inequality, power and influence are seldom among them. If power relations are analysed, mostly this is done in a way to argue indirectly for institutional explanations (Acemoglu, Johnson & Robinson, 2004, 2002) rather than a historically consistent theory of power. Furthermore, much of the growth-focused development debate is not concerned with issues of environmental protection, and if so, merely as a side-effect. Therefore, promising literature on the intersection of power, economic

transformation and environmental regulation might be placed in the fields of political economy or sustainability science as considered in the following.

2.1.2 Political economy in the European Union

Political economy considers all actors and their relationships within a politically organised system and draws methodologically from economics, political science and sociology (Balaam & Veseth, 2014). As one of the oldest topics within documented reasoning, it was seen as a subdomain of philosophy and remained there as connected to moral philosophy while the discipline of `value-free´ economics separated from philosophy. These roots are crucial to understand why political economy as of today does not try to separate normative statements from descriptive and methodological analysis as economics does.

This brief excursion unveils why the analysis of European economic structures and their transformation may seem methodologically disorganised, ideologically shaped and with many loose ends. While treatises on European political economy fill entire books, here only a few of the central features and changes that form the basis for later theory formation will be pointed out. These consider the origins and aims leading to the current institutional situation of networked interest within the European Union before assessing contemporary literature on its ability to transform environmental regulation.

Historical roots

The current form of European integration in the form of the European Union since the Maastricht Treaty in 1992 had predecessors that are still casting their shadow. One of the strongest founding ideas was the idea of securing peace through joint control of war-critical resources, resulting in the European Coal and Steel Community established in 1951 (Craig & De Búrca, 2008, p.5). However, economic policy objectives dominated in subsequent developments such as the European Economic Community (EEC) created by the Treaty of Rome in 1957 or the Single European Act (SEA) in 1986. The former was to harmonise economic developments and raise living standards by eliminating trade barriers and introducing common custom tariffs. The aim of the latter was to prepare a comprehensive internal market in institutional and legal terms and in doing so also strengthened the rights of the European Parliament (Craig & De Búrca, 2008, pp.12–14).

As mentioned, economic interest became the driver of European integration, with market integration as a promising objective to the individual national states. Aiming at economic growth and development in the post-WWII era, political, social or environmental considerations had to stand in the back. This changed fundamentally with the Treaty on the European Union (TEU) in 1992, better known as the Maastricht Treaty, that contained both a further economic and political integration as well as substantial institutional changes which will be discussed later on. Already in this phase, the power of individual countries became visible, as Denmark refused the treaty until favouring concessions where made (Craig & De Búrca, 2008, p.15).

Contemporary structure

The most recent institutional change is the Treaty on the Functioning of the European Union, better known as the Lisbon Treaty, which was ratified in 2007 and came into force in 2009. The executive power of the European Commission has been strengthened and extended to new areas, the legislative power of the European Parliament strengthened as co-legislator (EUV, 2007). In addition, the European Council – the association of all European heads of government – has a more decisive role, which became visible to the public through the actions of the European Council during the financial crisis from 2008 (Dinan, Nugent & William, 2017, pp.168–169).

The authors contradict the assessment that strengthening the EP and Council would have weakened the relative position of the EC, arguing that the EC still has privileged access to key resources and is at the heart of the European policy mechanism (Dinan, Nugent & William, 2017, pp.168–169). Moreover, the EC is often regarded as the most independent and technocratic of the European institutions and is at the heart of the legislative process (Dinan, Nugent & William, 2017, p.171). Others go further and identify the 2008 financial crisis as a de facto turning point in making the EC in questions of economic governance and regulatory process management (Bauer & Becker, 2014). Whether this assessment is also correct in the area of environmental regulation of the *Action Plan* will be examined later in the case study.

Despite, or following Bieling, Jäger and Ryner (2016) precisely because of, the research on the political economy of European integration, which focuses on formal processes, power relations and networks have been neglected up to now. According to the authors, there are blind spots in the area of power relations and limited rationality that are related to the integration process itself or its inclusion in global capitalist logics. Under the term *regulation theory*, the authors propose a new view of the context of European regulation, as the "[...] collectively organised interest, views and power relations within the political field [as well as] the political [...] nature of the (transnational) capitalistic economy" (Bieling, Jäger & Ryner, 2016, p.65).

Last, the influence of organised interest groups has changed considerably. In the initial phase described above, it was initially dominated by large industrial sectors, workers' unions and state interests. At the same time as the transfer of competencies to Brussels and increasing globalisation, there was an increase in the number of professional lobby organisations and pro-profit lobby companies (Bosche et al., 2003; Nothhaft, 2017). How these actors altered the concepts of influence and power within the European political economy will be discussed in detail in section 2.3.

As mentioned, environmental considerations entered the research of economic transformation rather late. However, environmental issues became visible as a regulatory field within the European political economy when connected to other policy discussions. One of these large-scale intersections, the connection of sustainability considerations and investment regulation will be analysed in section 6.

2.2 Transformation of socio-economic systems

Is a social structure transforming itself or is it being transformed? This question, already hinted from an economical perspective at in the comparison of the transformation approaches of Schumpeter and Gerschenkron, is of fundamental importance and depends in its answer strongly on the questioner. More precisely it depends on how organisational principles are understood and interpreted. In the following recent insights into the interplay of organisational systems and their actors are considered. These stem from the field of ecology and transition literature and play a crucial role in understanding processes and structures of change. The second section is concerned with the question of how to overcome this dichotomy in favour for a complexity-centred understanding of organisational principles within networks. Both strands of literature will be connected in chapter 4.

2.2.1 Neutral coordination or guiding regimes?

In many aspects, socio-economic transformations can be thought of as analogous to socio-technological transitions[1]. Socio-economic transformation refers to the change of parts of an economic system embedded in a social system, while socio-technical transition describes the change from one socio-technical configuration to another as theorised by Geels (2002a, 2019) and Geels and Schot (2007). This analogy is based on the multi-level perspective (Geels, 2002a), in which a socio-technical regime[2] occupies the status quo, bounded by superordinate landscape developments and niche innovations that attempt to penetrate the regime. A socio-technical regime consists of technology, infrastructure, culture, industrial networks, techno-scientific knowledge, sectoral policy and user practices (Geels, 2002a). A visualisation of this multi-level perspective is given in Appendix A1.

According to this, only a few niche innovations succeed in breaking up the existing regime or in being implemented by the dominant regime, in each case depending on contextual

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[1] Transition and transformation are of course highly different terms implying specific concepts, research schools and implications that this thesis cannot and does not want to reflect on. Greatly simplified, both transformation and transition theories of how systems change. However, *transformation* can be understood as a fundamental and non-linear change towards another systemic configuration, while *transition* describes a fluent change towards an improved version of the current status within a not fundamentally changed systemic configuration.

[2] For reasons of simplicity, this thesis refers to a regime as a structural configuration that has the power to shape reality. A more detailed derivation and discussion of the regime concept is given by Fuenfschilling and Binz (2018:736-737).

landscape developments. Analogous to this socio-technical regime and technical innovation, a socio-economical regime – held together by formal and informal regulation – will be conceptualised later on.

Unlike the strongly national-focused literature on innovation systems or most of the application examples of Geel's multi-level perspective, recent publications open up transnational concepts. Binz and Truffer (2017), for example, highlight the intertwining of resource production and structural couplings in the field of innovation dynamics. This means that different actors such as research institutions, firms, consultants and intermediaries, governmental agencies and non-governmental organisations form regime fragments at regional, national, transnational and global level (Binz & Truffer, 2017). From these fragments a global regime can emerge as visualised in Appendix A2.

Fuenfschilling and Tuffer (2018) apply this idea of the interaction of many actors at different local levels within a global regime to transformations in the water sector. They point out that different actors are interlinked to varying degrees across the various levels and that international non-governmental organisations and consultancy or lobby companies in particular play a strong narrative and discursive role. Furthermore, the authors call for more context-specific conceptualisation and in-depth network analysis to better understand intra-regime dynamics (Fuenfschilling & Binz, 2018).

However, although this research looks at change processes, it largely omits the characteristics of process dynamics per se. Along the time axis, the multiplicity of actors, their relationships and spheres of influence is emphasised, but often in relational linearity. In other words, once the context, actors, relationships and power resources are identified, systemic transformation could be understood. However, other research areas, namely that of complexity theory, argue in favour of non-linear and complex characteristics in transformations of social systems, characteristics that are better learned from data than a priori theoretically predicted.

2.2.2 Complexity

Complexity theory, originating from theoretical physics, is understood in the social sciences as a "[…] new approach […] in which we identify (and then explain) systems or processes that lack the order and stability required to produce universal rules about behaviour and outcome" (Cairney, 2012, p.347). In this it opposes the cross-discipline rational choice theory. Despite differences in definitions of complex systems, some key points seem important for further conceptualisation. According to Cairney (2012) complex systems cannot be explained by breaking them down into their constituencies as it is their relation that creates complexity, not merely the parts. The behaviour of complex systems is nearly impossible to predict and path dependencies weight heavy as do local structures parallel to centralised ones.

Analysing a broad literature in the social sciences, Walby (2007) highlights why systemic change is not necessarily gradual but rather both sudden and rapid. This is particularly related

to the concept of feedback, which is central to complexity theory, and means amplifying or diminishing effects (Walby, 2007). Due to the different frequencies, intensities and durations, even a rather small number of feedbacks in complex systems can lead to an exponentially higher number of possible timings and intensities of change. Analogous, in the sphere of European policy making – and considering the abovementioned layers of regime actors – even the best-informed and most powerful actor has to face unpredicted developments and outcomes and include them into its strategy.

However, exactly this point of power and the ability to influence and shape even processes within complex systems, is merely dealt with in the abovementioned literature on the transformation of socio-economic systems or complexity. It also constitutes the last angle of how change can be understood and is crucial for both the theoretical and the conceptual part in the chapters 4 and 5. While there a more comprehensive modelling of power is provided, the next section gives an insight to the fundamentals of power and lobbying as its materialisation.

2.3 Concepts of power

2.3.1 Definitions and applicability

Questions of influence and process governance of legislation – in whatever context – require an underlying theory of power. Since the mid-20th century, these have been largely excluded from economic theory and almost completely developed in sociology. After three centuries based on the conception that "[the] power of a man […] is his present means to obtain some future apparent good […]" (Hobbes, 1974, p.56), the most influential contributions were made by Max Weber. Weber differentiated between power and domination, with power being the "probability that one actor within a social relationship will be in a position to carry out his own will despite resistance, regardless of the basis on which this probability exists" (Weber, Roth & Wittich, 1978, p.53). Even more than direct coercive power, Weber stresses the importance of domination as the "probability that certain specific commands (or all commands) will be obeyed by a given group of persons" (Weber, Roth & Wittich, 1978, p.212). However, one might argue that both definitions do not seem applicable in institutional and de-individualised processes within European regulatory processes.

More intuitive and closer to reality seems to be a further development of Weber's definition by Robert Dahl, who understands power as the ability to influence behaviour. According to Dahl, "A has power over B to the extent that he get B to do something that B would not otherwise do" (Dahl, 2007, pp.202–203). In this context, A and B can be individuals or groups connected by relationship or as part of a network of relationships, making this definition of power workable for further considerations in chapter 4.

The last missing mental bridging to the influence and lobbying of interest groups on European legislative procedures is the translation of power into influence. In this context, *power resources* play a particularly important role, which are means or various types of capital that are available and can be used by the various actors to realise their intentions (Bourdieu, 2002, p.29). This inclusion of material, financial or social resources in the construction of a concept of power within networks will lay the foundation of the conceptualisation in Chapter 5.

In the following, the current academic debate on power and the instruments of influence of interest groups - with a focus on transformation processes - will be placed against the background of these fundamental considerations on the definition of power. In a last step, the research question is developed based on the research gaps of the considered literature.

2.3.2 Effective lobbying as materialised power

A technical-mathematical examination of influence and lobbying has prevailed within the economic sciences. The relevance of this topic became apparent at the end of the 20th century with increasingly global and influential companies whose vested interests play a key role in growth processes and slow down innovation processes when they run counter to their own interests (Krusell & Rios-Rull, 1996). The authors derive their technical model from historical observations, according to which vested interest of some actors specialized in old technologies influenced innovations during the Industrial Revolution more or less delayed depending on the context. This core model of an actor-based economic model, in which growth is potentially always possible but depends on the actions and interests of influential groups, has been further developed for both general propositions and specific topics.

From a technical point of view, it was thus deduced that in many cases lobbying for loopholes is better for both the environment and the sector concerned than taking general action against environmental regulation (Polk & Schmutzler, 2005). In addition, it can be shown that the position of labour unions, regardless of the industry, can be directed both for and against tighter environmental regulation, depending on the risk of job losses for its own members (Fredriksson & Gaston, 1999). This linkage of workers' influence with employers in relation to regulatory adjustment will also be addressed in Chapter 4.

Recent technical analyses by Matsueda (2020) conclude that more companies lobby individually when there is no collective business association, but only a smaller number participate in collective lobbying in the event of such a coalition (Matsueda, 2020). Whether this free-riding behaviour in lobbying, which is in line with Mancur Olson's theory of collective action, can also be observed at the European level is examined in chapter 6. Furthermore, one might ask whether business association or international lobbying companies are the more effective solution for the pooling of interest groups.

In this regard, Groll and Ellis (2014) make an important theoretical contribution, shedding light of the rationales of politicians and decision makers as open to commercial lobbying

firms as empirical observation suggests. The authors identify commercial lobby firms possess the highest market and technological insight leading to a high quality of information they can pass on. Therefore, politicians may allocate their time rather to commercial lobbying companies than groups of citizens or singular businesses (Groll & Ellis, 2014). This is in line with Levine and Modica (Levine & Modica, 2017) arguing that the strength of a lobby organisation depends primarily upon if the benefits of the lobby activity can also benefit the involved political actors.

As insightful as the economic literature is from a technical perspective as distant it is from application in a real setting or even a data-conform conceptualisation. This said, the literature on political economy, socio-economic systems, power and lobbying all hint a more inclusive and applicable conceptualisation of interest groups in real policy networks and how they transform over time.

2.4 Development of the research question

Especially on gap becomes apparent when reviewing recent literature on the transformation of socio-economic systems: the connection between advanced theoretical models and application on policy development. This is especially true when not focussing on a national state but a transnational or federative structure. These transnational structures seem crucial not only for issues of economic development in a more globalised world but also for environmental issues that do not stop at national borders.

Environmental policies within the European Union touch both as they impact the economic development of all member states as well as they shape the relations with every trade partner that may be impacted or incentivised by the changing environmental regulation. As the data availability both on environmental policies and on policy making in the European Union are rising, the effectiveness and feasibility of established ideas to be translated into conclusive frameworks has progress.

Guided by a pragmatic and discursive understanding of economic development, the abovementioned thoughts lead to the research question of *to what extent can an integrated network approach of transformation help to understand processual and power-induced dynamics in the European environmental regulation?*

Besides answering this question and contributing to a further methodological development within the field, three specific heuristic hypotheses are derived from the considered previous discussion:

H1: Inter-temporality of power resource allocation leads to higher regime resistance against stronger environmental regulation.

H2: Discrepancy between public environmental policy and regulatory outcomes can be accounted for by imbalances of networked power.

H3: Contextual change translate into regulatory change with a time lag, dependent on network characteristics and the ability to influence the institutional and public discourse.

The following section presents the methods and data used to investigate these hypotheses. This is followed by a theoretical and conceptual examination of the issue before the *Action Plan* is examined as a case study. The goal of this thesis not to derive isolated yes-or-no answers, but rather an explorative and discursive contribution to the research.

3 Methods and Data

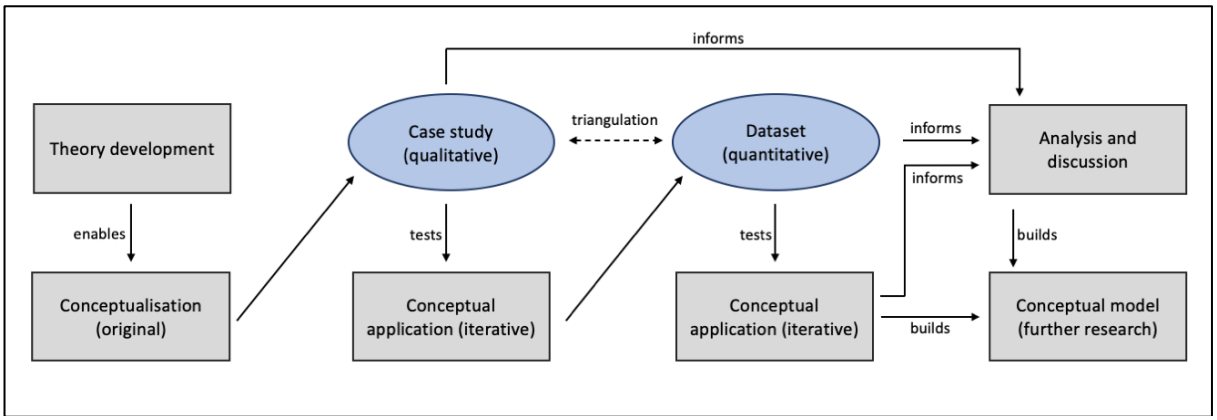
The thesis contributes to the research of economic transformation and environmental regulation by conceptualising and qualifying an integrated network approach of transformation. To meet these objectives by answering the three hypotheses developed above, an iterative exploratory sequential research design was developed. First, this section introduces the methodological foundations of the research project, describes the iterative steps and acknowledges methodical limitations. Second, the chapter elaborates on the data sources, the case study selection and empirical limitations.

3.1 Methods

The applied mixed methods approach is based on an exploratory sequential research design in line with a predominantly pragmatic worldview. This pragmatic worldview focuses more on problem-focused understanding than methodological purity and understands realities more as an outcome of actions, situations and consequences rather than a priori assumed conditions (Creswell, 2014, pp.12–14). The thesis follows the philosophical consideration that social science research, by the nature of is subjects, has to value a multidisciplinary understanding of the problem rather than building on pre-defined solutions (Morgan, 2007; Patton, 1990). This problem-centricity establishes the purpose of using a mixed methods approach that combines stages of theoretical conceptualisation with stages of qualitative and quantitative underpinning to derive a comprehensive understanding of the research topic.

The exploratory sequential research design of this thesis combines conceptual, qualitative and quantitative methods and follows Creswell's (2014) conceptualisation for the latter two. According to the author, a first qualitative part of data collection and analysis enables to build a framework for the collection and analysis of quantitative data. The results can be interpreted with the knowledge from both processes. However, the lack of a consistent framework for the analysis of network transformation and environmental regulation requires the development of such a framework as a necessary first condition. The resulting research design comes close to the often recommended design of methodological triangulation (Flick, 2009, pp.26–27, 2014, p.12) describes. The following figure 3-1 visualises the research design before elaborating on the individual steps.

Figure 3-1: Schematic overview of the research design



Source: by author.

Figure 3-1 shows that the initially rather complex structure of this thesis' research can be broken down into the theory-augmenting conceptualization in chapter 5 and the case study including the network analysis in chapter 6. Together the results and the conceptional model are discussed in chapter. The stepwise qualitative and quantitative analysis is always directed by the previous stage, tests the applied conceptualisation and results in an exploratory sequential research design. It is an intentional methodological characteristic of the exploratory sequential that the methods for answering the progress questions in the process are developed further. This iterative gain of knowledge linked with triangulation is in accordance with an underlying pragmatic world view and aims at an original research contribution.

3.1.1 Theory-augmenting conceptualisation

Since an integrated approach to transformation with regard to European network structures is not yet available, it must be conceptualised before it can be used as a framework for any data analysis. Methodologically, this conceptualisation is a theory-extending one, since no existing complete theory is operationalised. Instead, existing fragments are combined into a unified form. The process from theory to empirically operationalisable form, which is partly supported by literature and partly newly developed, is understood as conceptualisation and follows an explorative school of theory.

Theory-driven conceptualization, for a long time the main component of political economy, has lost prominence and is methodologically not easy to classify. However, it is absolutely necessary in order to deal with the research question of environmental regulation not in a normative but in a clearly descriptive way. It also allows to validate the theoretical framework for further empirical applications beyond this work. This is in itself a contribution not to be underestimated, as it can be used as a basis for network models and tested by others in times of growing data availability but limited theoretical conceptualisations. It follows two pragmatic principles: first, to be as accurate as possible and second, to be as abstract as necessary. Accuracy, which increases the expressiveness of the later derived statements, and

the degree of abstraction, which determines the generalizability of the derived statements, have to be weighed against each other.

3.1.2 Case study and quantitative analysis

Using case studies is an established research angle when the contextuality impacts the research subject (Flick, 2014, p.26). Due to this inclusion of historical, economic or political contextualities, case studies are used in economic history as well as in the study of political economy and sustainability transitions (Fuenfschilling & Binz, 2018; Geels, 2002b; Martin, 2019). However, the exact designs of case studies vary, and this thesis aims for a triangulation whereas the contextual and document-based investigation is augmented by a quantitative analysis.

This thesis studies the *Action Plan on Financing Sustainable Growth* (European Commission, 2018a), hereafter *Action Plan*, and its subordinate legislative acts. The selection criteria were a clear connection to networked interest groups both on a national and European level, a cross-sector impact of the regulation and a feasible data availability. The *Action Plan* meets these criteria. It is highly relevant to national actors and governments as impacts the rentability of national spending and FDI as well as the public retirement and wealth funds. It has a high impact on nearly every sector as is lays the groundwork for risk assessments and benchmarks that will be used in all following economic and environmental regulation. Lastly, since a few years the public documentation and availability of legislative proposals, consultation processes, stakeholder feedback and meetings between interest groups and European personnel has improved, allowing now for analysis. Therefore, the *Action Plan* – meeting all these criteria and playing the crucial role for future economic and environmental development – was selected as a case study.

More specifically, this thesis deals with two specific and interlinked subordinate regulations within the *Action Plan*, the *Taxonomy*[3] and when necessary the *Risk Disclosure*[4]. Methodologically, the associated regulatory proposals, their scientific comments by advisory bodies and the suggestions for improvement and objections by interest groups were analysed in a semi-structured manner. Initially, the focus is on the qualitative evaluation to identify the network structures and interest groups as well as their access to decision-making bodies or

[3] Full: Proposal for a regulation on the establishment of a framework to facilitate sustainable investment
[4] Full: Proposal for a regulation on disclosures relating to sustainable investments and sustainability risks and amending Directive (EU) 2016/2341 (European Commission, 2018b)

consultation processes. Furthermore, from the literature review it can be assumed that the ability to accompany detailed consultation processes with expert input requires resources that some groups of actors have more often than others. Therefore, the multidimensional consideration of submitted documents, meetings, background reports and stakeholder positions seem to be the most promising approach.

In addition to the qualitative case analysis, a data set of all stakeholder feedback submitted during the consultation process was created. Adjusted for two duplicate responses, this data set comprises 112 unique entries as listed in Appendix A3. While the structure will be discussed in more detail in the next section, it must be noted here that no explanatory statistical analysis was carried out to test the data for assumed causal relationships. Rather, the data was looked at as value-free as possible in accordance with the explorative research approach and with the help of network modelling. This allows the recognition of structures at the macro level of relations and patterns and, in a second step, zooming in to the micro level of individual actors.

All documents relating to the proposals, remarks, comments and revised versions were taken from institutional sources (European Commission, n.a., 2018c; European Transparency Register, 2020) and consolidated in one database that is available online (Appendix A0). This online data record contains a summary of all responses to the consultation procedure as well as all full texts of the responses in PDF format. The methodologically desirable further step of automated text comparison of the various regulatory proposals with formulations from the documents of the interest groups could not be carried out within the framework of this work but is prepared. Furthermore, the time series could be continued in a further step, since consultation data have only been freely accessible for a few years.

To the author's knowledge, there is currently no similar database for the analysis of interest representation with regard to the *Taxonomy* and *Risk Disclosure* within the *Action Plan* proposals. However, it is only a first steps towards a comprehensive empirical analysis as developed conceptionally throughout this thesis.

3.1.3 Methodological limitations

It is in the nature of case studies that the transferability to other contexts decreases with increasing specificity. This means that the external validity of the results will be comparable low, yielding only superficial insights on other regulatory processes. Therefore, the aim of this thesis is to test the concept developed in the theoretical-conceptual part of the study for its usefulness on the one hand, using the case study and the data collected, and on the other hand to make the network structure more accessible and to prepare it for further analysis in the case of the regulatory process of the *Action Plan*.

A further methodological limitation is the limited possibility of comparison with network analyses of other regulatory processes. Existing approaches mostly differ in objectives,

modelling structure or data accessibility. Especially the latter point did not allow a replication of other methodological or modelling approaches with the newly acquired data. Due to a lack of time-series data, changes in the structures are few and cannot be interpreted directly.

3.2 Data

While the conceptual part of this thesis is based on a systematic literature analysis and own contribution, a case study was carried out for the qualification of the developed approach. In the following the data, their structure and empirical limitations are discussed.

3.2.1 Case study

This thesis studies the *Action Plan* (European Commission, 2018a) and its subordinate legislative acts, the *Taxonomy* and *Risk Disclosure*. To create the data set, all responses to the consultations of the different levels were opened and the data manually transferred. Adjusted for two duplicate responses, this data set comprises 112 unique entries and 71 Organisations as listed in Appendix A3. Furthermore, timelines and procedures were aligned with the final report of the responsible expert group (EU TEG Sustainable Finance, 2020).

For every entry data was collected on the parameters of organisation, feedback circle, user type, organisation size and country of origin. Furthermore, the written contributions to the consultation process as well as several identifiers were extracted. The latter, like feedback reference, transparency register number and link to the transparency register entry were not used directly but to make all available background information interlinked if needed as this allows alternative use of the dataset. The full list of variables and their description is given in Appendix A4.

In addition, a list of members of the Commission Technical Expert Groups on Sustainable Finance was created. This group has been instrumental in developing the consultation process on the Action Plan. For the case study, 32 member organisations and their representatives were considered, as well as their links to other actors or stakeholders in the consultation process. The full list is given in Appendix A5.

Furthermore, a dataset was created based on all meetings between interest groups and officials of the European Commission based on data from the European Transparency Register. Using the filter function of IntegrityWatch (2020) only meetings with the *Taxonomy* as subject description were analysed. This set contains 26 meetings of which some were held as clusters. The full list is given in Appendix A6.

3.2.2 Empirical limitations

As the European Transparency Register has only been collecting data for a few years, only legislative processes, events and meetings of the last 5 years from 2015-2020 could be used. However, unlike panel regressions, network analysis does not require long time series to establish internal validity.

Due to their specificity and contextuality, network analyses are of low external validity. Since only few network analyses have been performed in the European legislative context like those of Sluban et al. (2018), there is no uniform scheme for classifying or modelling the collected observations. Data quality, when discoverable, is very good as they are checked by the European Transparency Register and misreporting needs to be corrected. However, some classifications are quite broad, for example when it comes to staff numbers or budgets.

4 Theory development

A review of recent research on the functioning of socio-economic transformations and the role of power and networks has revealed the discrepancy between theory and application in relation to European political economy. If one aims for understanding historical changes in regulatory settings and their resulting outcomes, it seems best to start with structural constellations at one point in time before building a dynamic model. In the following, the literature from Chapter 2 will be taken up, related to each other and further developed with the aim of laying a consistent basis for an empirically valid conceptualisation.

4.1 Transformation and network theory

The structure to be thought of in the following as transforming is that of the social network. By social network is meant a set of actors, which can be individuals, groups or organisations, and the relations between these actors (Borgatti & Halgin, 2011; Katz et al., 2004). In the following, in accordance with the current conventions of network research, actors are referred to as *nodes* and connections between them as *edges*. Dimensions for the characterisation of social networks are the nature, strength and directionality of the edges.

Nature of edges

The first dividing characteristic is the nature of relations between actors as listed below in Figure 4-1.

Table 4-1: Nature of edges in social networks

Edges or ties	**Author**	**Description**
Communication ties	Katz et al. (2004)	Who talks/gives information to whom
Formal or role-based ties	Katz et al. (2004) Borgatti & Halgin (2011)	Who reports to whom
Affective ties	Katz et al. (2004)	Who likes/ trusts whom
Material or workflow ties	Katz et al. (2004)	Who gives resources to whom
Proximity ties	Katz et al. (2004)	Who is physically or virtually close to whom
Cognitive ties	Katz et al. (2004) Borgatti & Halgin (2011)	Who knows who knows whom
Kinship ties	Borgatti & Halgin (2011)	Relative of whom
Interactional ties	Borgatti & Halgin (2011)	Giving advice to whom
Transactional ties	Borgatti & Halgin (2011)	Signing a treaty

Table 4-1 summarises edges with different natures. The first four seem to be frequent and central to the analysis of European regulatory processes. When considering political and regulatory institutions, namely the EP, the EC, the Council and the Technical Expert Groups, which are used as standard for the development of new regulations, the question arises in particular as to whether formally equal relationships are in reality equally fulfilled and used. A network analysis of regulatory processes would thus have to map as many relationships of each involved actor with the respective nature of the relationship. Each node would thus have to be assigned n-numbered edges with the respective nature. This seems intuitive however, empirical application might be harder than the conceptual modelling in the next chapter.

Strength of edges

Even though the traditional differentiation between strong and weak ties (Katz et al., 2004), with first describing ties like family membership and latter acquaintances, might not apply to on the first look, some similarities may exist. Even if they do not come close to family members, a feeling of belonging to their own party on the one hand, but also to other MEPs from the same region, is particularly evident in the EP. This also applies to institutions such as the EC, where senior officials usually surround themselves with staff, advisers and contacts from their own language family or from their former national networks after moving to Brussels. Representing this strength of individual ties is beyond the scope of this thesis in the empirical work, but it is included in the conceptual modelling. For this purpose, it seems to make sense to include national affiliations as well as previous common working relationships or individual previous employers.

Furthermore, the strength of relationships can also be thought of as flow volume. What Borgatti and Halgin (2011) call a *flow model* is not so much a structural formation as a flow volume and flow speed within networks. In particular, the repetition of flows, i.e. the regular stimulation and use of relationships, can lead decision-makers to perceive certain relationships as stronger and, as a result, more important or trustworthy than others, although they should formally have the same constellation. As trust reduces transaction costs between actors, it makes more or stronger relationships possible (Hidalgo, 2015, pp.116–117).

According to Nothhaft (2017), relationship management is one of the most common strategies used by lobbyists in establishing themselves as a reliable source of information for decision-makers and building trust. If it holds, that "[…] thigs flow through the network according to certain rules, some obvious outcomes can be predicted as consequences of the network structures" (Borgatti & Halgin, 2011, p.5), then in similar institutional network structures it is above all this flow rate within relationships that counts. This could be conceptualised by a vector matrix that contains individual vectors for each interaction including a time stamp, leading to a comprehensive picture on the strength of relationships.

Directionality of edges

In addition to nature and strength, directionality can make a significant contribution to a relationship. Not only is there a fundamental difference between a non-directional and a directional relationship. Non-directional in this context means, for example, that two people meet at an event and have an equal conversation, while directional is, for example, a policy brief that one person passes on to another.

It also makes a difference whether a relationship is permanently monodirectional or bidirectional. If, for example, an NGO or an association of companies repeatedly passes on information to a bureaucratic or political decision-maker, this can lead to a demand for this information. Nothhaft (2017) identifies this, the `moment of lobbying´, in which the monodirectional supply of information exchange turns into the demand for information between representatives of interests and decision makers, as the central one.

Furthermore, one could also imagine an asymmetrical bidirectional relationship in which a continuous supply of information is offset at a later point in time, for example by appointment to a commission of experts. Conceptually, a modelling of asymmetric bidirectional relationships is possible given a multidimensional documentation tool with several layers for different point in times or embedded second layers within each actor. However, it would only become apparent with longer and more complete data series. For this reason, this idea is conceived in the following, but is not considered in the case study of the *Action Plan* due to the limited data of a few years.

Power resources play such an important role because they are to a large extent decisive in shaping the relationships described above. Following Bourdieu (2002), power resources are means or various types of capital that are available and can be used by the various actors to realise their intentions. These resources can be financial, personnel, or cultural assets that an actor can access to make a person or a group to do something they would not do otherwise.

This corresponds exactly to Dahl's (2007) formulation of power, and it is especially noteworthy that it does not matter whether or not actors are aware that power is being exercised over them. If, for example, the public perception of an issue is actively influenced by an actor and the public pressure on decision-makers to act in favour of that actor changes as a result, that actor has exercised power. Whether or not the decision-maker was aware of the change in public opinion and the power of the influencing actor behind it makes no difference to the effectiveness of the power.

For individuals, these power relations and changes in behaviour are not easy to robserve. However, over time, publications by expert groups or institutions as well as regulatory drafts can be compared with publications and statements from other actors. By doing so, one can trace back whether the positions or formulations of specific actors influenced the process, for example, from the first draft to the final version of a new regulation on sustainable investments.

4.2 Power as the ability to dominate regimes

Besides the general influence on network configurations, power can also be thought of in connection with socio-economic regimes. Hereby a socio-economic regime analogous to the model of the socio-technical regime (Geels, 2002a; Geels & Schot, 2007) is understood as a structural configuration held together by formal and informal regulations. It consists of political institutions, research, political and economic infrastructure in the sense of institutions, specific knowledge and user practices. At any given point in time, the dominant regime is embedded in landscape developments and is also exposed to the pressure of niche innovations. For example, the European financial industry regime is confronted with landscape changes, namely rising public consciousness about its role in global environmental developments, and niche innovations like sustainability-focused online banks.

As Geels (2002a) shows for the transformation of the maritime transport regime from sailing ships toward steam-sailing ships in the 18th century, not one factor but the combination of many makes regimes reluctant or resistant towards innovation. Both historically and contemporary, regime resistance or `regime stickiness´ (Chaminade, 2019) may be connected to political, economic or technical changes. Against the background of this example of maritime transport in a phase of globalisation, a transfer to today's global challenges such as climate change and the associated decision-makers is obvious: on the one hand, they usually act as a sovereign unit and, on the other hand, as part of a network of transnational associations such as the European Union. Therefore, a conceptualisation may consider the same interest being represented by a region, a country and a coalition of several countries within the European context, following corresponding observations by Bosche et al. (2003). In the case study on sustainable investments this might play a significant role as energy markets, financial services and environmental agendas differ greatly within the EU-27.

Two other forms should not be left unmentioned, even though they cannot be discussed sufficiently within this work: Another form to dominate regimes are monopolies of knowledge. If only actors within the status quo regime hold the knowledge about a certain topic and benefit from its current regulation, on can intuitively argue that transformation will be slow. Furthermore, actors within the regime can frame the discourse about a topic. With techniques borrowed from marketing and distributed by mass media, political realities can be constructed by framing public discussions (Habermas, 2015, pp.289–291). These two forms of monopoly on knowledge and public framing can be observed in the context of European policy making, as the case study in chapter 6 suggests.

4.3 Regulatory outcomes as processual negotiations

It follows from these considerations that transformations of or within socio-economic regimes are mainly carried out through processual changes in the regulations that apply within the regime. Against the background that financial products, such as financial derivatives traded on stock exchanges as well as over-the-counter financial derivatives in addition to equities, have greatly exceeded the value of the real economy since 2000 (bpb, 2017), the financial market appears to be a key policy area for Europe and a lucrative regime. At the European level, the negotiation and control of regulation is strictly separated, but the pool of experts and interest groups involved in the topic overlaps.

This needs to be incorporated more centrally into subsequent conceptualisation, as at European level the involvement of experts has gone from being a regular exception to the norm (Metz, 2013). The author points out that the EU Commission, which is at the centre of the project, regularly calls on external experts due to a lack of personal and knowledge, and that apparently technocratic consulting often turns into political legitimation. On the other hand, institutionalised advisory bodies, even if the role of external consultants for the Commission has increased (Bosche et al., 2003). As these external consultants of are employed and financed by international commercial consultancies, business associations or industry associations, it is necessary to include the individual backgrounds of the participants of expert groups in the network analysis. Empirically, this poses significant difficulties, as the European Transparency Register only contains data since 2011 and it is not obligatory to provide full details of previous activities of experts consulting European institutions today[5]. Furthermore, contributions of the registered actors to public consultations are only available since July 2018 (European Transparency Register, 2020).

In the case of technical debates, it can therefore be assumed that the participants in the expert groups that draw up new regulations have, for the most part, an interest-driven background. Understood as processual negotiations, this means that only minor changes are to be expected from the political, parliamentary or Commission side once the expert groups' deliberations are concluded. A conceptualisation of the development of regulations should therefore focus on the documents drawn up and the expert groups involved.

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[5] Legislative basis for the European Transparency Register is the *Agreement between the European Parliament and the European Commission the transparency register for organisations and self-employed individuals engaged in EU policy making and policy implementation*. Available Online: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2014:277:FULL&from=DE

It has been established that in order to understand transformation processes in socio-economic security systems, the regulatory processes determining these systems must be considered. This involves the relational links between the actors involved, the system structure itself and the context. Moreover, a historical understanding of change can only be achieved by analysing sequences of static models. How this combined theory can be translated into a model suitable for empirical research will be developed in the following chapter.

5 Conceptualisation

In the following, it will first be shown how information about the activities and relationships within a network can be formalised to enable the processing of larger data sets. In the following, this is linked to the theory of transforming socio-economic systems as discussed above. This also includes some options for which, in the case of the case study on the European *Action Plan*, too little or too unstructured data is currently available.

5.1 From relational observations to structural influence

The structuring is based on the consideration that for the network characteristics it is not the actors themselves that are decisive but the links between them. Since networks are mostly multiplex, i.e. actors have more than one connection (Katz et al., 2004) it is these connections and not the actors themselves that carry structural influence. Thus, an initial description of a relationship in a network can be written as

$$Relation\ \gamma = [node_A, node_B, edge_{dir}]$$

where each relation is defined by two nodes connected by an edge with a directionality *dir*. This edge can be nondirectional (A – B) or directional (A → B / A ← B). A special form of the directional interaction is between an actor and a process, for example a public hearing or consultation where individual actors interact with institutional processes.

As two actors may have several relationships of different nature at the same time, for example formal ties, communication ties and workflow ties, the edges need to be qualified, resulting in

$$Relation\ \gamma = [node_A, node_B, edge_{dir}, edge_{nat}]$$

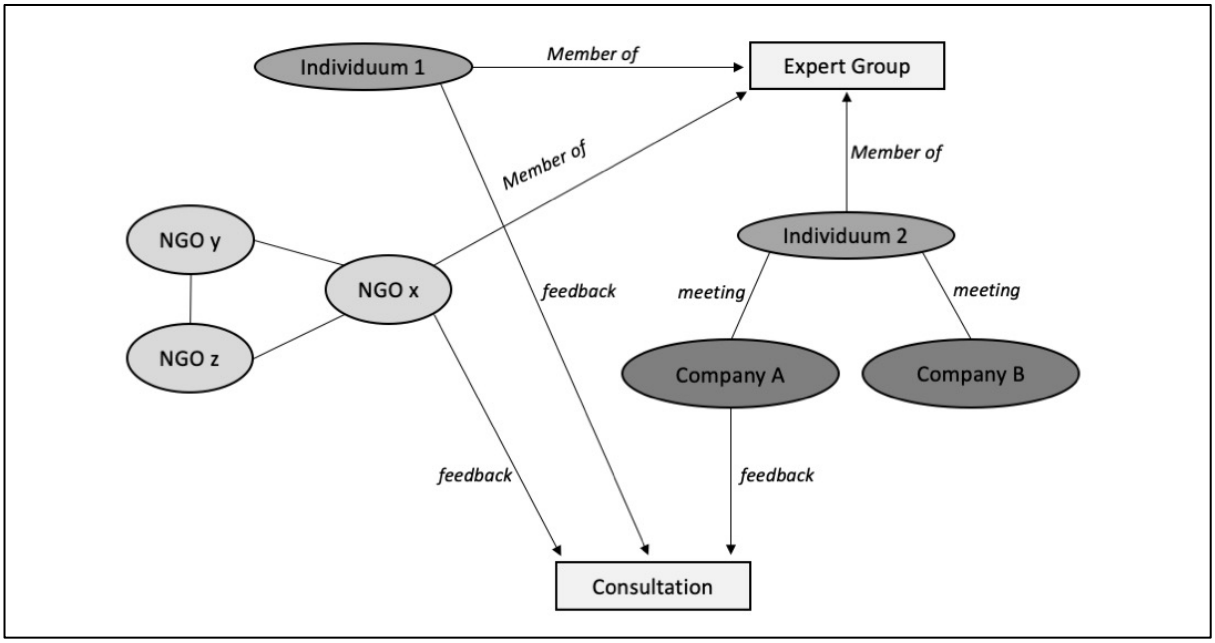
with *nat* for the edge nature.

Based on considered literature on the processes of regulation negotiations in the EU institutions the most important natures of edges seem to be *meeting*, *member of* and *giving feedback*. *Meeting* refers to a physical or virtual interactive event-type tie, which for example could be a meeting between the representative of an interest group and a commissioner. *Member of* refers to the state-type tie of participating in a formal or informal group, where a formal group could be a High-Level Expert Group. *Giving feedback* refers to providing knowledge and to state individual positions through formal instruments, with the most important is providing feedback on public consultations.

In addition to the qualification of relations between actors, however, the qualification of the actors themselves is particularly important. This necessity lies in the identification of power resources in the understanding of Bourdieu (2002) and add the contextual environment (Borgatti & Halgin, 2011). The conceptualisation which resembles a vector model, can, therefore, be extended by characteristics of the actors in addition to the variables defining the relationship. Since only one actor per tuple can be described in more detail in a data set, it was decided to always attach the full node characteristics of the first node in each tuple. Appendix A4 gives the full list of the node characteristics applied in the case study.

One challenge of the large amount of information per actor is the way to present it in. Dimensionally, networks of nodes and edges can be represented well and a description of the nature of all edges is possible. A further level of information can be created by distinguishing the nodes by colour. This is useful for example to differentiate between different forms of organisation.

Figure 5-1: Schematic European regulatory network



Note: In this schematic overview of nodes and edges, the levels of grey anticipate coloured modelling in the software. The colour serves as an additional layer of information. Edge directionality is indicated by arrow direction. Arrow description corresponds to the nature of the relationship. Source: by author.

While figure 5-1 shows actors, relationships and one dimension of actor characteristics, other qualifications of the actors remain hidden. This data could be modelled in the software, for example by a click menu that displays additional confirmations for each actor. Since this cannot be presented in a printable form in the context of this work, the data is offered completely in the online appendix A0 and is included in the case study in written form instead of visually. For further research, a multidimensional computer model with all background information for each actor would be desirable. For the data organization a structure was chosen in which each tuple is represented as a table row and each column as an attribute.

In the specific case of the case study of the European Action Plan considered in Chapter 6, responses to public consultation processes were also included in the data set or linked as a full PDF version. This allows keywords to be queried and changes in wording to be tracked in the course of the regulation development process. Furthermore, the documents were used in the case study to qualify the actors' positions and to spot alliances. After this static explanation of the network design, the next section explains how changes can be tracked over time.

5.2 A network approach of influence and change

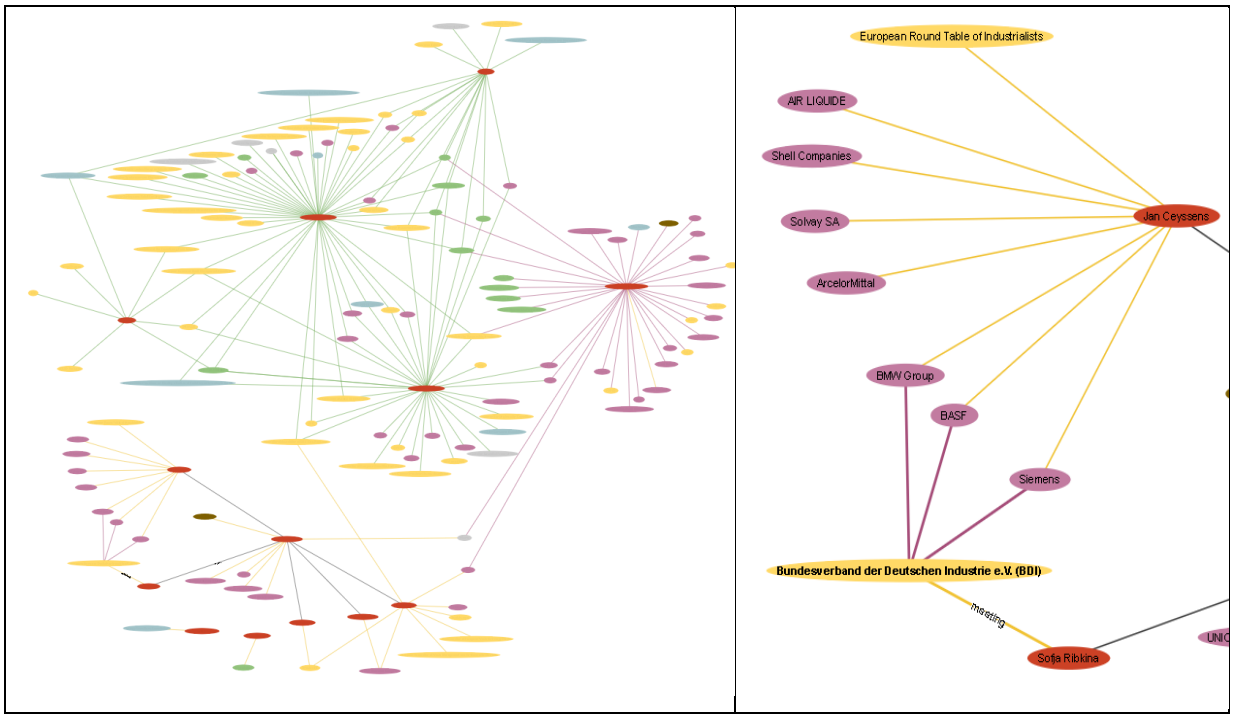
To reflect time progressions, network analysis must be dynamic. This means that several points in time can be `overlapped´ using a time controller. While this is not a problem in the software, these graphics cannot be printed stitched together. Therefore, a representation method was chosen that bundles all time courses but does not do without explanatory text.

Here, anticipating the example, drafts, consultations, talks and influential groups are coded as nodes and entered into an overall network. As a result, changes in actor behaviour can be detected if one moves from node to node in the correct time sequence – for example, from the first and second draft to the final regulatory proposal. Due to this limitation, the relevance of actors whose linkage behaviour differs from that of the other actors therefore increases. This method is thus very well suited for exploratory research, but the intuitiveness for outsiders is reduced. This limitation is discussed in detail in the limitations of chapter 7.

The network analysis software NetVis, which is also available in the online directory (Appendix A0), was used for modelling in the second step. This software uses a visualisation library based on an inverse gravity model where nodes act as mass points. Since, as will be discussed elsewhere, only two dimensions can be represented in printed form, this type of two-dimensional modelling via NetVis was chosen and interactive data menus were not used. For best readability the use of the online versions of the graphs is recommended.

To give a first understanding of this step, both a macro- and a micro-visualisation are provided below in figure 5-1. Both stem from the case study in chapter 6 and were subsequently transferred to this section for illustration purposes.

Figure 5-2: Network modelling with NetVis



Note: While all nodes are named, the nature of the edges is indicated by a colour code. This is done to increase the readability in the printed version following a later on explained logic. With the dataset and software provided in online Appendix A0, the networks can be augmented, sorted and changed. Source: by author.

6 Case: Action Plan on Sustainable Finance

6.1 Background

For many, the Paris Agreement of 2015 was a turning point in the political, social and economic handling of the continuing global warming and ecological collapse. 197 parties to the agreement agreed on it on 12 December 2015 at the UN Climate Change Conference in Paris, "[to hold] the increase in the global average temperature to well below 2°C above pre-industrial levels and [to pursue] efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change" (United Nations, 2015, p.3). Since then, however, there have been numerous warnings that even a limit of 2°C would cause irreversible damage to climate and nature and lethal consequences for people in many regions, and that the international community should therefore act more ambitiously (IPPC, 2018).

In the Paris Agreement, directly after the first central goal and the declaration to strengthen climate resilience and reduce greenhouse gases, the third concern is the role of the financial system. More prominently than in any other international protocol before, the goal is declared "[to make] finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development" (United Nations, 2015, p.3). However, the financial topic has not been given much concrete form and leaves much room for interpretation. Mentioned in article 9, the already developed countries are to support developing countries in their efforts through various channels such as public funds, however, without any specifications.

Since the Paris Convention focuses on national contributions and limitations of greenhouse gases, the direct role of implementation is assigned to the nation states and not multilateral bodies. However, both the European Parliament and the Commission accompanied the process and welcomed the results of the agreement. One of the first European contributions was a revised energy lending policy of the European Investment Bank (hereafter EIB). In 2019, the EIB decided to end all financing for fossil fuel projects by the end of 2021 and to support the energy transition (EIB, 2019). The EIB recognised the problem of defining precise GHG emissions and risk classifications for investments.

The European Commission identified the financial market as an area in which it has a relatively high level of regulatory power, as financial products and flows highly international. Since the EU is primarily a common trading area from a political and economic point of view, a standardisation of environmental criteria for the financial market is also reasonable. Even if not all details of the beginning of the European regulation of sustainable investments are

known, a relatively complete process could be reconstructed, which allows conclusions to be drawn about the influence on these. These are based on the intuition that the current financial market regime, contrary to its marketing claim, is committed to the weakest possible regulation.

6.2 Procedural sequences of the regulation development

During the last decade, the terms sustainable finance and sustainable investment changed their common meaning. After the financial crisis of 2008, sustainable finance referred to systemic financial stability with high correctness of safety margins in bank balance sheets as a particular focus of policymakers. The same systemic stability factor of investments was referred to as sustainable investment. It was this understanding underlying the creation of a European High-Level Expert Group on Sustainable Finance in 2016. However, in the light of the Paris Agreement and the rising public awareness, that changed the HLEG's understanding of sustainability towards a more environmental-focused definition of weak sustainability[6]. This development and a stronger focus on the environmental aspects of future investments become obvious in comparing the interim and the final report (European Commission, 2017c, 2018d).

In the following, the case *Action Plan* regulation in general and the subordinate regulation of the t*axonomy* in particular will be considered. The processes, personnel and content that ultimately led to the draft resolution are discussed. This descriptive part has been schematically prepared in its most important parts for a first overview in figure 6-1. It shows the procedural path of *Action Plan* legislation and is thus relatively ideal for many European legislative projects. Not least because of the Paris Agreement, but also because of increased public interest in the topic, the process of brainstorming, consultation and proposed regulation was relatively fast, taking only three years.

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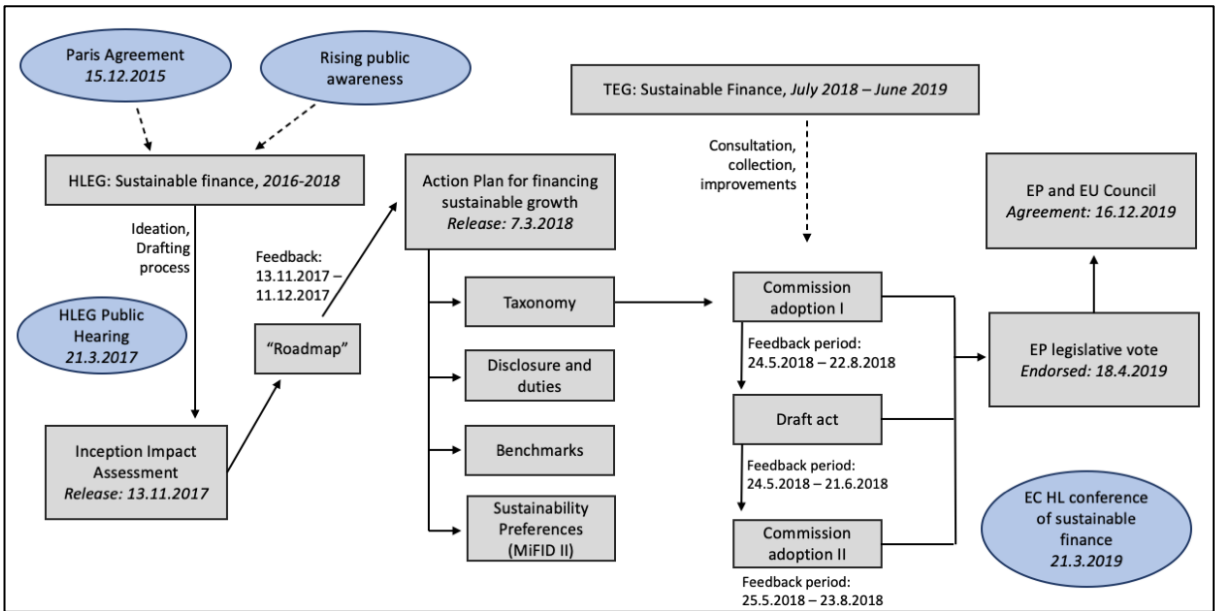
[6] *Weak sustainability* stands for a sustainability concept in which human capital can substitute natural capital. It is applied in neoclassical environmental economics and decouples human progress and economic growth from the natural biosphere. *Strong sustainability* assumes that human capital complements and interacts with natural capital. It is used in ecological economics. Following this concept, natural decline cannot be compensated and complex instead of linear systems are assumed.

Figure 6-1: Processual path of the Action Plan proposal



Note: This processual structure does not visualise all considered events and meetings. Source: by author.

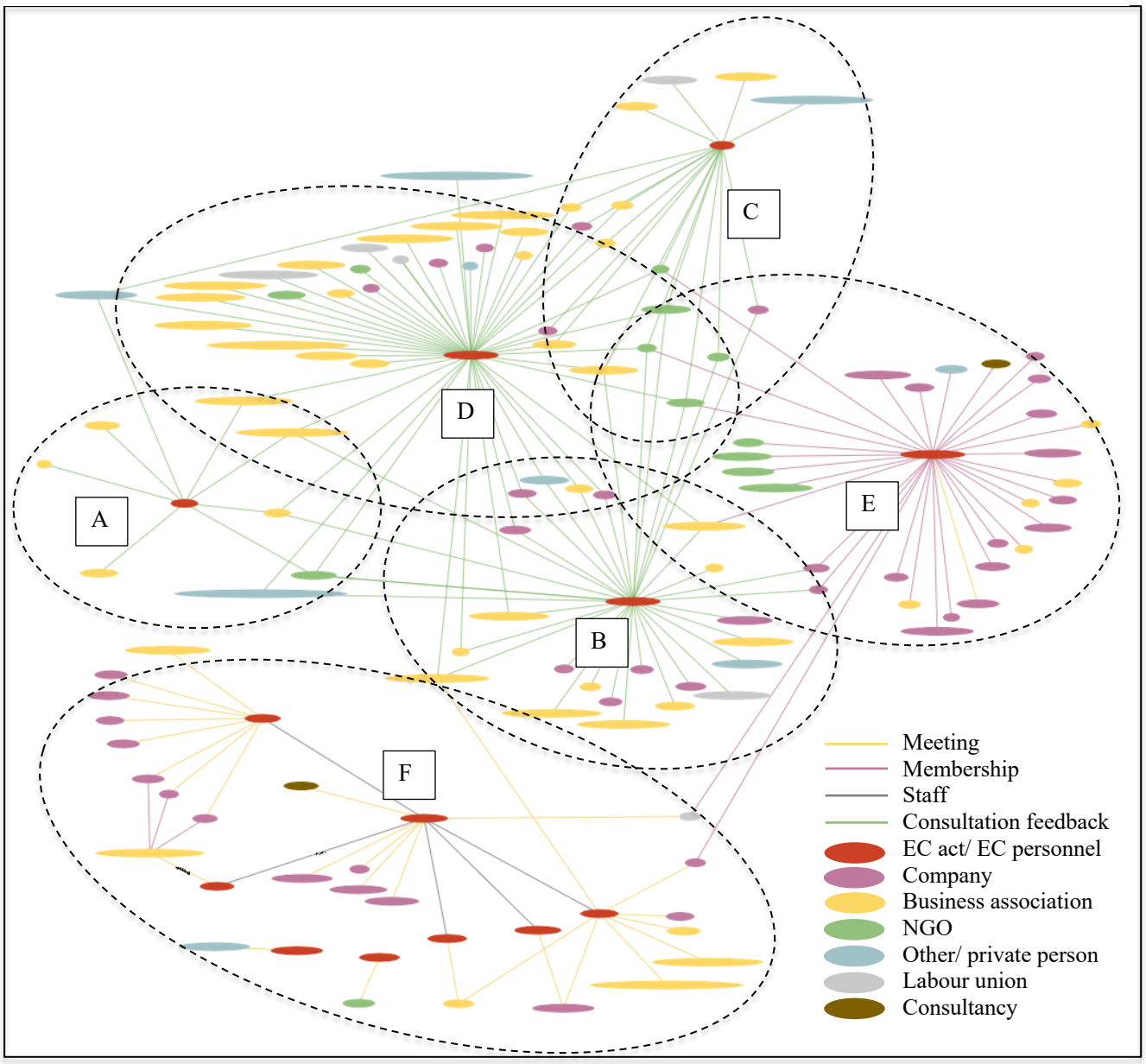
At the beginning there was the already mentioned HLEG on sustainable finance. Headed by Christian Thimann, financial expert and at the AXA Insurance Group, the expert group consisted mainly of company representatives (European Commission, 2017c). Although there were also three non-commercial players at the table - WWF France, the 2° Investing Initiative and the Climate Bond Initiative - the total number of participants was 20. After a year of work and several events, such as the Public Hearing on Sustainable finance (European Commission, 2017a), HLEG published an *Inception Impact Assessment* on 13 November 2017. This document formally launches the consultation process that the European legislative framework provides for new legislative proposals.

This *Inception Hearing Assessment* (European Commission, 2017b), also referred to as the *Roadmap*, opened a public consultation process to all interested stakeholders, namely companies, business association, NGOs, state authorities and citizens. With a feedback period of one month, eight official replies were handed in. Based on these feedbacks and further work within the EC, the EC released the *Action Plan for financing sustainable growth* on 7 March 2018 with four subordinate regulatory acts. Even though they are closely connected and interlinked, the taxonomy which will this case study is considered with lays the basis. It is to establish a general framework to facilitate sustainable investment by providing the conditions and the framework to create, over time, a unified classification system on what can be considered environmentally sustainable economic activities (European Commission, 2018a). Thus, defining what is to be understood as `sustainable´ became the main challenge within institutional investors, NGOs and companies within the HLEG. The network interaction and the changing access of actors will now be analysed before discussing the implication of this structure, differences in access and placement of own interest in the final *Action Plan* proposal.

6.3 Networked influence in the drafting process

Three intermediate stages were open for the subsequent consultation, with feedback periods between the end of May 2018 and the end of August 2018. These were *Commission adoption I*, *Draft act* and *Commission adoption II*. The different functions of the actors in the two intermediate stages and documents will be seen in the network analysis, which shows that some actors provided input from the beginning to the end of the process, while others only contributed to certain steps or made this selection strategically due to resource constraints. In total, 112 formal feedbacks were handed in.

Figure 6-2: Macro view on Action Plan network



Note: Macro structure of the plotted network interaction leading to the European *Action Plan* legislation. A = Roadmap, B = Commission adoption I, C = Draft Act, D = Commission adoption II, E = TEG on Sustainable Finance, F = Cluster of EC personnel. Source: by author.

Figure 6-2 gives the macro-structure according to the conceptualisation displayed in figure 5-1 using the full dataset. Based on a gravity model, a clear clustering became apparent. The clustering from A to E intuitively follows from the processual acts and institutionalised TEG, while EC personnel cluster F is more complex.

However, more that the clusters itself is the connectivity between them which, according the theory development done previously, might display the underlying power and influence of actors. Specifically, differences between the officially same access to politics for all interested stakeholders and the reality of this process may appear. For this `zooming into´ the micro-structure provides the best tool, which can be replicated by using the dataset provided online. In the following the clusters and the connected documents are analysed in more detail.

Roadmap

With nine responses, the *Roadmap* cluster A is the smallest which is not unusual as many stakeholders use it as an information but not as a point of entry into the debate. Most of the feedback came from business association and one from an NGO representing civil society. The responses were in general supportive to the drafting process and the topic of sustainability. However, business associations started directly by mentioning the advantages of voluntary over legislative guidelines as well as market forces to innovate towards sustainability than coordinated bodies (Invest Europe)[7].

Furthermore, the primacy of national supervision of investment risks was emphasised and it was noted that more sustainability criteria could make investment in this area less attractive (INVERCO). The NGO Better Finance, which has long advocated higher environmental sustainability and social standards for investments, stressed the need for a clear definition of sustainability and a clear control mechanism (BETTER FINANCE). A third group of actors used this first feedback opportunity to present themselves as important and useful for the further process by describing their own knowledge, the economic importance for Europe and concrete assistance (European Fund and Asset Management Association; Association of the Luxembourg Fund Industry). Appendix A7 gives the detailed network cluster.

Commission adoption I

The *Commission adoption I* cluster B got with thirty-five many more responses. Also, the diversity increased, counting five NGOs, eleven business associations, ten companies and one

[7] Since not all response texts are available as separate files and for reasons of clarity, the consultation feedbacks referred to in the following sections are not included as references in the bibliography, but are named in the way they are listed in the online appendix and the data set.

labour union among them. Interesting is the response of the 2° Investing Initiative, an independent NGO think tank with the criticism that the proposed measurements are only based on the classification according to a certain consultancy and would strengthen greenwashing. Furthermore, the composition of the TEG would not be versatile enough and would be under great pressure from the Commission to really fulfil the formulated objectives. (2° Initiative).

Other companies and business associations express approval for the initiative and stress their potential contribution to sustainability efforts (International Association of Oil & Gas Producers; ABN AMRO Bank). CS CCOO, one of Spain's biggest trade unions, mentions that growth needs to be both sustainable and inclusive criticise the `cost-benefit' style of the proposed regulation (CS CCOO). Lastly, more NGOs are getting involved, which is different from the more structural criticism of the 2° Investing Initiative. The international NGO Finance Watch, for example, is calling for detailed changes to the calculation of GHG emissions and generally rejects the term 'emission saving' as it would be based on a counterfactual analysis model (Finance Watch). At this stage, the proposal referred to `emission saving´ as emissions which would continue to exist if the company's products or services would be replaced by more carbon emitting substitutes. Appendix A8 gives the detailed network cluster.

Draft act

The *Draft act* cluster C is characterised by the participation of many repeated participation of many members and greater detail in the answers. The feedback from NGOs and business associations shows deep understanding of the accompanying regulatory documents, the Action Plan in itself and its consequences for their own interest group. Only three companies provide direct feedback, however, as will be discussed alter, meetings between companies, business associations and EC personnel happened in the meanwhile. Between cluster B and C, a group of well-connected NGOs can be identified as some statements seem to be coordinated. However, a more detailed analysis would be needed to validate this coordination of the WWF, 2° Investing Initiative, Eurosif and Finance Watch. Appendix A9 gives the detailed network cluster.

Commission adoption II

As a last stage of the official consultation process, before the final regulatory draft is compiled by the Commission and the expert group, the *Commission adoption II* cluster D consists of fifty-one individual feedbacks. Most are by business associations, followed by companies and then NGOs. More than half of the responses come from stakeholders that were not involved before, and only four responders are also active members of the expert group. The analysis of the answers showed the broad spectrum of interests and commitment of different participants. The sixty-three-page concluding answer of the NGO 2° Investing Initiative is worthy mention as it stresses serious ambiguities in several definitions and investment concepts (2° Investing Initiative). Moreover, benchmarks would be inadequate and measures to reduce GHG emissions would not be in line with empirical research. Others point out, that the definition of sustainable investment as `companies following good governance

practices´ has to be tightened (Better Finance) or that a definition of sustainability risk is missing at all (WWF). However, many companies and business associations also point that it is an overall balanced proposal with enough room for market forces to act and innovate towards sustainability. Appendix A10 gives the detailed network cluster.

The Commission's Technical Expert Group on sustainable finance (TEG)

Analysing the thirty-two members of the *TEG on Sustainable Finance*, cluster E appears to be dominated by companies. More than half of the members represent companies of business organisations and one third business associations or consultancies. Only three of the member NGOs participated in the consultation process, with unknown contribution of the other NGOs within the TEG's working process. Only two members of the TEG hold official meetings with Personnel of the European Commission that had to be reported in the European Transparency Register. Mirova, subsidiary of the influential French asset management company, met on 10 April 2018 with Valdis Dombrovskis, Executive Vice President of the *Directorate for An Economy that Works for People*. In this position, that was titled Commissioner ins some cabinet rounds, Dombrovskis also met with companies or business associations as discussed below, but not with NGOs. Furthermore, his staff Aline Melngaile met with the Allianz group, one of the Europe's biggest insurance and asset management companies and also member of the TEG on sustainable finance.

As mentioned above, the composition of the TEG was criticised by some participating NGOs. However, the networking of the NGOs and business associations is higher than that of the companies and the quality of the answers indicates a high level of expertise of all participants. Possibly the criticism is based on the fact that the vast majority of them come from the 'traditional financial regime' and might therefore have rather little interest in fundamental restrictions of the financial market. With the Allianz Group, Bloomberg, BNP Paribas, EnBW, Mirova, SEB, Swiss and Unilever, companies that would harm their own business by overly environmentally friendly regulation are part of the group of experts. However, this assumption would require a more detailed qualitative analysis of both the complaints and the background interests. Appendix A11 gives the detailed network cluster.

European Commission personnel and bilateral meetings

The Cluster of *EC personnel* F shows several aspects that might be deciding during the process of drafting the new regulation on sustainable investment. The network plot, given full in appendix A12, shows Valdis Dombrovskis and his staff, together running the *Directorate for An Economy that Works for People*. This part of the EC serves as the coordinator and mediator as well as the key body behind the legislative proposal. Therefore, bilateral access, meetings and discussions with members of this directorate might provide an opportunity for interest groups to influence the direction and outcome of the regulation much more effective than through all other channels. According to the statutes of the EC, this access ought to be equal to every stakeholder, however, the extracted data from the European Transparency Register on meetings with the EC concerning the taxonomy paints another picture.

It becomes apparent that between the release of the Action Plan draft on 7 March 2018 and the EP legislative vote on 18 April 2019, twenty-six meetings happened of which eight happened as a group gathering at the 22 November 2018. These interactions were mainly with representatives of the traditional polluting industry or energy and production companies. The energy companies Terne Spa, Shell, BMW, BASF, ArcelorMitteral teamed up with the European Round Table of Industrialists ERT, a well-established and powerful business association. Private meetings were also granted to the business associations of waste recyclers, which produce energy from waste combustion, releasing significant amounts of GHG. The last group are banks and insurance groups that had direct access to Dombrovskis. Only one NGO had access to EC personnel: the Energy Transition Commission ETC is, however, while technically an independent think tank in reality relatively close to the traditional industrialist regime. Lastly, the directorate met with the commercial consultancy Hume Brophy which is holding a big portfolio of clients concerned with the effects of sustainability regulation on capital investments, energy-intensive business or food industry.

This analysis of the network structure of institutions, meetings and member relations as well as the comparison of the consultation documents can provide initial insights. However, the individual observations must be placed in a closer context with the discussion about the backgrounds of political economy, questions of power and influence, and the influence on results in the field of sustainable investment. This and a reflection of the method itself is done in the following discussion.

7 Discussion

The research design and method of this thesis are exploratory and aim to provide a problem-focused understanding of the topic of network in political economy in general and *the Action Plan* in specific. In the following, the results are viewed critically against the background of the research question and the three hypotheses. The insights are also placed within the ongoing debate on transformation of socio-economic systems. It can be said that the applied network approach as well as the triangulation of qualitative and quantitative elements proved to be helpful. The differentiation between macro-structural elements and detailed information on the actors and their replies adds value to the research field of systemic transformation as it is the interplay of the different layers that in itself determines power structures and outcomes.

7.1.1 Network analysis within economic transformation research

Investigating the research question to what extent an integrated network approach of transformation can help to understand processual and power-induced dynamics in the European environmental regulation, the first hypothesis stated that *(H1) inter-temporality of power resource allocation leads to higher regime resistance against stronger environmental regulation.*

This hypothesis can be largely supported by the thesis. On the one hand, representatives of the traditional regime, i.e. the companies and organisations that were able to achieve their economic success with high environmental and social damage, were disproportionately represented in the TEG as members. In addition, they almost exclusively had access to bilateral meetings with key actors of the Commission. On the other hand, small and innovative environmentally friendly companies did not appear strongly as independent companies or as members of a business association. This does not apply to sustainability NGOs, which are involved in all procedural steps, but are hardly connected with the Commission. As Nothhaft (2017) pointed out, bilateral meetings with Commission staff are still important moments of lobbying, which are prepared long and in detail. These meetings are seen by the Commission in particular as an opportunity for information, and company representatives often provide detailed reports, impact analyses and useful insights that the Commission staff would otherwise not be able to obtain and in many cases incorporate in their considerations.

This observation is also in line with the observation of Bosche et al. (2003) that environmental NGOs are much weaker than commercial groups in their ability to accompany

a substantive issue throughout the entire legislative process due to lack of resources. Even if they are well networked, they have a rather small changing influence on the regulation. This means that the new directive will be drafted under the leadership of those who have an individual and collective interest in the most stable possible continuation of current regulations and the functioning of the financial market with regard to sustainability. Within the debate on sustainable investments, both innovative sustainable companies and NGOs have relatively little power (Dahl, 2007) and significantly less power resources (Bourdieu, 2002). As these resources stem from previous, and often fossil-fuel-based, economic activities the regime resistance against stronger environmental regulation within future investments is high.

The second hypothesis that the (H2) *discrepancy between public environmental policy and regulatory outcomes can be accounted for by imbalances of networked power,* can neither be clearly supported nor refuted.

One trend which clearly emerges from the consultation process is to take a high-profile stance in favour of environmental protection and support for radical transformation, but to promote exceptions and the least possible change in the technical details of implementation. Many actors indirectly emphasise the special nature of their industry and demand exemptions while advocating the overall project. In its final version, the taxonomy is significantly weakened, but it remains open whether this weakening and loophole lobbying will be good for both actors and the environment as Polk and Schmutzler (2005) expect.

The thesis and the method used in it proved insufficient to systematically match the public statements made by the Commission and all the actors involved with the objectives of their influence. Since, in contrast to Sultan et al. (2018), the response texts were analysed manually and not by software, the interpretation and selection of examples is too subjective to allow such a conclusion. This point will be discussed in more detail in the limitations below and is the reason why this hypothesis must be regarded as not being conclusively answered.

Then last hypothesis that (H3) *contextual change translates into regulatory change with a time lag, dependent on network characteristics and the ability to influence the institutional and public discourse* can be given support by this thesis.

Although stronger in the case study than in a general context, a regulatory time lag seems to exist in the European political economy. In the present analysis, it appears that regulation has been influenced mainly by economic actors, despite growing public interest in the issue and political confessions. Moreover, these actors hold quasi-monopoly knowledge - for example, when the five largest European insurance companies join forces - which the Commission values highly.

Since the process of re-regulating sustainable finance was already initiated in 2015, the selection of the participating groups is also based on this date. New citizens' movements or NGOs that have formed around the topic of sustainability and sustainable finance in the last five years, as well as a well-founded research community, are therefore relatively

disadvantaged. Furthermore, the entire practice of regulation is characterized by exclusion rather than inclusion, which discriminates against participation by groups that do not already have expert knowledge of the regulatory processes, practices and networks. Therefore, the case study of the Action Plan in general and the taxonomy in particular supports the hypothesis that the influence of public debate on regulatory outcomes has a time lag and depends on integration into the network.

To answer the broader methodological side of the research question of the extent to which an integrated network approach to transformation can contribute to the understanding of processual and power-induced dynamics in European environmental regulation, the following points can be emphasized. First, it becomes clear that both the micro and macro vision is necessary. Mathematical modelling of actor behaviour or political science analysis of interest-driven lobbying are not sufficient in themselves, as the various levels must be thought of together. An integrated network approach can help here. Integrated, since it is not a pure network analysis of the processual structures, but rather the integration of instruments of network analysis into a broader research on the topic of socio-economic processes of transformation.

Second, software modelling shows the necessity to combine theoretical and methodological developments of different fields, as the data situation becomes more complex. Especially in the case of questions that contain a qualitative component, network analysis can help to focus the spotlight on potentially promising areas, actors and documents. However, the following precise qualitative work remains essential, since network analysis in the social sciences is highly contextual.

Finally, network analysis can look at power and influence relations in context and thus prepare a comparison with legal, political or normative questions. Filling this interface of political economy with new data and methods can provide explanations as to why certain developments and transformations proceed differently than would be obvious from the outside. The methodology used in this paper can contribute to this insight, as will be shown below using the findings of the case study on the definition of sustainability.

7.1.2 Transformation: not `just happening´

The jointly adopted document on *taxonomy*, which is part of the Commission's Action Plan, defines for the first time what `environmentally sustainable´ economic activities are from the perspective of the signatories (Council of the European Union, 2019). While the exact definitions of sustainability and sustainable investment are discussed in the following, it should be noted that most of the detailed and technical explanations can be found in a separate *Technical Report on the Taxonomy* (EU TEG Sustainable Finance, 2020). While it is not possible to analyse and explain the catalogue of criteria and risks in the context of this work, the scope and technical level alone is in many ways reminiscent of banking and financial regulation after the 2008 crisis, with technical language, specially defined terms and a nested set of documents preventing access – and thus criticism – from the general public. The presented debate around this definition is only of several in the considered documents.

Most of the concerns of sustainability NGOs did not impact the final version. Instead of a really precise and explicit definition, a catalogue of objectives is presented, which are 1) climate change mitigation, 2) climate change adaptation, 3) sustainable use and protection of water and marine resources, 4) transition to a circular economy, 5) pollution prevention and control, 6) protection and restoration of biodiversity and ecosystems (Council of the European Union, 2019). In order to work towards these targets, in future all economic activities are to be examined and evaluated in risk classes to determine whether they: a) make a substantial contribution to at least one of the six environmental objectives, and b) do not cause "no significant harm" to any of the other environmental objectives, as well as c) meet robust and scientifically sound technical screening criteria and d) comply with a minimum level of social and governance guarantees (Council of the European Union, 2019).

While the explanation initially sounds profound and strict, a closer look at the subsections opens up many formulations which are either inherently relative, i.e. do not allow for a precise classification, are unclear, or are formulated in such a way that certain industries, technologies or practices are excluded. One of the biggest concessions is that "an economic activity for which there is no technologically and economically feasible low carbon alternative, shall be considered to contribute substantially to climate change mitigation […] if its GHG emission levels correspond to the best performance in the sector or industry or it does not hamper the development and deployment of low-carbon alternatives" (Council of the European Union, 2019, p.42). Whether these points lead to a relative leadership position alone being sufficient, for example a coal-fired power plant or a gas-fired power plant, which emits large amounts of GHG but is cleaner than comparable plants, must be researched in the future. However, it has become clear that the actors of the existing regime have prevailed over environmental NGOs in the definitional discourse on sustainable investment and that a possible correction of the definition could only be implemented with a time lag.

8 Conclusion

This thesis originated from the observation that development – economic, technical and social – does not occur in a vacuum but is rather created by structurally determined processes. Reflecting on the important role of power, actor behaviour and interests in political economy, this thesis was designed as an explorative study of European transformation processes in the field of sustainable investment regulation. The concluding chapter summarises the aims, objectives and results of this endeavour and affords an insight into the practical implications.

8.1 Research aim and objective

The thesis aimed to provide a transdisciplinary and methodical perspective on regulatory processes in socio-economic transformations. As sustainable investment is highly relevant to future economic growth and environmental sustainability, the European *Action Plan on Financing Sustainable Growth* was chosen as case study. Appreciating the research gap in the in structured analysis of power in transformation processes, the focus was on laying a theoretical and conceptual framework rather than establishing clear causal relationships. The research question focused on what extent an integrated network approach of transformation can help to understand processual and power-induced dynamics in the European environmental regulation. All efforts were aimed at reducing the existing research gap and to offer an original contribution to the field of applied socio-economic network analysis.

The first objective aimed to derive an inclusive concept of power and influence within transformative processes from several research fields. Secondly, a theoretical framework was developed and conceptualised into a model able to visualise power structures within European regulatory processes. Answering the research question was enabled by testing the three hypotheses by conducting a case study on the European Action Plan and also highlight ed the associated limitations. Even though the results are ambivalent in some instances this is in line with the exploratory background of the research design.

8.2 Results and limitations

The analysis of 112 consultation replies by 71 organisations and the expert group memberships and meetings with the European Commission provides valuable insights. Inter-temporality of power resource allocation leads to higher regime resistance against stronger

environmental regulation (H1). Both access to EU Commission staff and the appointment of expert groups was asymmetrical in favour of the status quo politico-economic regime. Actors who argue for stricter sustainability regulations in the investment business appear to have significantly less structural and processual power.

If the discrepancy between public environmental policy and regulatory outcomes can be accounted for by imbalances of networked power neither can be clearly supported nor refuted (H2). The analysis suggests that some actors are publicly advocating for stricter regulation yet working against regulation in terms of technical implementation. However, this statement could only be objectively recorded by a greater systematic comparison of all public positions and actual contributions to the regulation.

The thesis finds support that contextual change translates into regulatory change with a time lag. This is dependent on network characteristics and the ability to influence the institutional and public discourse (H3). It depends both on the reputation and the power resources that innovative or sustainability-focused groups have to gain before competing with the established actors on expert positions and meeting times. Therefore, social or political movements are suspected to shape European regulation with a time lag of several years after the respective issue worth of regulating appears.

By addressing the three hypothesis the research question can be answered: an integrated network approach of transformation can help to understand processual and power-induced dynamics in the European environmental regulation. While more sophisticated technical modelling as well as automated text analysis would add even more possibilities of understanding modern regulatory processes, this thesis supports the existing trend of trans-disciplinary network analysis in socio-economic systems. It further encourages a recollection of the topics power, regime structures and lobbyism within economic research.

This thesis and the general explanatory value of its results are limited in numerous ways. At first, the form of presentation did not allow for the multidimensional levels of global transformation processes addressed by Binz and Tuffer (2017) as well as by Fuenfschilling and Binz (2018). The linking of local, regional and global actors as central to transformative processes, as addressed by the authors, was intended to be at the centre of analyses of sustainability and could not be satisfactorily included in this work. The software NetVis only allowed limited possibilities for embedding additional information on the actors.

It also became clear that the complexity of the issue and the possibilities of the proposed methodology require expertise in specific areas. The approach is therefore more suitable for collaborative and ongoing projects than for individual use. One of the most serious limitations is that the submitted documents had to be analysed manually and could not be coded, read out and compared automatically. However, the analysis step conducted is publicly available for extensions.

8.3 Practical implications and future research

To this day, the question of how economic development and social transformations take place remains both highly controversial and relevant for future growth perspectives. Questions of influence, representation of interests and power to regulate are somewhat out of the focus of economic research. However, the new European regulation of sustainable investments shows that development processes and transformations do not happen in a vacuum. Rather, for future growth, societal and economic transformation seem to be interwoven with environmental sustainability.

A return to economic research understood as understanding systems in their functionality, connectivity and purposes rather than measuring and comparing certain numeric values must not be only an academic endeavour. This understanding carries with it the possibility of bringing social actors closer together and making the real mechanisms behind transformation processes tangible. The social and historical context has to be taken into account, since economic activity is always embedded in it. Neglecting these factors and striving for a value-free economic science could lead to missing a fundamental opportunity for transformation.

To sum up, this study of the *European Action Plan for Financing Sustainability* still leaves many questions unanswered. At the same time, many legislative projects fostering a future-oriented, environmentally sustainable transformation of the European economic system are in preparation. This thesis shows that there are still large gaps in the understanding of the role of processual structures and power networks with regard to sustainability and additional research is required. Concurrently, the development of a consistent methodological framework and the linking to specific case studies may again lead to bringing together researchers from different fields. Understanding socio-economic transformation processes and translating this knowledge into society can only succeed in cooperation – and it is an urgent task considering the decades of accelerating climate crisis lying ahead.

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Appendix

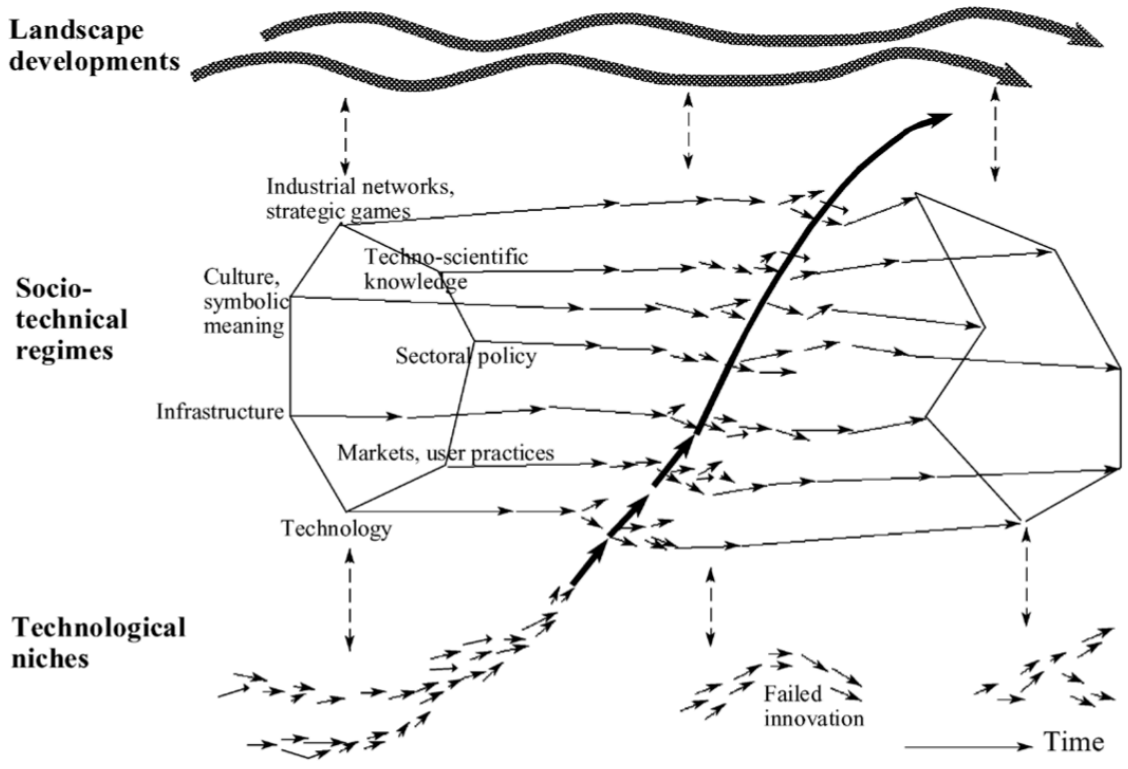
A0: Online Appendix

In order to make the statements of this thesis more replicable and verifiable as well as to simplify further research, all graphs, visualisations, PDFs of the consultation feedbacks and the datasets are available online:

https://drive.google.com/open?id=1XCVdtDRgggUUSiZF9eoC7NxN0-fhr3t_

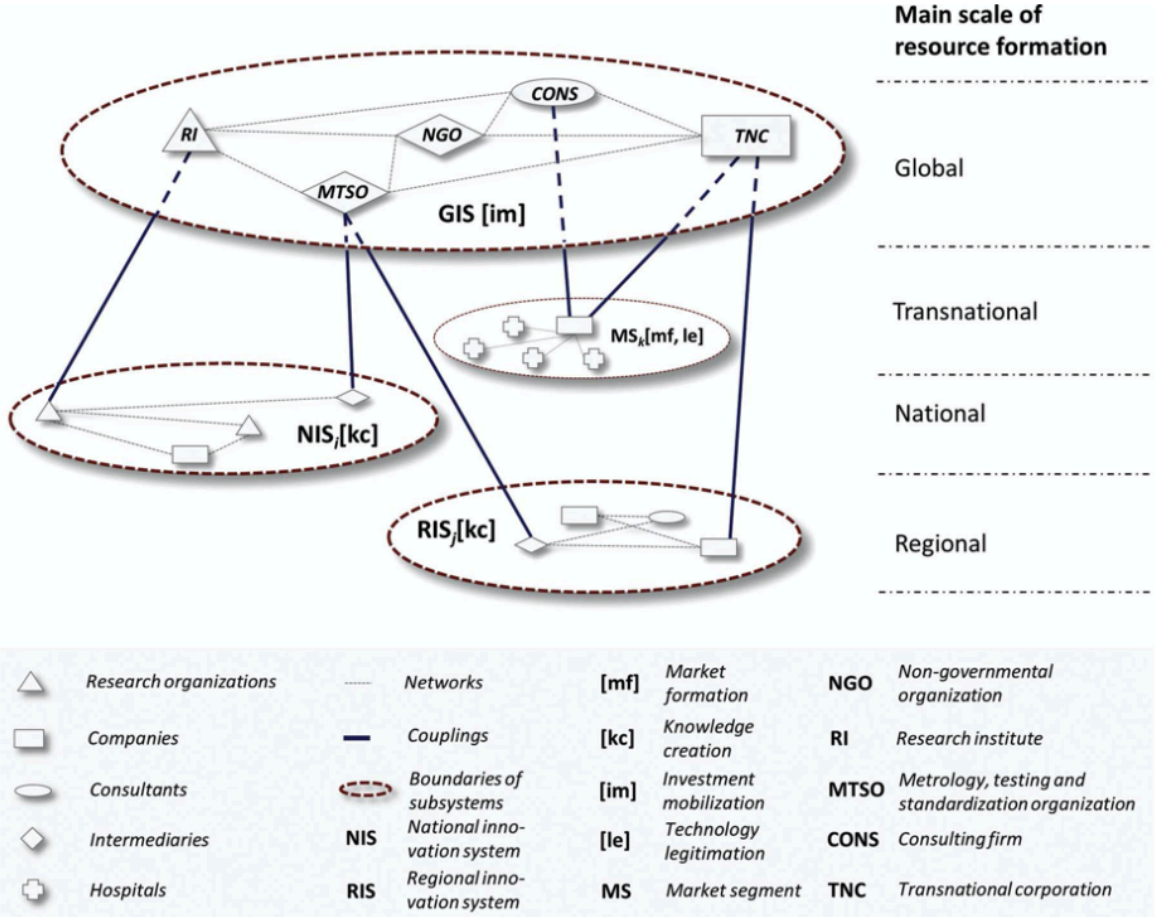
The drive also contains the installation package for the used modelling software NetVis which is a third-party product as well as a description of how to replicate the modelling process.

A1: Multi-level perspective on transition



A Dynamic multi-level perspective on technological transition. Source: Geels, F.W. (2002:1262)

A2: Hypothetical global innovation system



Generic structure of a hypothetical global innovation system, here in healthcare. Source: Binz and Tuffer (2017:1288)

A3: Respondents on consultation process

While the whole dataset cannot be displayed here (available in the Online Appendix and with the same name) the replies of the following organisations were analysed.

ID	Organisation	User type	Country of origin
1	2° Investing Initiative France	Non-governmental organisation (NGO)	France
2	2° Investing Initiative	Non-governmental organisation (NGO)	Germany
3	aba (Arbeitsgemeinschaft für betriebliche Altersversorgung)	Other	Germany
4	ABN AMRO	Company/business organisation	Netherlands
5	AIMA Alternative Investment Management Association	Business association	Belgium
6	ALFI (Association of the Luxembourg Fund Industry)	Business association	Luxembourg

7	Amundi	Company/business organisation	France
8	ANASF - ASSOCIAZIONE NAZIONALE CONSULENTI FINANZIARI	Business association	Italy
9	ART FUELS FORUM	Other	Belgium
10	Association of the Luxembourg Fund Industry	Business association	Luxembourg
11	ASSOGESTIONI	Business association	Italy
12	Australian Council of Trade Unions	Trade union	Australia
13	Austrian Federal Economic Chamber, Division Bank and Insurance	Other	Austria
14	Aviva	Company/business organisation	United Kingdom
15	BCSD Portugal	Business association	Portugal
16	BETTER FINANCE	Non-governmental organisation (NGO)	Belgium
17	BIPAR	Business association	Belgium
18	BVI German Investment Funds Association	Business association	Germany
19	CDP Worldwide (Europe) gGmbH	Non-governmental organisation (NGO)	Germany
20	CNMV Advisory Committee	Company/business organisation	Spain
21	CS CCOO	Trade union	Spain
22	Danish Ministry of Industry, Business and Financial Affairs	Public authority	Denmark
23	Deutscher Sparkassen-und Giroverband	Business association	Germany
24	Dutch Banking Association	Business association	Netherlands
25	EDF	Company/business organisation	France
26	Enagás	Company/business organisation	Spain
27	Eumedion	Business association	Netherlands
28	European Association of Paritarian Institutions - AEIP	Other	Belgium
29	European Federation of Financial Advisers and Financial Intermediaries (FECIF)	Business association	Belgium
30	European Fund and Asset Management Association (EFAMA)	Business association	Belgium
31	European Savings and Retail Banking Group	Business association	Belgium
32	Eurosif	Non-governmental organisation (NGO)	Belgium
33	Expert/consultant/researcher on sustainable finance - Brazilian/Italian citizen	Other	Brazil
34	Federation of European Securities Exchanges	Business association	Belgium
35	Finance Watch	Non-governmental organisation (NGO)	Belgium
36	Finanzplaner Forum	Business association	Germany
37	FNV	Trade union	Netherlands
38	French Asset Management Association (Association Française de la Gestion financière, AFG)	Business association	France
39	FRENCH INSURANCE FEDERATION	Business association	France

	(FFA)		
40	German Banking Industry Committee	Business association	Germany
41	German Insurance Association (GDV)	Company/business organisation	Germany
42	ICI Global	Business association	United Kingdom
43	Implementation Taskforce on Growing a Culture of Social Impact Investing in the UK	Other	United Kingdom
44	Institutional Investors Group on Climate Change	Other	United Kingdom
45	Insurance Europe	Business association	Belgium
46	Insurance Ireland	Business association	Ireland
47	International Association of Oil & Gas Producers (IOGP)	Business association	Belgium
48	INVERCO	Business association	Spain
49	Invest Europe	Other	Belgium
50	ISDA and AFME	Business association	Belgium
51	LSEG	Company/business organisation	United Kingdom
52	Morningstar	Company/business organisation	United Kingdom
53	MSCI	Company/business organisation	United Kingdom
54	Nasdaq	Company/business organisation	Belgium
55	Nordic Financial Unions	Trade union	Sweden
56	OMV Aktiengesellschaft	Company/business organisation	Austria
57	Österreichischer Verband Financial Planners	Business association	Austria
58	Personal Investment Management and Financial Advice Association	Business association	United Kingdom
59	Principles for Responsible Investment	Business association	United Kingdom
60	SD-M	Company/business organisation	Germany
61	Swiss Re	Company/business organisation	Switzerland
62	The Association of Investment Companies	Business association	United Kingdom
63	The Investment Association	Business association	United Kingdom
64	U.S. Chamber of Commerce, Center for Capital Markets Competitiveness	Business association	United States
65	UKSIF	Non-governmental organisation (NGO)	United Kingdom
66	Unipol Gruppo S.p.A.	Company/business organisation	Italy
67	VKI - Austrian Consumer Association	Consumer organisation	Austria
68	VVO	Business association	Austria
69	Wirtschaftskammer Österreich	Business association	Austria
70	WWF European Policy Office	Non-governmental organisation (NGO)	Belgium
71	WWF Germany	Non-governmental organisation (NGO)	Germany

A4: Variables of the consultation feedback dataset

This list gives the parameters that were collected as attributes in the dataset for each observation. Not all variables were used in the analysis.

Parameter	Description and Values
ID	Unique ID to identify each organization; Identification and tracking
Organisation	Official name of the organization; identification
Organisation short	Official abbreviation of the organization; identification and visualisation
Feedback circle	Identifies the stage within the consultation process
Feedback reference	Unique official number in the European consultation registry
Submitted on	Date of submission of the consultation feedback
Submitted by	Name of the person handing in the feedback
Organisation type	Non-governmental organization, Other, Company/business organization, Business association, Trade union, Public authority, Consumer organisation; all were separately coded as 1/0
Organisation size	Size of the submitting organisation; Micro (1 to 9 employees), Small (10 to 49 employees), Medium (50 to 249 employees), Large (250 or more)
Transparency register number	Official ID within the European Transparency Register
Link transparency register	Link to the official entry in the European Transparency Register
Country of origin	Origin of the submitting organisation
Initiative	Official name of the consultation process that the submission is related to
Attached full text	Indication if full text was available and is saved in a separate file
Text	Available online text if available on the website.

A5: List of Members: Commission's Technical Expert Group on Sustainable Finance

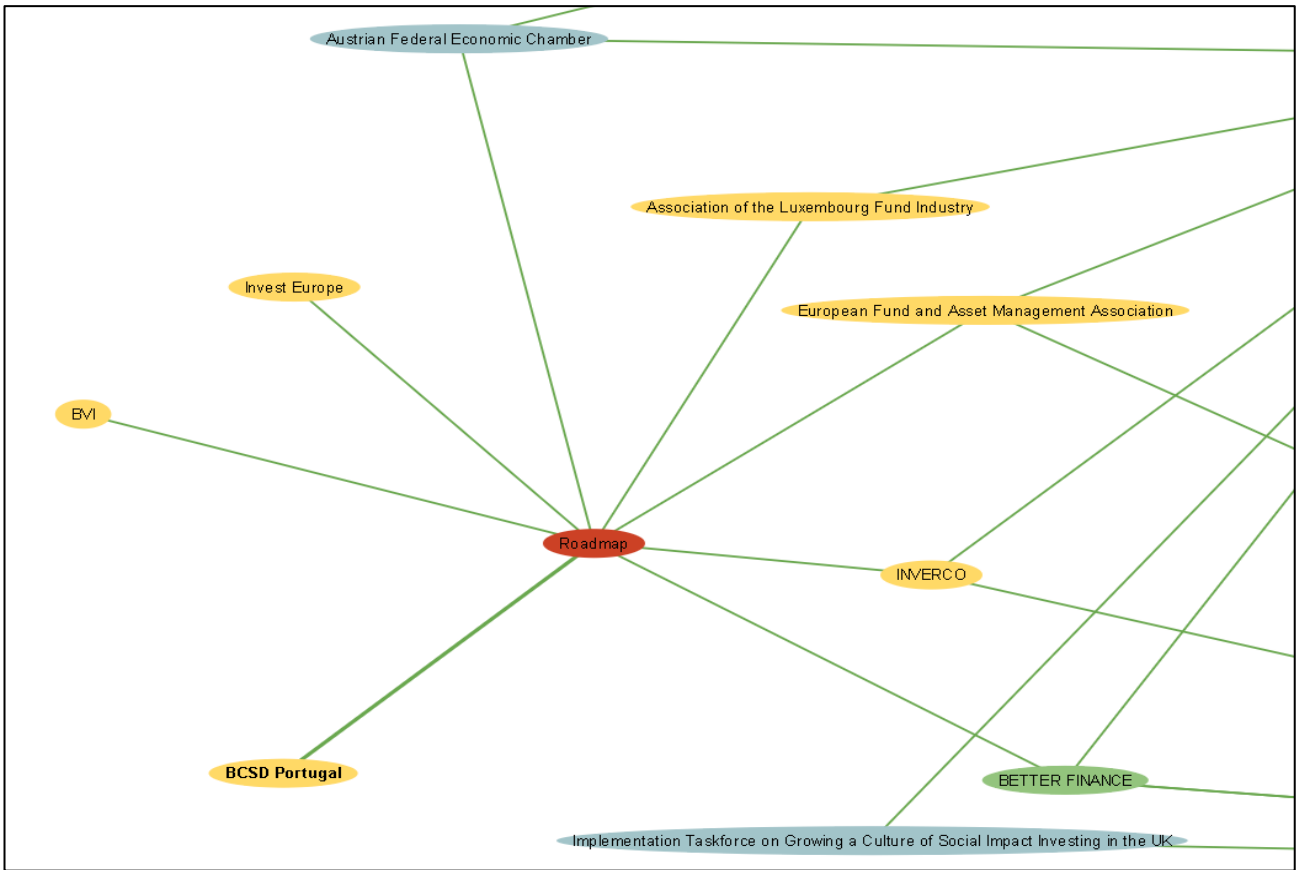
Members	Representatives	Organisational type
AIG Europe	Dawn SLEVIN	Company/ Business organisation
Allianz Global Investors	Steffen HOERTER	Company/ Business organisation
Bloomberg	Curtis RAVENEL	Company/ Business organisation
BNP Paribas Asset Management	Helena VIÑES FIESTAS	Company/ Business organisation
Borsa Italiana	Sara LOVISOLO	Company/ Business organisation
Carbone 4	Jean-Yves WILMOTTE	Consultancy Company
Cassa Depositi e Prestiti S.p.A.	Pierfrancesco LATINI	Public investment authority
CDP (Carbon Disclosure Project)	Nico FETTES	Non-governmental organisation
Climate Bond Initiative	Sean KIDNEY	Non-governmental organisation
Climate KIC	Sandrine DIXSON-DECLEVE	European organisation
EACB	Tanguy CLAQUIN	Business association
EFFAS	Jose Luis BLASCO	Business association
EnBW AG	Thomas KUSTERER	Company/ Business organisation
Eurelectric	Jesús MARTÍNEZ PÉREZ	Eurelectric
Finance Watch	Nina LAZIC	Non-governmental organisation
Green Finance Cluster Frankfurt	Karsten LOEFFLER	Non-governmental organisation
GRI (Global Reporting Initiative)	Eszter VITORINO	Non-governmental organisation
ICMA	Nicolas PFAFF	Business association
KfW Bankengruppe	Karl Ludwig BROCKMANN	Company/ Business organisation
Luxembourg Stock Exchange	Jane WILKINSON	Company/ Business organisation
Mirova	Manuel COESLIER	Company/ Business organisation
MSCI	Veronique MENOU	Company/ Business organisation
Nordea	Aila AHO	Company/ Business organisation
PRI	Nathan FABIAN	Non-governmental organisation
RICS	Ursula HARTENBERGER	Business association
SCOR	Michèle LACROIX	Company/ Business organisation
SEB	Marie BAUMGARTS	Company/ Business organisation
Swiss Re Ltd	Claudia BOLLI	Company/ Business organisation
Reinf	Elena PHILIPOVA	Public investment authority
Unilever	Michel PINTO	Company/ Business organisation
WiseEuropa	Maciej BUKOWSKI	Non-governmental organisation
WWF	Jochen KRIMPHOFF	Non-governmental organisation

A6: Meetings between the European Commission and interest groups

Due to the number of attributes, the whole dataset cannot be displayed here (available in the Online Appendix and with the same name). These meetings were analysed.

ID	Date	Host	Lobby Organisation
1	12/04/2018	Andrea Beltramello	Zurich Insurance Company Ltd
2	10/04/2018	Valdis Dombrovskis	UNION BANCAIRE PRIVEE (UBP SA)
3	10/04/2018	Valdis Dombrovskis	MIROVA
4	10/04/2018	Valdis Dombrovskis	Hume Brophy (HB)
5	10/04/2018	Valdis Dombrovskis	HSBC Holdings PLC (HSBC)
6	10/04/2018	Valdis Dombrovskis	First State Investments
7	10/04/2018	Valdis Dombrovskis	Aon Service Corporation
8	10/04/2018	Elina Melngaile	Allianz SE (Allianz Group)
9	07/06/2018	Gints Freimanis	Investor AB (Investor AB)
10	19/09/2018	Elina Melngaile	Terna spa
11	09/10/2018	Olivier Guersent	ShareAction (FairShare Educational Foundation)
12	12/11/2018	Elina Melngaile	International Association of Oil & Gas Producers (IOGP)
13	12/11/2018	Elina Melngaile	FuelsEurope (FuelsEurope)
14	22/11/2018	Jan Ceyssens	Solvay SA
15	22/11/2018	Jan Ceyssens	Siemens AG (SAG)
16	22/11/2018	Jan Ceyssens	Shell Companies (Shell)
17	22/11/2018	Jan Ceyssens	European Round Table of Industrialists (ERT)
18	22/11/2018	Jan Ceyssens	Bayerische Motoren Werke Aktiengesellschaft (BMW Group)
19	22/11/2018	Jan Ceyssens	BASF SE
20	22/11/2018	Jan Ceyssens	ArcelorMittal (AM)
21	22/11/2018	Jan Ceyssens	AIR LIQUIDE (AIR LIQUIDE)
22	20/06/2019	Daniel Calleja Crespo	Energy Transitions Commission (ETC)
23	29/10/2019	Elina Melngaile	European Federation of Waste Management and Environmental Services (FEAD)
24	29/10/2019	Elina Melngaile	Confederation of European Waste-to-Energy Plants (CEWEP)
25	04/03/2020	Sofja Ribkina	Bundesverband der Deutschen Industrie e.V. (BDI)
26	20/02/2020	Valeria Miceli	Société Générale (SG)

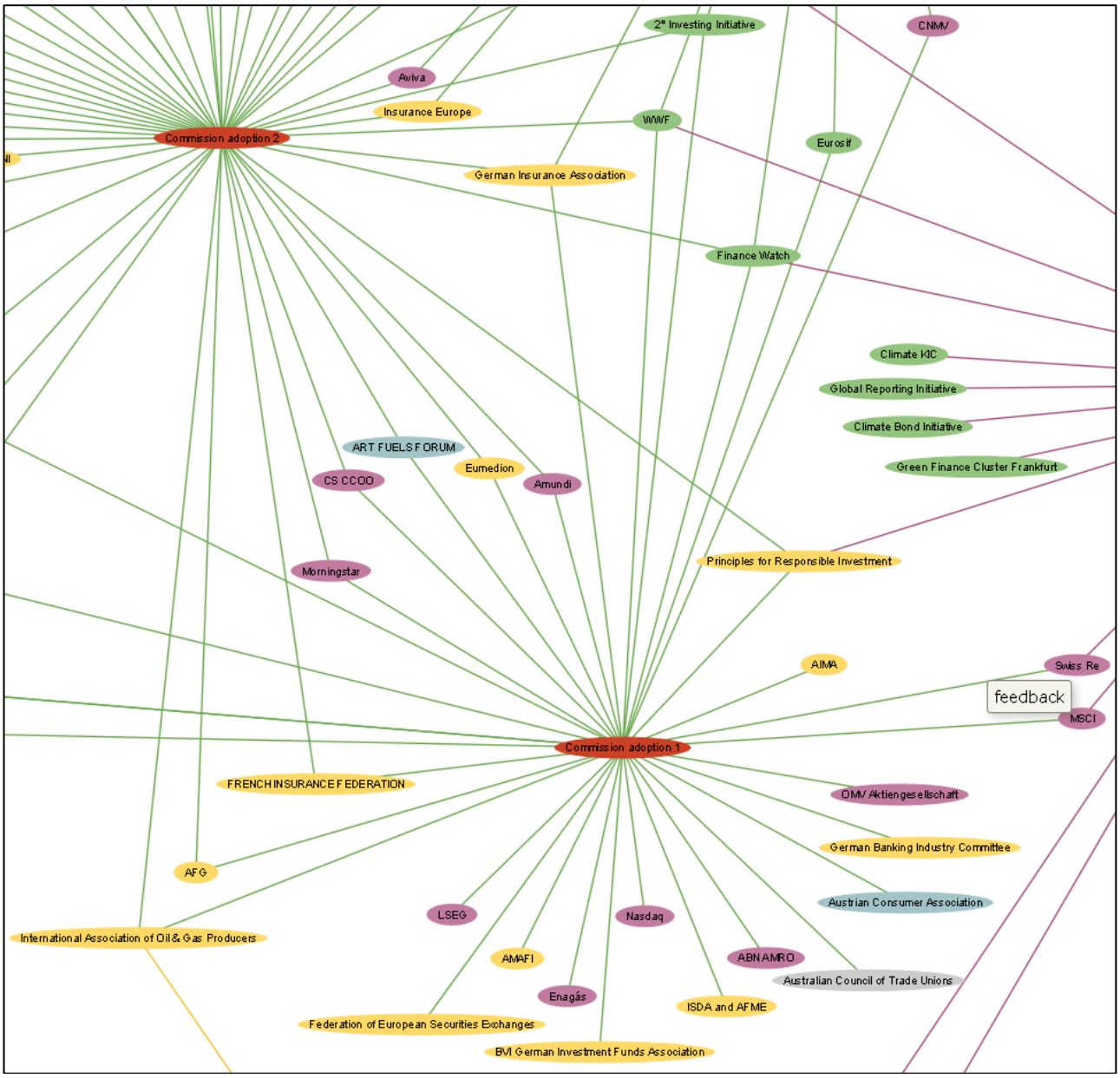
A7: Network cluster: Roadmap



Source: by author.

- Meeting
- Membership
- Staff
- Consultation feedback
- EC act/ EC personnel
- Company
- Business association
- NGO
- Other/ private person
- Labour union
- Consultancy

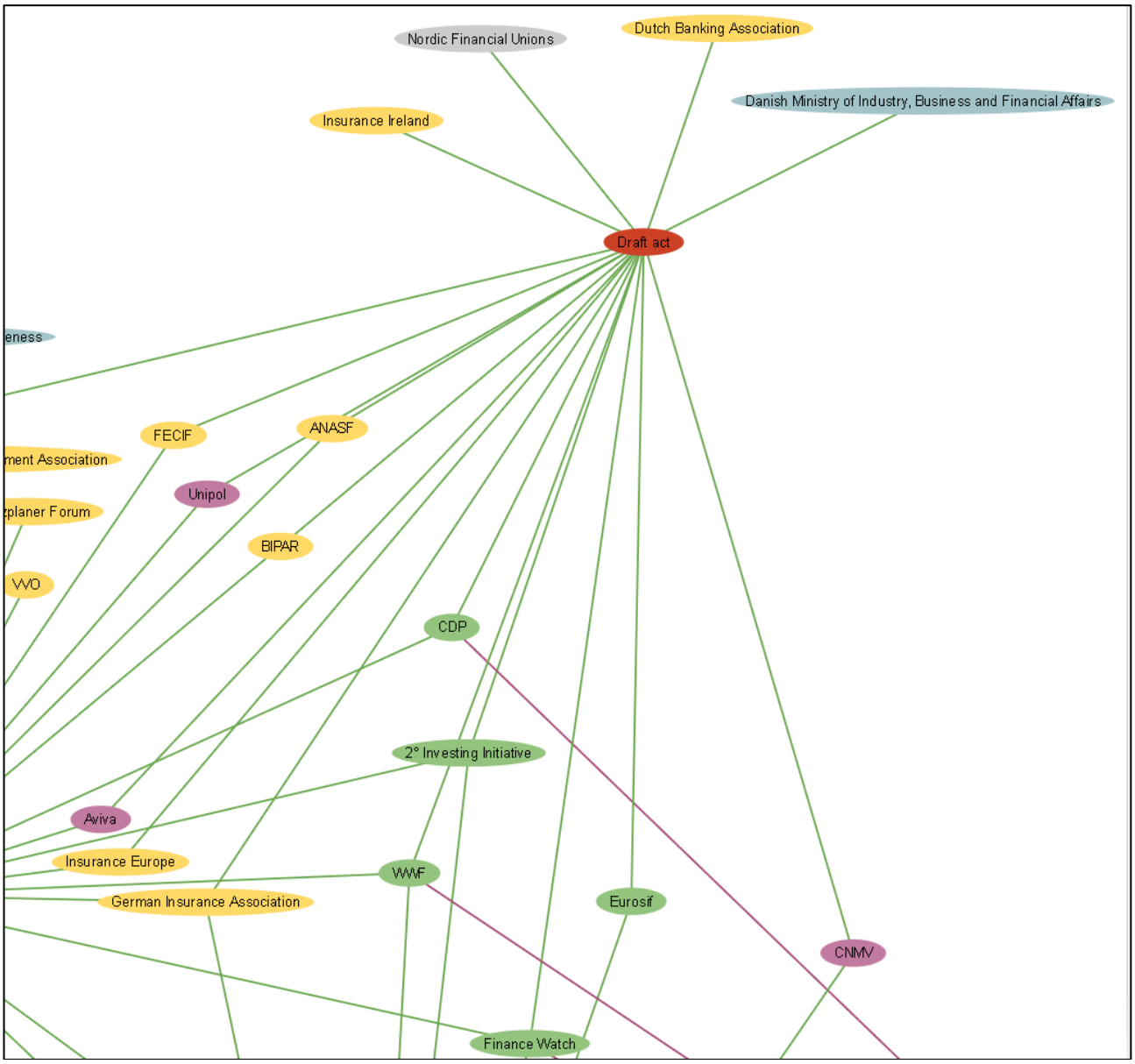
A8: Network cluster: Commission adoption I



Source: by author.

- Meeting
- Membership
- Staff
- Consultation feedback
- EC act/ EC personnel
- Company
- Business association
- NGO
- Other/ private person
- Labour union
- Consultancy

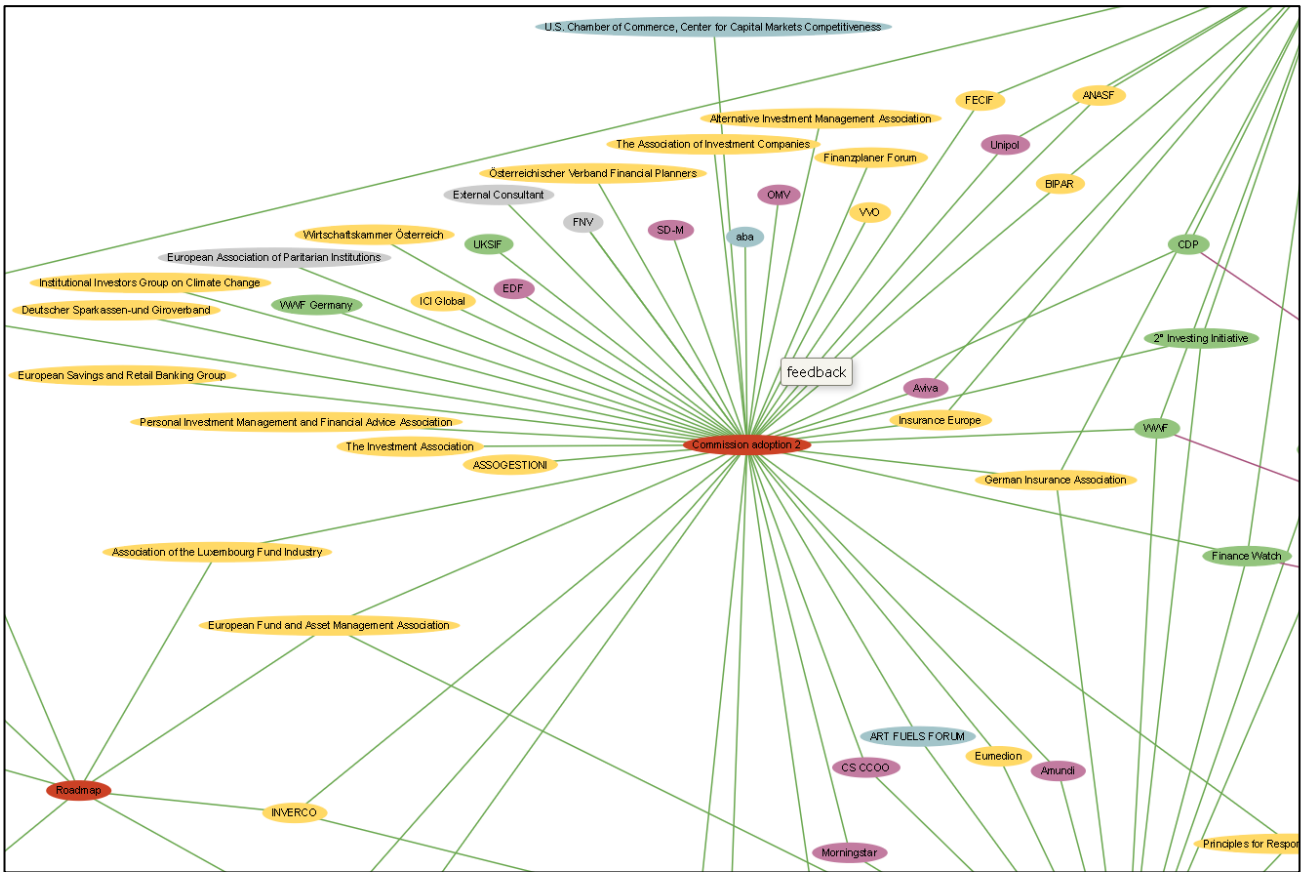
A9: Network cluster: Draft act



Source: by author.

Meeting
Membership
Staff
Consultation feedback
EC act/ EC personnel
Company
Business association
NGO
Other/ private person
Labour union
Consultancy

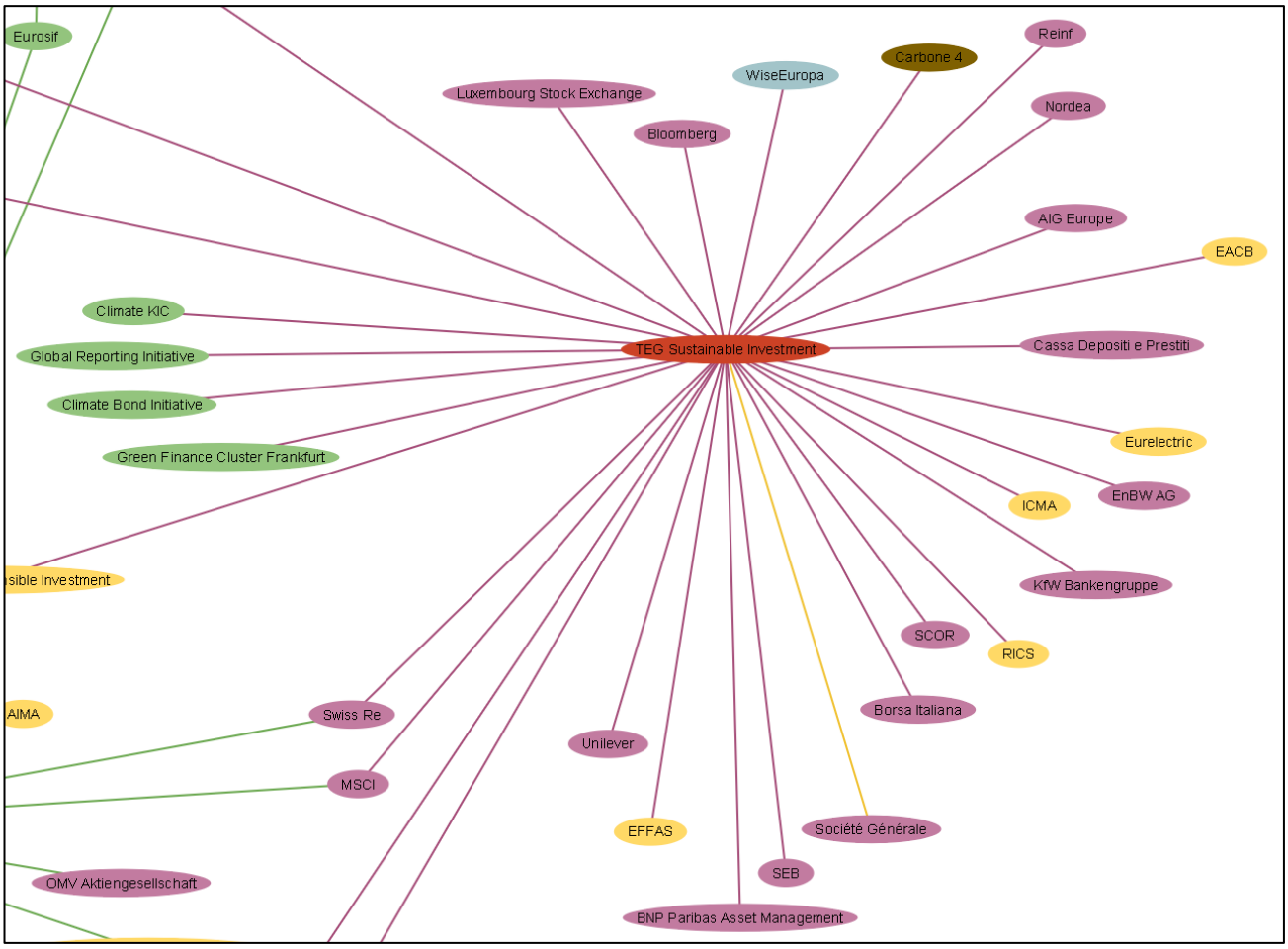
A10: Network cluster: Commission adoption II



Source: by author.

- Meeting
- Membership
- Staff
- Consultation feedback
- EC act/ EC personnel
- Company
- Business association
- NGO
- Other/ private person
- Labour union
- Consultancy

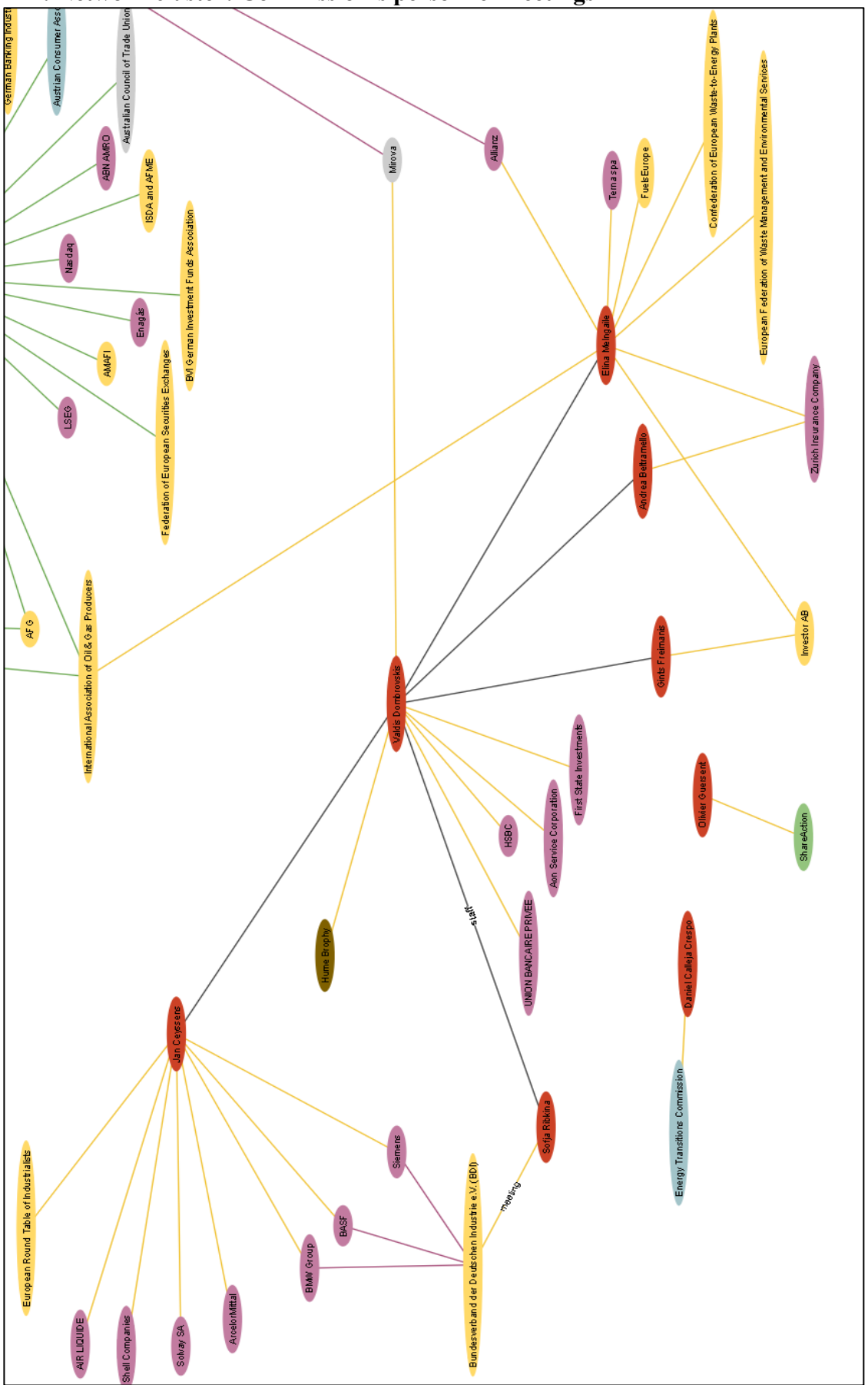
A11: Network cluster: TEG on sustainable finance



Source: by author.

- Meeting
- Membership
- Staff
- Consultation feedback
- EC act/ EC personnel
- Company
- Business association
- NGO
- Other/ private person
- Labour union
- Consultancy

A12: Network cluster: Commission's personnel meetings



Source: by author.