Summary

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INTRODUCTION

One of humanity's gravest problems in the 21st century is climate change and the threat it poses to the state of our planet and humankind. Governments, businesses, NGOs and experts across the globe are considering the problem and trying to find solutions to limit the earth's temperature rise by finding and implementing ways to reduce greenhouse gas (GHG) emissions (most notably CO_2). The limited progress that has been made has been subject of much scholarly study. The severity of the problem and the difficulty of reaching a solution make it a prime example of a (super) wicked problem. Lacking an easy test for a potential solution and a way of knowing precisely how our society will be affected by climate change, decision-makers are constrained by the choice they have to make between short-term gain (for example, economic gain) and the long-term gain of preventing climate change. The search for a logical solution begins with addressing emission sources: most notably the energy sector, industry, transport, and housing. The energy sector alone was responsible for more than two-thirds of GHG emissions in 2010. It makes sense to seek concerted action by addressing climate change and energy (production and use) as two sides of the same coin. Yet in practice it appears not to be so easy to coordinate climate and energy policies. This dissertation applies multi-level governance (MLG) theory to gain insight in how the EU's efforts to address climate and energy policies affect all layers of governance, including societal and private sector actors. One expectation is that non-state actors create interdependencies on an international level, necessitating coordination above the state level because solutions cannot be provided by the national level alone. Another expectation is

that local actors are strengthened in their position due to their efficiency relative to national coordination. The third expectation is that cross-linkages between private and public actors lead to a far-reaching blurring of state and society.

CASE

The Port of Rotterdam Authority is one among many actors seeking to mitigate climate change. The EU and its member state governments need ports and industry to realise their energy and climate objectives. Possibilities for GHG reductions in the Rotterdam port area are vast and, due to the region's large contribution to Dutch emissions, efforts to decarbonise in the port play an important role in overall Dutch climate change mitigation efforts. Rotterdam Energy Port was chosen as the main case study, within which two nested cases were identified: CCS and small-scale LNG. This dissertation follows a retroductive approach, taking the theoretical expectations as guiding lights and refining them using empirical data. The research approach is characterised by an in-depth qualitative analysis of governance mechanisms using thick descriptions, drawing heavily on expert interviews.

RESEARCH QUESTION AND FOCUS

This dissertation asks the following question:

> *How do the European Union's efforts to address climate and energy issues affect the Rotterdam port community, and what role can the Port of Rotterdam Authority play in its governance in order to reach climate and energy policy goals?*

The aim of this dissertation is to explain how decisions made at EU level can impact the port area in Rotterdam, and how actors in the port can organise their public affairs to influence future policies to their benefit. Understanding the impact of EU policies can help improve governance in order to deal with policies more effectively. Governance is a game of stakes and priorities, and developing an understanding of which buttons to press, or which tools to use, to get certain outcomes is of great value for public affairs. The dissertation is divided into a section that includes a policy analysis (chapter four), a section with the two nested cases (chapters five and six), and a section with a comparison between the cases (chapter seven) and conclusions (chapter eight).

FINDINGS

The CCS case shows a situation in which supranational coordination has provided a catch-22: it is deemed necessary by all parties involved, but it creates problems which persist because the necessary level of agreement to solve them is now absent. Initially effective regional coordination can be nullified by unforeseen effects of international coordination. The EU has succeeded in delivering a CCS Directive, though its implementation and exploitation lies squarely in the hands of national governments. An important finding was that national governments themselves spurred supranational coordination rather than other actors. While public-private cooperation is necessary, the predicted far-reaching blurring of state and society has not occurred. However, increasing (soft-)coordination attempts by the European Commission do enable more public-private cooperation at domestic level in order to get favourable arrangements at EU level. The Port of Rotterdam Authority acted as a facilitator in an attempt to stitch actors across layers of governance together, which befits its role. A secondary finding was the importance of power and uncertainty, which show how a technology such as CCS can become deeply political (and thus not 'neutral') and give insight into how multi-level governance helps tackle uncertainties surrounding the role of CCS in European climate and energy policy.

The small-scale LNG case shows that the nation state remains at the heart of governance, although its position is not one of an autonomous, directive authority. The cross-border nature of IWT and required system changes for LNG implementation necessitate EU-wide coordination and provide powerful incentives for regional authorities to step into the arena. This case also showed that market developments can spur supranational coordination and that peripheral actors can be empowered provided the right institutional context is in place. The complex dynamics between the actors in multi-level governance therefore strengthen mutual dependencies, further underlining the shift from state to society though without a far-reaching blurring of boundaries. This case had similar secondary findings to the CCS case, showing multiple examples of power relations impacting the outcomes of governance. Added uncertainty surrounding regulatory risk, economic benefits and technological progress lead to difficult decision-making.

CONCLUSIONS

This dissertation concludes that the multi-level governance of the EU's efforts to address climate change is supranational, polycentric, bounded and characterised by interdependencies across all levels of governance. It is of necessity a public - private affair and impacted by global economic, (geo)political and technological developments which further complicate

decision making processes by virtue of adding more uncertainty to already highly uncertain visions of the future. Governance is also limited by short term considerations of those in power, often favouring economic benefit over the more long term benefits of sustainability. The conclusions stress the importance of a *clear framework* of policies and goals with *clear pathways* to reach them. Power and uncertainty circulate through MLG and can either keep the gears spinning or block them. Cooperation of all levels of governance is necessary to keep the engine running. Lack of participation from any of the stakeholders will negatively impact all layers of governance. The port community needs to be included in climate and energy governance by virtue of having the expertise policy-makers need, but is also dependent on governmental authorities for the provision of enabling policies. The Port of Rotterdam Authority should try to be a catalyst for sustainable development in the port area.

The value of MLG as a theory lies in showing that the authority of a national government can be stretched across multiple levels, yet paradoxically remain intact as well. The strength of MLG as a theoretical framework lies in uncovering the challenges of complex governance processes such as climate and energy governance. Its weakness lies in its extremely general and overarching nature which makes it difficult to speak in terms of causality.

RELEVANCE

This dissertation shows that MLG is well-applicable to practical cases. In wicked problems such as climate change, oftentimes short-term considerations win from long-term considerations. Power and uncertainty are therefore crucial for the governance of climate and energy policies. The structural analysis MLG is known for can be further improved on through specific recognition of the interplay between structure and agency. I have argued that, acknowledging that EU governance has a bounded nature, sustainability should be made a core assumption of energy policy instead of a goal.

The cases paint a clear picture of what EU governance means for the port authority's position vis-à-vis other actors, most notably governmental authorities. The Port of Rotterdam Authority has also been provided with recommendations based on the case study analysis. These recommendations will hopefully contribute to the *orgware* of the port — and not so much to the *techware* — and will seek to advance the Port of Rotterdam Authority's efforts to achieve its goals at the EU level.