The Governance of Rotterdam Energy Port

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7.1. INTRODUCTION

The previous two chapters dealt with two nested case studies illustrating EU climate and energy policies with relevant impact on the Port of Rotterdam: CCS and small-scale LNG. The case chapters uncovered the multi-level governance mechanisms present in these two cases, with differing results. While the mechanisms were discussed in the concluding parts of those chapters, they need further theoretical elaboration. This chapter will compare and contrast the two nested cases in an effort to give an answer to the second sub-question of this dissertation: *which (multi-level) governance mechanisms are present in the implementation of these policies?* The LNG and CCS cases will be compared at several intersecting themes (the origin, scale and impact, and problem ownership) and aspects of multi-level governance. The key concepts discussed in the methodological chapter (chapter three) will be linked to the results of the embedded case studies. Doing so will allow a critical review of the expectations formulated in the theoretical part of this dissertation. First, §7.1 and §7.2 discuss general observations and conclusions regarding the policy aspects of LNG and CCS, which aids in the explanation of these cases. Then, §7.3 reviews the theoretical expectations along the lines of the state - society, domestic - international, and centre - periphery dimensions of MLG. However, the case studies also showed two secondary findings that seemed important in both CCS and LNG: the role of power and uncertainty. In operationalising Piattoni's theory of multi-level governance, I have not very explicitly probed for either power and uncertainty. These concepts came up inductively during the expert interviews. This retroductive approach allows for a revision of initial theoretical expectations, though it is worth reflecting (§7.4)

on whether Piattoni's MLG has enough explicit attention for power and uncertainty, or whether this framework can be improved upon. In itself, the MLG framework is generic yet attractive, which is why I have chosen to apply it to my empirical study of Rotterdam Energy Port. The goal is to understand the governance puzzle and give the theory of MLG another boost. This chapter ends with conclusions which will pave the way for this exercise in the final chapter.

7.1.1. Comparing LNG and CCS: the Contrasts

A face-value comparison of LNG and CCS reveals some contrasts: CCS is, by many, seen and advocated as something we 'simply must do', yet it is not happening in Europe right now. Small-scale LNG, on the other hand, is not advocated as a must do, yet it is happening (at the very least in West-Europe). Related to this observation is the concept of problem ownership. CCS is generally linked to solving the 'climate change' problem, which is often upscaled to the highest level possible: the global scale. However, arguing that a problem needs to be solved globally can also be used as an excuse to do nothing. After all, the whole world needs to participate actively to solve the problem of climate change. If nobody else moves, why should the EU move? Or a small country such as The Netherlands? Downscaling problem ownership by formulating the problem at a localised scale, which is visible in the air quality and noise arguments in the small-scale LNG case, might be more effective. Air and noise pollution have a decidedly local impact, which legitimises local activity. Incentivising cleaner shipping down the Rhine river is a very concrete measure that solves the smaller problems of noise and air pollution within the larger problem of global climate change. Effectively, using LNG as fuel becomes the 'must do' at the local level, which makes activity much easier than having to do something at the global level.

Another contrast is found in the actual scale and impact of LNG shipping and CCS activities. While LNG comprises international projects (for example inland shipping down the Rhine or the Danube) which have a local impact (improving local air quality), CCS is a matter of local projects (localised application at, for example, coal-fired power plants or the steel industry) with international impact (reducing CO_2 emissions). This global impact is exactly why CCS suffers from problems in its execution. CCS has a higher long-term potential impact on the climate than LNG since the latter does not have the potential to reduce emissions to zero, yet CCS is not profitable. Conversely, LNG as fuel is advocated as one of *the* routes to take to make heavy transport more sustainable and small-scale LNG activities are said to potentially add 8000 FTE in The Netherlands alone by 2030 (PwC, 2013:56). The positive economic impact is strong. On the other hand, the IEA calls CCS the 'game changer' in climate change. The question remains whether that label counts for something for a technology without

end users. At present, it does not seem that way. Perhaps the prospect of CCU — using the carbon instead of storing it — will prove catalytic to CCS development.

While both cases hinge on the availability and the price of fossil fuels, they started in completely different environments. In The Netherlands, CCS has been a topic of research since the early '90s, yet it drags on without results. LNG started after the turn of the century, came up through the private sector, and is expanding. Both cases present developments that were ongoing in The Netherlands prior to their upscaling to the EU level. National processes were therefore already running before the EU commenced its harmonisation attempts, which seem to be driven by the price of CO_2 (in the CCS case) and the prices of oil and gas (in the case of LNG)[293]. The problem with CCS was that it was already presented with significant public resistance prior to the adoption of the CCS Directive. CCS, as will be discussed in the next section, is in a more advanced policy cycle than LNG, which is still in pre-review phase. It is therefore impossible to fully compare both cases in terms of effectiveness. However, the *Clean Power for Transport* does constitute a different approach from earlier (failed) attempts to reduce fuel emissions from transport activities. Furthermore, small-scale LNG is definitely not without its own hiccups. Of necessity, using new types of fuel constitutes a system change whereas applying CCS does not. While we can safely say that the governance of CCS thus far has largely been unsuccessful, the success of LNG seems more likely but cannot yet be ascertained. Table 7.1 summarises the thematic comparison of LNG and CCS.

Table 7.1. Contextual differences between CCS and LNG

Theme	CCS	LNG
Origin	Academia (long-term view)	Private sector (short-term view)
Policy field of origin	Climate policy	Transport policy
Scale & impact	- Local projects, global impact on climate - 'Game changer' in fight against climate change	- International projects, local impact on air quality - 8000fte in NL by 2030
Problem ownership	Global (GHGs impact everyone on the planet)	Local (air quality, noise pollution)
Problem solution owner	Heavy emitters (energy, industry) -> reluctant	Shipping companies -> reluctant, energy companies and port authorities -> willing

Source: author's own composition.

Whereas governments were not at the initial drawing table when it came to CCS and small-scale LNG developments, they have hooked into the process early on. The short-term

293 See also the timelines in chapters 5 and 6, which show how EU policies and implementation projects come up after a significant price change.

view associated with LNG is easier for governments to address than the long-term vision necessary for CCS, not in the least because of the democratic election cycle and the public accountability that goes with it[294]. To put it differently, of the 'three Ps' of sustainability — people, planet, profit — CCS is missing the aspect of profit. A discussion regarding the meaning of the origin is outside of the scope of this dissertation, but the struggle between short-term and long-term benefits definitely impacts governance mechanisms in both cases and is reviewed later in this chapter. For now, let's zoom in on the impact of policy on both cases, as there are observed differences that require elaborating.

7.2. POLICY OBSERVATIONS

For the Port of Rotterdam Authority, LNG and CCS are an integral part of the ongoing development of Rotterdam Energy Port. Yet political steering is not in the hands of the port authority, and the private sector leans heavily on policy when planning investments. CCS originally came out of the Commission's climate department (back then still part of DG ENV), which was small and lacked strength. Small-scale LNG came from the transport department, which has more stature and power through its TEN-T and CEF budgets. Even though both the development of CCS and small-scale LNG is in line with EU and national policy objectives, there is no 'CCS policy' or 'LNG policy' because governmental authorities want to be technology neutral and because developments happen at policy *intersections* with a different division of competences between governmental authorities: LNG moves in the intersection between energy, climate and transport policy while CCS operates at the intersection between energy, climate and industry. Within the European Commission these policy areas are part of different DGs (ENER, MOVE and ENTR) and it is no secret that bureaucratic dividing lines make holistic approaches difficult (Bache et al., 2015:12; Toke & Vezirgiannidou, 2013:544; Vogler, 2013:629). Therefore, even though both cases originated in one DG, they become trapped between the EC's many silos with each pursuing their own interests and goals. Another factor is at play in the area of energy policy; the European Commission is ambitious, but largely powerless. Member states are driven by short-term considerations rather than by long-term strategic planning (Schubert, Pollak & Kreutler, 2016:4), which implies that small-scale LNG may potentially be much more successful than CCS. The Netherlands, a country used to having gas fuel its economic motor, is especially

294 It is difficult to 'score' politically with a CCS project when its impact is long-term and no citizen can observe it. Conversely, cleaner ships have already made the areas around the Rhine much cleaner, less noisy, and greener, which is something citizens can sense.

interested in further developing LNG[295]. The EC's entrepreneurship may slowly be pushing the EU towards a common energy policy, but we are not there yet.

Current efforts can be reviewed in light of CCS and LNG. In both cases government representatives have stated that governments prefer to set targets, for example emission standards, and then let the market decide which technology to use to meet these standards. The question is whether this attitude is conducive to successfully combating climate change and developing Rotterdam Energy Port. At the very least, it could be helpful if governments make it clear which technologies will be supported for a certain amount of time. Imagine you run a business and it is unclear if your coal-fired power plant will still be allowed to operate ten years from now, are you likely to invest in expensive abatement technologies for it? Probably not. Clear policy regarding which goals the private sector should meet by 2030 is missing, but such timelines do drive investment decisions. Technology neutrality thus far therefore seems an argument devoid of consistent action. Setting vague, long-term CO_2 reduction standards is not enough, especially not when experience shows that nothing happens when these standards are not met. Table 7.2 roughly summarises the EU's current energy policy.

Table 7.2. EU energy policy is vague and sometimes contradictory

Goals	Actions
Sustainable energy	- Reducing CO_2 - Increasing energy efficiency
Affordable energy	- Building an internal energy market
Secure energy	- Building infrastructure - Diversifying energy supply - Reducing negative consequences of import dependency

Source: Schubert, Pollak & Kreutler, 2016:12-13.

These broadly defined actions, coupled with directives such as the CCS Directive and *Clean Power for Transport*, are not necessarily in harmony with each other — for example, coal and gas are cheap and help diversify the EU's energy mix but are not sustainable — and leave national authorities a lot of discretion. The European Commission is trying to harmonise policies across the EU in different ways. The CCS Directive was incorporated into the larger 2020 Energy and Climate package and was a smart attempt by the EU to make its member states *consider* CCS in their national policy framework. This attempt did not fully succeed, however. Member states delayed the implementation of the CCS Directive — only one country had implemented it in time — and some made provisions barring CCS from their territory. The countries that did allow CCS, such as The Netherlands, have legal frameworks

295 Germany, in contrast, is not convinced by the benefits of LNG and prefers to look at other alternative fuels such as hydrogen.

in place but no actual CCS projects that are running. The EU is now satisfied with the overall implementation of the CCS Directive, but it has not actually led to CCS being *developed* in the EU[296]. One does not build a kitchen to not cook in it. Deploying CCS was a clear ambition the Commission had and it can therefore be concluded that the governance of CCS has not been successful thus far. In the case of small-scale LNG, the *Clean Power for Transport* Directive is a loose-standing Directive, but it is aimed at policy harmonisation across the EU. Most notably, core ports in the TEN-T network are required to have LNG bunker points installed by 2030. Member states have to consider whether and how they want LNG to be part of their future fuels mix. Since the Directive is not past its due implementation date yet, it is too early to say whether this harmonisation attempt by the EU is successful or not. However, at least in The Netherlands LNG-fuelled ships are being built and retrofitted, and the CCNR and ADN Safety Committee have changed their regulations to allow for the transport of and sailing on LNG. The question remains whether this development will spread throughout the EU as per the ambition of DG MOVE, but its governance has thus far been more successful than the governance of CCS.

7.2.1. The Strengths and Weaknesses of Hard and Soft Coordination

The CCS case is a clear example of failure of soft coordination. Even substantive EU subsidy possibilities and the linking of CCS deployment to the ETS have not worked due to the low CO_2 price. In fact, linking CCS and the ETS appears to have been *detrimental* to the deployment of carbon capture and storage, overshadowing the potential impact of the fairly operational CCS Directive. The use of CCS requires the establishment of a regulatory framework clearly depicting the roles and responsibilities of public and private authorities. Typically, the private sector would be responsible for the field in which carbon dioxide is stored, but a company will not want to maintain that responsibility for a long time after storage operations have ended. The transfer of the field to the stewardship of public authorities brings with it legal risks and issues of risk sharing[297]. These processes are regulated by the CCS Directive and its national implementation, but as yet it is unclear what the actual ramifications are. As chapter 5 shows, the Directive is barely used in practice. Now, it appears that CCS may only develop through heavier investment from governments or through hard coordination: setting very strict standards such as emission performance standards or

296 A subsequent review of the CCS Directive did bring to light articles which could be made stronger, but the EC chose not to do so and fight the battles worth fighting (interview 28).

297 See also box 5.6 in chapter 5.

simply outlawing certain carbon-intensive activities without CCS[298]. The situation becomes extra problematic when low-carbon processes for currently carbon intensive industries, such as steel and cement production, are considered. These industries will, at least in the medium term[299], likely have to implement CCS if we are to meet our climate ambitions. The chance of the EU being able to do so is slim due to the resistance of many member states which are coal-heavy, fear high implementation costs, want a level playing-field, or feel the need to protect their industries. The CCS Directive will only be useful if the domestic levels of governance adopt CCS. The Netherlands might be a promising adopter because of the potentially high contribution of CCS to the national CO_2 reduction requirements. The Netherlands could be a test case for CCS; if it does not work there, it will not work elsewhere in the EU.

Another policy failure in the CCS case, thus far, was linking it to the carbon price under the ETS system[300]. Without going into the debate on whether the ETS actually works, it is clear that it does not currently incentivise CCS[301]. Changing the way the ETS works is difficult because of the way the European decision-making process works. It is also an example of how policy choices can be locked into a path from which it becomes difficult to stray. Path dependency may play a role in the potential future of CCS, since an expensive abatement technology may not further be developed in a situation with a low carbon price. This low carbon price is not necessarily a problem unless governments decide they want CCS to develop in their country. While the Dutch government could be criticised for vocally advocating CCS without employing all available means (such as a carbon tax) to make it happen, one could argue CCS might not be such a good idea if it will only happen through extreme governmental investment. Even so, for The Netherlands the mechanics of the ETS system have definitely presented problems for the Dutch ROAD CCS demonstration project. Small-scale LNG does not suffer from being locked into a European system of emissions trading. Rather, its price is linked to (global) gas prices. When natural gas is cheap, the private

298 Another promising venue is to develop CCS through CCU applications to garner support and create a better business case.

299 A lot of research is being done into full electrification of industrial processes, but full implementation of such technologies is still very far away (timeline: 2050).

300 In short: the low carbon price under the EU ETS has a negative effect on business cases hinging on the price of carbon. Additionally, the NER 300 fund which was based on allowances taken out of the ETS drastically dropped in value when the CO_2 price fell, leading to lower subsidies than previously anticipated. See chapter 5 section 5.3.3.1 for more detailed information.

301 I am not claiming it should, but ETS currently thwarts the achievement of the EU's ambitions regarding CCS demonstration projects.

sector is more likely to invest in LNG. Here, however, we see that LNG has suffered from the low price of gasoline, making it unattractive to switch to expensive alternative fuels[302].

The LNG case thus far shows a very different picture; mere domestic coordination is simply impossible due to the international nature of transport. Small-scale LNG of necessity needs to be upscaled to the EU level, which is what has happened when DG MOVE launched its directive. The promise of domestic and EU funding for LNG projects has attracted multiple interested private parties, and LNG ships have started to be delivered to the market, albeit in low volumes. Steering of LNG infrastructure development through *Clean Power for Transport* is quite concrete even though the targets have yet to be implemented. The international nature of transport also makes coordination risky as multiple countries will depend on each other to build the required infrastructure for ships to refuel. Laggards can therefore thwart a large part of the process, which makes effective governance highly important. Whilst targeted LNG coordination is of a soft nature — the Directive leaves ample room for national authorities to do what they want — overall engine emissions have become hard targets through the NRMM Regulation. Any newly built engine will have to meet the NRMM standards by January 2017[303], which could, slowly, further harmonise the way the inland shipping sector operates in the EU. With the requirement of complete adoption by national authorities, the Regulation harmonises the processes in the private sector by regulating engine manufacturing. Furthermore, stricter international sulphur regulations for maritime shipping are causing a move toward alternative fuels in the maritime sector as well. As the engine manufacturing of maritime and inland shipping is similar, a push in one sector also makes change in the other sector easier. Currently, the most promising outlook is to use LNG as fuel, but a lot of research is being done into the use of, for example, hydrogen and ammonia, as well. LNG is one of many options to make transport more sustainable whereas CCS seems to be one of few options to truly decarbonise energy and industry[304]. Yet when faced with a choice between being sustainable and being competitive and secure, governments may be prone to choose the latter (Skovgaard, 2014:2-5; Vogler, 2013:631-640).

Clearly, both soft and hard coordination have their own strengths and weaknesses, as outlined in table 7.3. Both types of coordination can be found in multi-level governance. Hard coordination illustrates the potentially tense interaction at domestic level, resulting in national governments preferring hard coordination to get their private and peripheral actors

302 Market mechanisms are a natural part of business and therefore perhaps not as limiting as the ETS, which is partly imbalanced due to high subsidies given to renewable energy by governments.

303 Regulation (EU) 2016/1628.

304 Industry more so than energy, since the energy sector could theoretically rely fully on renewables if ways to store electricity efficiently are found so that the market can deal with the volatility of renewable energy.

moving. Soft coordination illustrates the potentially tense interaction between the national and supranational level, granting opportunities to societal actors and subnational authorities in an effort to bypass their national government[305]. The coordination measures the EU is able to decide on relies heavily on the opinion of its member states and their readiness to give up (part of) their sovereignty to increase harmonisation of policies across the EU. These decisions are of a political nature and their consequences are that the implications of these decisions affect their implementation at the domestic level. In other words, power drives multi-level governance. Before delving into a discussion of how exactly power fits within the MLG framework, let us compare and contrast the conclusions of the CCS and LNG cases and review the theoretical expectations.

Table 7.3. EU soft and hard coordination has pros and cons

	Strengths	Weaknesses
Soft EU coordination	- Potential harmonisation through benchmarking and peer pressure - Leaves room for flexibility in implementation, potentially increasing national legitimacy - Can provide powerful incentives to private sector if the context is right	- Non-binding and non-enforceable - Can lead to large differences in implementation across EU countries, making cross-border operations for businesses challenging - Uncertain outcomes if tied to economics and market developments
Hard EU coordination	- Binding - Hard coordination in one sector can catalyse developments in another - Clear choices made by government which the private sector can base decisions on	- Very difficult to achieve in climate and energy policies - Often little room for flexibility in implementation (prone to high resistance) and can be rigid - Often perceived as grandfathering by private sector (last resort)

Source: author's own composition based on analysis of CCS and LNG cases.

7.3. THE MULTI-LEVEL AND MULTI-ACTOR CONTEXT OF ROTTERDAM ENERGY PORT

What can be said about multi-level governance in a situation where policies are of a general nature and consensus regarding policy choices is lacking? The next three sections will address the theoretical expectations formulated earlier in this dissertation. A summary of the results per expectation is provided in table 7.4.

Looking at the CO_2 and LNG hubs, the picture that arises is one where hierarchical relationships between governmental authorities shift whilst horizontal governance reaffirms the authoritative position of the government. Multi-level governance of these climate-related

305 More discussion on the link between soft/hard coordination and Piattoni's MLG follows in 7.3.

Table 7.4. Results for CCS and LNG case per key concept

Theoretical expectation	Key concepts	CCS	LNG	Role of PoR
Actors create interdependencies between business, civil society, and government on an international level, which necessitates policy coordination at not only the national level but also the supranational level *-> The PoR is one of many actors active at international level because the policy solutions the PoR needs cannot be provided at national level alone*	*Interdependencies at international level*	Partly: societal activity but mostly nation state & EU activity, most activities through established channels, level playing field concerns	Yes: due to international nature of shipping regulation, mostly driven by nation state activity and global market dynamics, most activities through established channels	Cooperation with other ports and regulatory authorities
	Policy coordination at the X level of government	(Soft) coordination attempts by EU, but MS very autonomous, high variety in implementation of CCS Directive across countries	No coordinated policy, but EU attempts to harmonise MS alternative fuel adoption through soft coordination and hard coordination (NRMM)	Attempts to influence policy-making at all levels of government, influential at local level
Regional coordination in territorial matters is more efficient than national coordination, which leads to the strengthening of local policy actors *-> PoR is empowered due to being able to employ its resources effectively when stimulating activities in Rotterdam*	*Coordination of activities*	Mostly local (fe., ROAD project), effective at beginning but now ineffective due to external factors	Mostly local and in international projects (fe., LNG Masterplan), effective, strengthened by supranational framework	Spider in the web bringing together public and private parties
	Local empowerment	Not much, attempts by city failed and national government needed to make CCS happen (hampered by domestic - international)	Much autonomy for practical matters, otherwise limited (no real policy competence, transport is international)	Has own autonomy (fe., ESI discount) but highly dependent on other actors to make things happen
Cross-linkages between private and public actors lead to private parties assuming public responsibilities and public parties acting like private groups *-> PoR develops economic activity in cooperation with the private sector and advocates its interests at EU level alongside Dutch governmental actors to obtain favourable policy conditions*	*Cross-linkages between public and private actors*	Many cross-linkages, both formal and informal, resource flow is crucial	Many cross-linkages, both formal and informal, resource flow is crucial	Spider in the web bringing together public and private parties
	Blurring of state and society	Some clear Dutch lobbying activity for ROAD, otherwise not much blurring, everyone stays in their own corner	Not much found in terms of blurring, consignors expected to act in general interest and generate market pull	Spider in the web bringing together public and private parties, own status is ambiguous

Source: author's own composition.

issues thus leads to a call for governments to perform their classic duty of directive policy-making in addition to more horizontal governance. In order to be able to do so, governments need to cooperate with non-governmental actors due to information imbalances and for implementation purposes. Both horizontal and vertical aspects of governing remain strong. We have also seen that the far-reaching blurring of state and society, as Piattoni defines it[306], does not resonate strongly in both cases even though linkages and cooperations between public and private partners are flowering due to their interdependence. For the CCS case, the centre - periphery shift caused no real empowerment of local actors when policy choices at the EU level led to unintended effects. For LNG the effect is the other way around: supranational activity has enabled regional empowerment and efficiency. The axis with the highest impact, then, seems to be the domestic - international shift. As the EU increasingly tries to harmonise climate and energy policies across its member states, domestic actors invariably turn towards the EU for funding. Legitimising EU activity in this way leads to the creation of directives and project initiatives such as ROAD and the LNG Masterplan. The EU component is engrained in these projects — and therefore developments as a whole — by virtue of its participation in formulation and funding phases, bringing peripheral actors in direct contact with EU officials.

National governments, while still quite autonomous with respect to their energy policies, place themselves in the situation where they seem to accept EU harmonisation attempts in return for the funding of projects carried out domestically. In the Dutch case, these projects feed into the formulation of national policy but the government does not seem to formulate a strong vision of its own. For example, the Dutch CCS vision hinges on the completion of the ROAD project, which is a relatively meagre policy vision. When the EU is not able to further developments through soft coordination and member states block far-reaching coordination, peripheral actors quickly lose their potential efficiency. The next three sections discuss the results for both CCS and LNG per theoretical expectation.

7.3.1. Policy Coordination Across Multiple Levels of Government?

Whereas both cases are developments that started within The Netherlands prior to being adopted by the EU, now it is clear that the EU acts as the main regulator in an effort to harmonise policy across the EU-28. Sustainable development is more than technology alone; the element of how it is organised is extremely important[307]. Since both small-scale LNG

306 Blurring of state and society is, according to Piattoni (2010), a situation in which private parties assume public responsibilities and public parties act like private groups.

307 The *orgware* versus *techware* discussion as discussed in chapter 1 (section 1.3.2).

and CCS are intertwined with other policy fields it is easier for the European Commission to grasp these developments due to established competence in, for example, climate policy. For transport (and thus small-scale LNG) Commission activity is more logical than for CCS due to the cross-border nature of transport. The small-scale LNG case has shown on multiple occasions that international coordination is necessary and that national governments have no choice but to aggregate at a higher level of governance. Even the global level of governance is involved due to regulations surrounding the transport and trade of waste products (fe. CO_2), or the carriage of dangerous goods on ships (LNG). The CCS Directive was smartly incorporated into the larger Climate and Energy 2020 package by the European Commission, allowing for its relatively easy adoption in 2009. National authorities were most likely perfectly capable of legislating CCS-related issues on their own, so making the directive part of a package everyone wanted allowed for an expansion of competences for the Commission. The opinion DG CLIMA is now allowed to give on storage permits is one such example, though it has not been used much due to the unforeseen lack of CCS projects. The same goes for the *Clean Power for Transport* Directive, which allows for the Commission to dabble in its member states' national energy mix by virtue of its attempt to make transport more sustainable. The EU's harmonisation efforts in both cases have hinged on soft coordination by getting directives adopted and providing funding for projects; the first bastions the Commission turns to when formal competences are lacking. The LNG case again shows that such an approach makes more sense there than for CCS; investing in infrastructure to better connect parts of Europe provides a more convincing story than investing in highly contested CCS demonstration projects, where local support is paramount. Still, the Commission and Dutch government were able to find interested partners to provide additional funding for ROAD, which could be seen as a step towards harmonisation of goals[308].

The domestic level supports policy and regulation made internationally by incorporating both developments in domestic energy policy, most notably the *Energieakkoord*. However, no real CCS or LNG targets are set in the *Energieakkoord*, which leads to the conclusion that the government is supporting the developments but not actively steering towards their completion. The ROAD case may be the exception because it could play a prominent role in Dutch national CO_2 reduction ambitions up to 2020. Using LNG as fuel fits within the Dutch aspirations of continuing to be a gas hub, which was initially enabled by Slochteren gas and has been a source of revenue for many years. However, a measure of enforcement is lacking, even in the CCS case where the coal fired power plants initially were built with the private sector promising to capture and store CO_2. The municipal government was most avid in attempting to force the companies to make good on their promise, but was not supported

308 Also 'excuses' countries such as Germany from investing into CCS in their own territory, making it a highly political move.

by the province. The city of Rotterdam is also hardly involved in policy-making surrounding LNG and CCS and its efforts to get CCS going in the port area have essentially failed.

While the LNG case does not show great NGO activity, the CCS case does. CCS is seen as a 'game changer' in humanity's combat against climate change, with bodies such as IEA and IPCC advocating serious consideration of CCS in countries with feasible storage sites. Overall, there does not seem to be a spreading out of policy coordination over several governmental tiers, but rather a concentration of policy-making efforts at EU-level, which goes through already established channels, is supported by the national government in the interest of a level playing-field and at the same time slowed down in the interest of national sovereignty. For small-scale LNG it appears EU coordination might work, but for CCS it is clear that European coordination has actually led to a crippling of domestic efforts. The domestic - international shift therefore impacts both cases differently. Currently it looks like more European harmonisation on CCS will be unlikely, unless a convincing argument regarding the level playing-field can be made. While the EU can regulate ship engine emissions through the NRMM — and thereby impact the business case for LNG — it does not seem likely that a CCS requirement will get past the EU's decision-making process.

7.3.2. The Potential of Local Clusters Versus Centralised Authority

Peripheral activity has — so far — not been effective in the CCS case. The municipality of Rotterdam was not empowered enough[309] to carry out its ambitions regarding CCS and CO_2 reduction even though, politically, it was important for the city to succeed. Between the local government and the national government (including the province) there have been tensions regarding political views on whether coal-fired power plants can be forced to employ CCS. These tensions between domestic governmental authorities provide a confusing picture for business, which can be used to further their own interests by, for example, adopting a reactive attitude. However, the national government has also been lobbying other EU member states to help fund the ROAD project through the European Eranet-ACT fund, which is quite unique as a development.

Absent hard targets for CCS deployment (governments want to be technology neutral), centralised steering is visible through EU-wide soft coordination. The EC is trying to get a grip on the situation by offering assistance through Eranet-ACT. However, its attempt to further refine the CCS Directive has not been taken up by national governments. Linking CCS to the carbon price under the ETS curiously makes CCS a market-driven technology that,

309 Note that this conclusion is mostly based on the perception of interviewed experts, as stated in chapter 3.

unless other measures are taken, will only work if the EU changes the pricing mechanism behind the ETS or adjusts its market reserve. In the CCS case the centre has thus spread out towards EU institutions. Domestic actors look at the EU to 'do something', creating a new centre at the supranational level. Still, national governments remain pivotal yet also limited by international agreements. In both cases a domestic push is difficult, yet not impossible, to make without EU-wide activity. Mutual interdependencies create the necessity to govern across multiple hierarchical levels and with non-governmental actors, yet at the same time this is difficult because of differing interests, global pressures, and market mechanisms.

In the LNG case one interesting observation is that once the (European!) centre put in place favourable conditions for small-scale LNG to develop, the periphery could take up activities and govern from there, which supports Piattoni's argument regarding the efficiency of decentralised authorities yet shows that they need a favourable context to be efficient. The port cluster in Rotterdam has a good position to further stimulate LNG due to the availability of both supply and demand. The PoR is able to incentivise the switch to this fuel by providing discounts on port dues. Yet the difficult financial situation the shipping sector currently is in counteracts the ability of the local level to act decisively. Furthermore, the LNG Masterplan project was most successful in the Rotterdam region but failed to deliver in the regions around the Danube river. Local conditions therefore do matter in the process of governance and local authorities definitely have a decisive role to play. In Rotterdam, the central role of the EU did not create blocking tensions with the periphery. However, whereas most of the actual activities are local due to the local nature of projects, local empowerment is only limited. The authority of the centre is often needed to establish rules and provide funding instruments (cf. Smith 2007). In short, the periphery *can* be efficient, but it is dependent on other levels of governance.

7.3.3. Horizontal Public and Private Governance

The many cross-linkages observed between the public and private sector appear to be *crucial* in both the LNG and CO_2 hub. This finding corresponds with authors who claim that, especially in the area of sustainability and the combat against climate change, the state needs society to govern effectively (cf. Piattoni, 2010, but also Tortola's (2017) challenge). Governmental authorities cannot manage the transition towards a more sustainable society on their own because they are hardly the ones emitting polluting gases. The same goes for the PoR which owns the land upon which companies are vested; the actual emitters. It is therefore heavily dependent on those emitters to reach climate goals. This situation places the PoR in a facilitating role with its power mainly centred on its ability to bring parties together. The mutual interdependencies are perhaps clearer in the case of small-scale LNG

due to the nature of transport. For CCS, interdependencies appear to be of a more political nature with actors questioning the logic of paying for an expensive technology that lets others free-ride (making it a classic collective action problem). Especially the municipality of Rotterdam, leaning on its agreement with Engie and Uniper to use CCS in their new coal-fired power plants, was unable to pressure the companies to invest more because it lacked support from the province and national government. The financial resources spent on realising municipal CCS goals has made its realisation a political priority, although many negative opinions regarding CCS were also voiced in the Council. Power — and its limitations — is an important factor when looking at the slow progress towards the CO_2 hub.

In terms of the other key concept in this part, the blurring of state and society, very few examples were found. Since both cases exemplify a highly technological development, governments need to be informed by the private sector in their policy-making process. They need to know what is feasible and what is not. The other way around there is quite heavy involvement of the Dutch national government (and the PoR) at European level, lobbying to get favourable conditions to further develop both LNG and CCS. Remember that both cases were already 'going on' in The Netherlands prior to EU involvement, which cannot be said for many other countries. The Netherlands is therefore trying to be a front-runner (or, in Börzel's terms: a 'pace-setter') and exert influence through its experience with developing CCS and small-scale LNG. The cross-linkages between the public and private sectors only partly lead to the blurring of state and society as defined by Piattoni. The mutual interdependencies appear to be key drivers in developing the Energy Port, but the sectors mostly perform their traditional tasks. Interestingly, in the problematic CCS case there may be a breakthrough only because the national government lobbied other governments to close the funding gap of the ROAD project; an example of public actor behaving like a private one. Both cases show clear influences from non-governmental actors and a shift from governing as a state to governing with society, yet for LNG the regulatory part has been so important that its shift is somewhat more limited. The state does need society to govern effectively, if only because governments are not where the practical solution to the climate change problem lies and because they are economically and socially dependent on the private sector. The reverse is also true. Multi-level governance theorists should therefore not ignore this dimension.

7.3.4. Shifts in Multi-level Governance; an Explanation

Based on the above, a conclusion can be drawn regarding the three theoretical expectations formulated earlier (summarised in table 7.5). Very clear is that the analysis has not confirmed the initial expectations entirely. Most notably the second expectation (taking place in the centre - periphery dimension of MLG) was found to be impacted by the domestic - interna-

Table 7.5. Case study conclusions per theoretical expectation

Theoretical expectation	Conclusions
Actors create interdependencies between business, civil society, and government on an international level, which necessitates policy coordination at not only the national level but also the supranational level *-> The PoR is one of many actors active at international level because the policy solutions the PoR needs cannot be provided at national level alone*	Interdependencies are ample but coordination mostly goes through already established channels, and the analyses identified two other factors leading to policy coordination: nation states willingly doing so and global market developments *-> Due to level playing-field concerns and the international nature of transport, the PoR needs not just Dutch policy but also EU policy and is therefore active at international level*
Regional coordination in territorial matters is more efficient than national coordination, which leads to the strengthening of local policy actors *-> PoR is empowered due to being able to employ its resources effectively when stimulating activities in Rotterdam*	Regional coordination is potentially efficient yet impacted by the conditions laid down by higher levels of government, so it is partially dependent on the impact of the domestic - international shift *-> PoR is a powerful local actor but heavily dependent on others to make change happen, can function as catalyst for the region*
Cross-linkages between private and public actors lead to private parties assuming public responsibilities and public parties acting like private groups *-> PoR develops economic activity in cooperation with the private sector and advocates its interests at EU level alongside Dutch governmental actors to obtain favourable policy conditions*	Partly (no far-reaching blurring), but the connection between the public and private sector is *crucial* *-> PoR is heavily linked to both governmental and private sector actors and is active at EU level as well to obtain funding for projects and influence EU policies. However, it is mainly heard on port-specific topics (and not energy topics)*

Source: author's own composition.

tional dimension in such a way that the periphery could only use its potential effectiveness with the right domestic and international context in place. However, the EU context had a different impact across both cases. Whereas in the CCS case EU coordination crippled the effectiveness of the PoR and the city of Rotterdam, in the small-scale LNG case it empowered them. A regional project such as the LNG Masterplan benefited greatly from the support of local authorities. In that sense Piattoni's claim that regional authorities potentially are more efficient than national authorities holds merit but needs to be analysed in the wider context of MLG; the three dimensions influence one another. The first expectation found additional factors that stimulate international interdependencies: nation states willingly maintaining and creating the need for supranational coordination and global market developments. Especially in the area of energy, where markets are of a global nature, the market developments are of paramount importance on the political possibilities at domestic and EU level. Lastly, the third theoretical expectation did not resonate strongly due to Piattoni's very far-reaching definition of blurring of state and society, however the cross-linkages between public and private actors were found to be crucial elements of the governance of CCS and LNG due

to resource interdependencies. These cross-linkages are not necessarily caused by MLG: they are an intrinsic part of it.

Actors are present in multiple — if not all — dimensions of MLG. It therefore makes sense to look at the interplay between the dimensions to see whether agency in one dimension impacts another. In Piattoni's (2010:85) terms, three mechanisms that could be observed are:

1) Mobilisation of civil society at the international level (interplay of domestic - international and state - society);
2) Mobilisation of subnational authorities at the international level (interplay of domestic - international and centre - periphery);
3) Mobilisation of civil society at the subnational level (interplay of state - society and centre - periphery).

The empirical chapters have discussed mobilisation of subnational authorities and civil society as part of the theoretical framework. Based on the findings, a conclusion (see table 7.6) can be drawn regarding how the intersections between the three dimensions can either be mutually reinforcing, neutral, or counterproductive.

Multi-level governance enlarges each actor's arena stretching it from the local level to the supranational level. In doing so, it creates both opportunities for goal-attainment and tensions. These tensions between the multiple dimensions of governance are intrinsic to MLG. Agendas do not always line up across the EU-28, between the EC and national governments, within nation states, and between private actors and the public sector. For example, the EU is pushing member states (domestic - international) to reach the Europe 2020 climate goals and trying to get domestic governments to consider the role of CCS and alternative fuels as means to reach these goals. The Dutch government sees opportunities to continue its position as gas-exporting country and acknowledges the Dutch potential for underground CO_2 storage. Yet public opinion (state - society) is not on its side regarding CCS, which politicians are keen to take into account. Stimulating CCS through extensive financing may therefore not be politically viable at national or local level, so a European lobby is set up (invisible to the regular citizen) to generate more funding (centre - periphery). In short, governance is organised at specific levels in order to deal with the tensions between governance levels most effectively, yet its results are not necessarily effective. The mechanism that can be observed here is that actors are present in more than one dimension of governance, and therefore their agency impacts what happens across the governance spectrum. This interdependency between levels of governance lies at the core of MLG.

Table 7.6. Dimensions of MLG can reinforce or block developments

Interplay between intersection MLG dimensions	CCS	LNG
Mobilisation of civil society at international level (domestic - international & state - society)	*Neutral* - Mobilisation mostly in research and discussion platforms (fe., ZEP) - Diverse civil society advocacy (both positive and negative) - EU funding for demonstration attracts private sector and subnational authorities - PoR can partially influence processes (good support for projects)	*Neutral* - Low focus on IWT within civil society, but their overall mobilisation benefits the case - MS sovereign to choose fuel mix, so national level remains an important focus - EU funding for cross-border projects attracts private sector and subnational authorities - PoR can partially influence processes (good for projects)
Mobilisation of subnational authorities at the international level (domestic - international & centre - periphery)	*Counterproductive* - EU ETS disables decentralised governments and peripheral activity - Solution seen as a matter for national governments & EU - PoR no influence on processes (cannot change EU ETS)	*Mutually reinforcing* - Complementary competencies between EU and regional level - Periphery can be efficient, foster regional projects down the Rhine with EU support - PoR good influence on processes (good for projects)
Mobilisation of civil society at subnational level (state - society & centre - periphery)	*Counterproductive* - Regional cooperation started off well but suffered from infighting later (uncertainty!) - Low financial means at city level, so private sector also negotiates with other authorities - PoR can partially influence processes (infrastructure development)	*Mutually reinforcing* - Good cooperation in Rotterdam region - Rotterdam as small-scale LNG showcase - Temporary exemptions stimulate first adopters - PoR good influence on processes (infrastructure adjustments)

Source: author's own composition based on empirical cases (chapters 5 and 6).

Figure 7.1 shows the difference between the observed shifts in governance in the CCS and LNG case. Implicitly the figure also shows the tensions engrained in multi-level governance. Most significant are the differences between the domestic - international and centre - periphery dimensions. LNG was concluded to be Europeanised by virtue of its transnational nature. CCS, on the other hand, merely shows a symbolic shift with the relatively inconsequential CCS Directive. Whereas small-scale LNG benefits greatly from the Rotterdam region mobilising to adopt the fuel, mobilisation for CCS was crippled by international agreements and other external factors. Apparently the centre - periphery shift strongly influences governance outcomes, though as discussed earlier, it is influenced heavily by its supranational context. The state - society dimension has similar results for both cases, however in the CCS case a negative public opinion counteracts the mobilisation efforts of other parts of civil society.

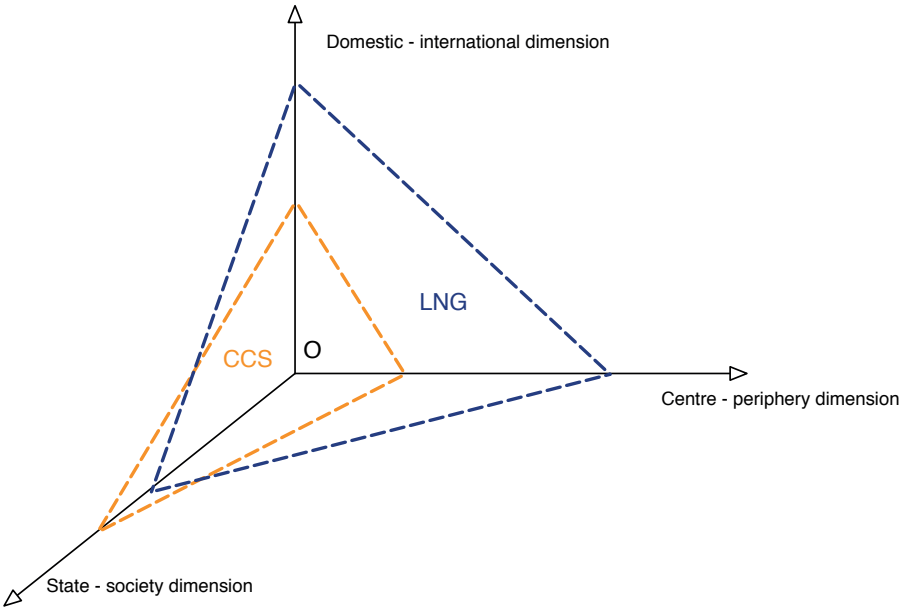

Figure 7.1. Governance shifts in the CCS and LNG cases along dimensions of MLG
Source: author's own composition based on empirical work (chapters 5 and 6).

The exact way in which the dimensions of MLG would be expressed in both cases could not be predicted using the MLG framework[310]. The predictive value of MLG appears to be limited to predicting *that* shifts in governance happen through participation of supranational institutions, but their exact size, strength and consequences can vary. MLG can identify differences between outcomes of governance and provide tentative explanations, especially since CCS is an example of failed governance and LNG is not (or not yet). In-depth case studies are therefore very valuable in uncovering what truly happens, and *why* it happens, in EU governance. The theoretical expectations have been useful searchlights for empirical analysis, though they work differently in both cases. The logic of retroductive research begs for a reflection on their ability to find what the 'real' mechanisms driving a case are. To do so, the secondary findings regarding power and uncertainty need to be reviewed in light of MLG since they provide the means to understand multi-level governance.

310 I did not expect it to be, since it is my belief that theories within social sciences cannot predict human behaviour.

7.4. POWER AND UNCERTAINTY IN MULTI-LEVEL GOVERNANCE

Piattoni's treatise on MLG is infused with power, though much of it is implicit. The importance of power and uncertainty for the explanation given in this dissertation begs for a review of the role of these concepts within the theoretical framework. For CCS, which has already gone through a policy-making process, the implementation phase showed unsuccessful peripheral governance, effectively undercutting one of MLG's claims. Furthermore, the impact of the domestic - international shift is different for both analysed cases. For LNG supranational coordination is needed, whereas CCS does not necessarily benefit from it. The multi-level governance of small-scale LNG has shown that, when the supranational level provides enabling incentives, local conditions matter for policy implementation. The private sector is both waiting for supranational governments to provide a long-term vision upon which investment decisions can be based and simultaneously thwarted *or* enabled by the results of this very same supranational coordination. The explanatory value of the role of uncertainty and power in these processes is discussed next. Both concepts warrant special attention due to their importance for the explanation given in this dissertation whilst not having been explicitly included in the theoretical framework established in chapter two.

7.4.1. Uncertainty Guides Decision-making in a Volatile Energy and Climate Context

Climate change is often mentioned as the prime example of a (super) wicked problem (cf. Lazarus, 2009; Levin et al., 2012; Maréchal & Lazaric, 2010; Webster, 2008). 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 (Levin et al., 2012:126-128). In other words, affordable and secure energy (two of the pillars of European energy policy) currently are more rewarding than the uncertain benefits of sustainable energy and therefore easier to reach on the short term. Since it is uncertain how (quickly) sustainable technologies will develop, governments are hard-pressed to make policies for a future they cannot predict. Both the CCS and LNG cases have seen policy-makers reluctant to make a choice, fearing that these transition technologies will lock in future developments and thereby thwart more sustainable technologies. Various authors have written about regulatory risk, uncertain climate policies and technological uncertainty. Important findings are that regulatory risk is taken into account by the private sector when making decisions (cf. Barbose et al., 2008), that unproven technologies, such as CCS, substantially increase the price tags of CO_2 mitigation, making it an issue for governments to consider (cf. Hoffman & Szklo, 2011), and that a price floor in the EU ETS would spur

low-carbon investments (cf. Brauneis et al., 2013). These findings show how society, in a broad sense, needs to be incorporated into state activities.

Rather than accepting that technological progress is inherently uncertain and that policy-makers can therefore not make good long-term choices, Levin et al. (2012:128) actually make a plea for policy-makers to lock-in future *preferences* promoting sustainability which can steer subsequent action as society tries to reach them. For example, developing LNG-powered ships is beneficial on the short term and could be made more sustainable in the future through the use of bio-LNG. Likewise, CCS could develop into CCU (using the carbon instead of storing it) in the future, which contributes to a greener chemistry sector. Having sustainability as one of three pillars of EU energy policy is not necessarily enough to lock in future preferences. Agreements based on emission limits linked to target time periods, such as the EU's 2050 Roadmap and COP-21, fit within such an approach but the main challenge is how to plot the path that will help reach those targets in time.

The analysis of CCS and LNG shows that both cases are embedded in a context of high uncertainty, though these uncertainties seem to be addressed much more (effectively) in the LNG case than in the CCS case. Policies are unclear, the financial aspects are worrying at best, and technological development is unpredictable. Without arguing that 'everything is governance', the uncertainties that were identified in both cases[311] are issues for and of governance (at multiple levels) (cf. Moser, 2009:31) but also *because of* governance (Levin et al., 2012). Actors expect something of each other and are also uncertain about outcomes. Mutual gain can lead to breakthroughs and cooperation, such as what happened with the LNG trucks of Albert Heijn. Yet uncertainty also blocks major changes by virtue of being unpredictable; governance is bounded by previous paths chosen by policy-makers and private parties alike. Path dependency is an interesting and much debated concept in political science and public administration literature (cf. Kay, 2005; Levin *et al.*, 2012; Lipset & Rokkan, 1967; Pierson, 2000). Its narrow conception of the effect of increasing returns argues that the benefits of an intervention, once introduced, can increase over time (Levin *et al.*, 2012:135). Policy-makers have a tendency to choose the pathway that provides the most apparent benefits on the short term, which potentially undermines future efforts to devise clean energy policies and benefit from increasing returns. However, as the previous paragraph argued, this argument can be turned around by locking in future preferences[312]. Current obstacles for desirable developments can be used as input for policy. As chapters five and six show, these obstacles often exist in conditions of high uncertainty.

311 Tables 5.6 and 6.7.

312 One would need to know what the 'no regret' options are; options that do not lock in undesirable technologies in the future *or* that appear in multiple desirable scenarios.

Table 7.7 discusses the relationship between uncertainty and governance for both cases and is based on desk research and how interviewed experts responded to the question what CCS and LNG, respectively, need to develop further. In effect, it extends tables 5.6 and 6.7 by formulating requirements to solve each hurdle mentioned in the empirical chapters and discussing the origin of each potential solution. The conclusion that can be drawn from this table is that uncertainty impacts all levels of governance. Especially in the CCS case uncertainty is not being taken away by those in power. Delayed activity in one dimension of MLG can thwart activity in the other two dimensions as well. In other words, the EU's harmonisation efforts can be stalled when other actors in multi-level governance do not act in the interest of removing uncertainties.

Both cases show that underlying uncertainties have to be solved in close cooperation between public and private actors at multiple hierarchical levels. Especially the horizontal dimension of MLG — the network-based interactions between state and society — benefits from a closer look at the influence of uncertainty. However, the concept of (policy) uncertainty itself is not part of the traditional MLG framework. This chapter has discussed how the lack of a long-term vision causes private parties to delay investment, preferring to wait for clear signs from governments. Taking away such uncertainties is extremely important when considering the longevity of the investments involved in CCS and small-scale LNG; they are not technologies to be installed for 2-3 years. The PoR's vision of a CO_2 hub implies the creation of appropriate infrastructure to facilitate CO_2 flows, and even though pipelines can often be repurposed, the PoR likely will not invest in the infrastructure if projects are lacking. However, both CCS and LNG projects are also lacking due to the absence of infrastructure, creating a chicken-egg problem. For example, linking the installation of carbon capture systems to the building of infrastructure is what the demonstration phase is about (besides showing that the technology works and improving its cost-effectiveness), and companies expect public (financial) support for demonstration projects. That, in turn, requires a long-term vision with regards to a country's future energy mix. Careful deliberation between the public and private sector can go a long way to remove uncertainties and, in turn, lock in desirable preferences for the future.

Multi-level governance, in practical terms, can be a good answer to uncertainty due to its inclusiveness; the hybridity observed in European governance has the potential to include relevant actors at the right time and for the right reasons (the path dependent logic of increasing returns). It can ensure initial support for developments upon which other initiatives can build. In this sense, the European Commission's focus on harmonising preferred policy options is a step towards ensuring that domestic developments occur according to a predefined logic. Assuming that governmental decision-making regarding energy and climate policy is not of a radical nature, the EU can theoretically build the foundation of a

Table 7.7. Solving CCS and LNG problems requires multiple governance levels

CCS		
Requirement	**Origin of solution**	**Uncertainty solved**
(Long-term) vision on climate and energy and its implementation, with consideration of CCS	National and supranational level	Lack of political will, lack of long-term vision, fossil fuel lock-in fears, funding problems
Higher carbon price and ETS reform	Supranational level (backed by national level)	Low carbon price, cost of CCS, funding problems
CCS demonstration	All levels (private + public sector)	Unclear benefits due to underdeveloped technology, safety concerns
Global agreements and a level playing field	Supranational and global level	Level playing field lacking, CCS cost
Deliberation between public and private sector	All levels (private + public sector)	Lack of long-term vision, lobby against CCS
Government acting as coordinator and mediator	Local and national level	Lack of long-term vision, lobby against CCS
CCS in the industry	All levels (private + public sector)	Unclear benefits
LNG		
Requirement	**Origin of solution**	**Uncertainty solved**
(Long-term) vision on climate and energy and its implementation, with clear emission norms	Supranational and national level	Mindsets, intra-governmental competition, unclear long-term policy priorities
Re-evaluation of financial mechanisms facilitating small-scale LNG uptake, subsidies	Local, national supranational level (and banks)	LNG is expensive, problems in inland shipping sector, long lifespan of ships, meeting market needs
More R&D for LNG engines (standardisation*)	All levels (private + public sector)	Methane slip, actual emissions, LNG is expensive
Deliberation between public and private sector	All levels (private + public sector)	Infrastructure lacking, meeting needs of market, unclear long-term policy priorities
Facilitation of small-scale LNG development through law	Supranational and national level	Unclear long-term policy priorities
International small-scale LNG uptake	All levels (private + public sector)	Infrastructure lacking, LNG is expensive, mindsets, price development and geopolitics
Private sector needs to be willing to pay	Private sector	LNG is expensive, mindsets

Source: interviews, each requirement has been mentioned by at least five people interviewed for both cases, also found in consulted documents. *Currently, every LNG installation is uniquely tailor-made to fit the LNG ship. Standardisation of LNG systems could help reduce costs associated with retrofitting ships, although it is difficult to achieve. Standardisation of newly built LNG ships is probably easier and will be available in the (near) future.

European sustainable energy policy which will incrementally harmonise the policies of its members (path dependency) and reduce uncertainty. The link with power is discussed next.

7.4.2. EU Governance: Zero Sum Versus Non-zero Sum

Chapter two discussed scholarly critique on multi-level governance, one argument being that MLG lacks an adequate conceptualisation of power. Piattoni claims MLG has attention for the contested nature of power by virtue of being sensitive to power shifts between actors engaging in governance (ie., actors do not necessarily pool their resources to work towards a shared goal), and due to its focus on the importance of non-governmental actors rebalancing the power of the state due to their inclusion in the formulation of solutions to societal problems. Curry also states that power and multi-level governance are "inextricably linked" (Curry, 2015). This section looks at the role of power within MLG more closely and uses the empirical cases and policy context as input for a review of how power fits within Piattoni's MLG framework. Does Piattoni adequately take it on board — and does power indeed fit intrinsically within MLG — or is further conceptualisation necessary?

Weber's notion of A having power over B if A can make B do something they otherwise would not have done is one of the most classic conceptualisations of power. Such power is relative and presents a zero sum game where one actor's power gain means another actor's power has decreased (Fuchs et al., 2016:4). However, the EU's celebration of multi-level governance (cf. the White Paper on European Governance[313]) exemplifies its belief that collaborative action leads to win-win situations (a non-zero sum game). Applying this thought to energy and climate policies, one could argue that the Commission believes that harmonising energy and climate policy by ensuring affordable, competitive and sustainable energy, will benefit *all* member states. Aside from remarking that these three goals are mutually conflicting at times, why are member states so protective of their own energy policies? And why is local empowerment not more prominent, as expected by MLG? The European Commission can only do so much until it hits the wall of national interests and political pressures. These national interests are two-faced: national governments have a national EU interest, but also a domestic interest guided by domestic opinion and the election cycle. These two types of national interest are not necessarily the same. What works well to say in the EU (fe., Dutch pace-setting in climate talks) does not always work well at home (The Netherlands as gas country has economic dynamics preventing dogged investment into renewables). The ever-changing willingness of national governments to harmonise policies across the EU and the differing impact of EU-level agreements on potential local efficiency is not sufficiently

313 COM(2001) 428 final. Mentioned in bibliography as 2001b.

covered by non-zero sum logic. We have to consider power in a zero sum way to understand the full picture of the effects of EU climate and energy policies on governance in the Port of Rotterdam.

7.4.3. Power as an Intrinsic Part of Multi-level Governance

Both the LNG and CO_2 hub have shown that, unsurprisingly, power matters. The CCS case has been severely impacted by the polarisation of the debate surrounding not just the technology, but the status of coal-fired power plants in general. It is therefore not viewed as a neutral technology but often described as the last straw available to coal-fired power plant owners to keep their plants open. On the other side of the debate there are proponents who argue for the urgency of CCS for both the energy and industry sectors. Its corresponding directive was part of trade-offs at the EU level, with funding for CCS projects only being an option through NER 300 and EEPR with the addition of funding for renewables as well. The EC reasoned that collaborative action throughout the EU would net multiple CCS projects and decrease overall EU CO_2 emissions. Eventually, renewable projects were funded and carried out whereas CCS has not happened. Considering the consensus needed to change EU mechanisms already in place, CCS is now stuck in a European level system (ETS) that is difficult to change. Furthermore, CCS is not in the political interest of every EU member. A consideration of how power works in governance is therefore even more important when comparing countries.

There is one argument often mentioned by national governments which could spur a new round of EU coordination in the CCS case: the level playing-field. Especially now that CCS is being considered for industrial purposes rather than as a hot prospect for the power sector, the private sector and governments alike are worried about potential carbon leakage[314]. This dissertation will not delve into actual carbon leakage risks, but the level playing-field argument does discourage national governments from being overly strict with their climate demands. An argument is therefore often made to at least coordinate such issues at the EU level, or preferably even at the global level through international conferences such as COP-21. A legal CCS requirement at the EU level is not unthinkable. Yet any move into the direction of energy policy harmonisation touches upon MS competency, so the EU would need a politically favourable situation like the one it enjoyed during the negotiations of the 2020 package. Back then the EU was supported by organisations such as IPCC and IEA, who painted dark

314 If countries or the EU increase production prices for heavy industries by requiring CCS or increasing the carbon price, these industries might pack their bags and go elsewhere where climate policies are lax and they can produce more cheaply.

pictures of the world's future and giving EU coordination momentum. Furthermore, the EU can frame decarbonisation strategies, such as CCS, under the environmental banner where it has a more established competence. It is quite likely that such an initiative would only be viable through extensive cooperation and coordination in a multi-level governance setting, but power relations will play a major role in the deliberations.

Intra-EC tensions regarding the importance of clean power for transport, such as LNG, show that sustainability is not necessarily seen as a non-zero sum game, hindering the EC's win-win approach based on collaboration. Tensions also arise when national governments feel that the EU is encroaching on their right to decide on their energy mix for themselves. Their quest for autonomy often leads to level playing-field arguments. Having a regulation such as NRMM (non-road mobile machinery) in place makes it clear to all engine manufacturers what the acceptable parameters for their engines are. Still, the LNG case showed how the Dutch government used its position to advocate for a more stringent norm, which hurt its relationship with the PoR and ultimately was defeated when other member states would not go along with the Dutch proposal. This example shows how Dutch agency has led to domestic *and* supranational tensions, which could be viewed as a logical occurrence in multi-level governance. Inherent to multi-level systems are tensions caused by the contested nature of power and responsibility (cf. Piattoni, 2010). Tensions arise at the supranational level — even within one and the same institution such as the European Commission —, between the domestic and supranational level, and within (decentralised) national systems.

These tensions that are inherent in EU governance are based on power, which is not only relative but temporal as well. Recall that climate change is a wicked problem, which essentially means that finding potential solutions for it happens under high uncertainty. Decision-making is therefore often guided by conflicts between short-term gain and long-term gain. The national government is an interesting actor to consider in this regard. At EU level its 'responsibility' in climate issues may be perceived as having to be supportive of climate measures and gaining much, also for its citizens, in the longer term. Otherwise, the Dutch would politically be seen as anti-climate. However, the responsibility of the government at domestic level includes ensuring societal legitimacy as well. When the domestic responsibility is counter to its EU standpoint, the government is likely to pursue domestic goals to ensure (short-term) re-election. The fact that the government's power is contested by the electorate influences the multi-level governance of CCS and LNG, most notably vis-à-vis the private sector and the EC. While the private sector appears to share the government's opinion that CCS should happen, it uses its power to *not* invest knowing that the Dutch government is not likely to impose it. Again, short-term gain trumps the longer term.

The domestic - international dimension was found to be a high impact dimension for centre - periphery relations. As this shift covers regime building at EU level, power is an inherent part of this shift as the EU polity takes shape as a reflection on and outcome of power relations (Piattoni, 2010:56-64). The concept of power is woven into Piattoni's multi-level governance by virtue of identifying shifts in governance and accepting that tensions exist between the domestic and the international, centre and periphery, and between state and society. Power is not explicitly conceptualised, but is that a problem given that power could be reinterpreted as governance when considering its institutional (as opposed to human) side (Guzzini, 1993:475)? Following the multi-level governance framework through in-depth case study research has enabled finding and analysing how power works within both cases, so an explicit identification of the importance of power appears to be sufficient to make Piattoni's theoretical framework carry explanatory weight. In addition, uncertainty is a feature of climate change governance, which is a problem requiring solutions with long time horizons characterised by slow system change[315]. Uncertainty causes decision-making tensions and therefore also tensions between the public and private sector, as both nested cases have shown. Identifying these tensions allows three conclusions to be drawn:

1) Multi-level governance of climate and energy happens under high economic, technological and regulatory uncertainty;
2) Multi-level governance of climate and energy is highly dependent on many (varied) interests of many (varied) key players, therefore power matters;
3) Due to the nature of the EU system, the role of power and of uncertainty, the multi-level governance of climate and energy is constrained by pressures that make change difficult as power and uncertainty can block progress in one level of governance, thereby impacting all other levels as well[316].

Effectively governing climate issues may be difficult exactly because of the interdependent nature of EU governance and the fact that member states have different interests, hence the attractiveness of the argument made by Levin et al. (2012:128) to lock-in future *preferences* promoting sustainability. The next chapter will reflect on this argument further.

315 It is not a coincidence that everyone now speaks of the 'energy transition', in acknowledgment of its long timeframe.

316 Interesting venues of research to uncover these dynamics further involve Schmitter's (2004) 'great events' or Baumgartner and Jones' (1993) punctuated equilibrium.

7.5. CONCLUSIONS

This chapter set out to compare both the CCS and LNG case and answer the question which (multi-level) governance mechanisms are present in the implementation of EU climate and energy policies. The CCS and LNG cases were compared to one another across the three dimensions of MLG. This analysis was complemented by the secondary findings: the importance of power and uncertainty. Since probing for these two concepts was not part of my operationalisation of MLG, this chapter discussed whether power and uncertainty have been adequately accounted for in Piattoni's MLG framework. The main conclusions will be discussed now.

The governance of Rotterdam Energy Port[317], which I have linked to the governance of the EU's energy and climate policies, is indeed an excellent example of MLG in practice. Relationships are perhaps not so much reconfigured as reaffirmed; the private sector calls upon governmental authorities to do what they are supposed to do, and governmental authorities lean on their traditional creation of frameworks within which the private sector is to operate. It is difficult because consensus on the *right way* is lacking. The hybrid form of governance shows itself both in the reaffirmation of relationships and the need for inclusion of non-governmental actors in the process of governing for it to be effective. The EU is increasingly able to influence member states' energy mix by linking climate targets to energy policy. European energy policy therefore becomes an area in which the EU cooperates with national governments on a hierarchical basis, whilst cooperation between governmental authorities and the private sector is also necessary due to resource interdependencies and the fact that emissions primarily stem from the private sector. Governments are expecting more and more that businesses will act in the interest of the climate, yet the high degree of uncertainty involved in carrying out expensive projects — such as CCS and small-scale LNG — needs to be met by adequate government policy, at the right level, to assure the private sector that investments are not wasted.

The engines that drive multi-level governance can be derived from the policy analysis done in chapter four and the empirical chapters and the MLG analysis carried out in the empirical chapters, continued in this chapter. EU coordination attempts begin with EU member states being open towards coordination attempts by the European Commission because they are unable to solve a problem on their own. In the CCS case the reasoning behind this support was the wish to show the world that the EU is a global climate leader, and the knowledge that global effort is required to solve the climate change problem. The Commission deftly

317 Not all aspects of Rotterdam Energy Port (see chapter 3) have decidedly supranational components, so the generalisation of the CO_2 and LNG hubs to Energy Port as a whole has its limitations.

added the CCS Directive to the climate goals for 2020. In the small-scale LNG case the reasoning was the need for supranational coordination of a cross-border phenomenon: inland waterway transport. The next step consists of efforts by the EC to coordinate legislation, be it through hard coordination (by means of regulations) or soft coordination (by means of directives). Contentious issues become directives to ensure enough freedom for national governments to implement measures as they please. Both the CCS and LNG case have directives governing their most important aspects. In order to incentivise movement in the private sector, the Commission then sets financial resources aside to finance demonstration projects. Member states do not want to miss out on this opportunity because it is their own money that flows back to their peers, giving them an incentive to want to reap the benefits of EU funding. The purpose of demonstration projects is to learn from them for further rollout of technologies, adjust needed legislation and get the proper infrastructure in place for large-scale adoption. One would expect successful demonstration projects to support, and be supported by, the domestic transposition of EU directives. Lessons learned from demonstration can then be used by the EC to revise earlier directives and formulate next steps forward, thus continuing the cycle of policy-making, funding, implementation and revision (see figure 7.2).

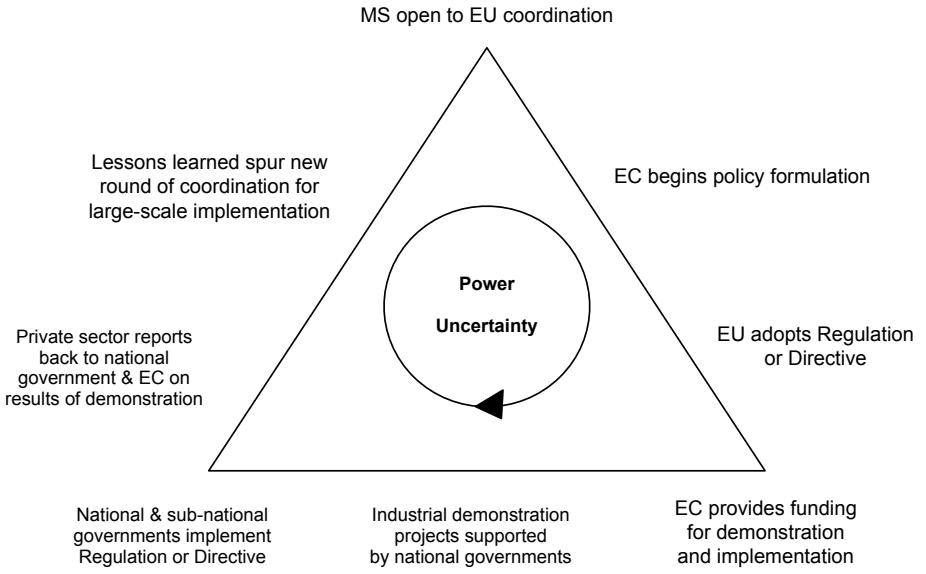

Figure 7.2. Elements of CCS and LNG policy coordination
Source: author's own composition based on this dissertation.

Where does this cycle go wrong? Power and uncertainty circulate through this cycle and can either keep the gears spinning or block them. Cooperation of all levels of governance is

necessary to keep the engine running, which strengthens Piattoni's reasons for including the private sector and subnational authorities. Lack of participation from any of the stakeholders will negatively impact all three dimensions of governance, effectively freezing the process in a certain phase or pushing it backward. When industry does not want to cooperate and hard coordination is politically unacceptable, the engine grinds to a halt. If a national government decides to implement a directive in such a way as to de-incentivise a specific development, sub-national authorities and other peripheral actors lose their influence. Aside from the agency of actors, the consequences of policy choices can also put a spoke in the wheel. The EU ETS has cast a long shadow on low carbon investments through its continuously low carbon price which makes investing in cleaner technologies less attractive. The Commission's egalitarian nature counteracts the Dutch tendency to specifically support its so-called mainports. In fact, much of the EC's effort goes to regions that are less well-off than The Netherlands, sluicing funding to those regions instead of to the Port of Rotterdam. Geopolitical factors have an effect as well. The declining oil price hurts the small-scale LNG business case and delays deployment across the EU. A global push for more stringent climate norms might reverse some trends.

All the examples above point towards the existence of trade-offs which hamper investment decisions and determine how actors ultimately behave. The EU's system of multi-level governance works well in theory, but there can be reasons for an actor to support EU coordination efforts while at the same time trying to keep things as they are at national level. In the small-scale LNG case there are many promising developments, though for shipping companies there is a significant trade-off between owning a cleaner ship and the costs associated with it. Wider scale adoption of LNG as fuel is slowed down by this trade-off. In the CCS case there is a showstopper: the EU ETS and the general unwillingness of the private sector to invest in a technology with highly concentrated costs, but very diffuse benefits (cf. Wilson, 1980:367-370). Small-scale LNG could soon suffer from the same cost-benefit distribution unless owners of 'dirtier' engines will be made to pay for the societal costs of their emissions.

Multi-level governance allows the researcher to dive deeply into cases and explore the mechanisms that drive governance processes. The three dimensions (domestic - international, centre - periphery, state - society) outlined by Piattoni were applied in this dissertation to test their practical applicability. These dimensions are mutually interdependent: they must work in tandem to keep the gears in figure 7.2 running. Both the CCS and LNG — which in hindsight can be termed contrasting cases (see also table 7.1) — case showed different impacts of EU governance on Rotterdam and it became very clear that the three dimensions of governance are interconnected. The dynamic, yet difficult to change, nature of governance was also captured well by the theoretical framework, shedding light on how

uncertainty and power influence governance outcomes. The three theoretical expectations formulated in chapter two were further fleshed out by the case studies, showing that they can serve as theoretical searchlights for retroductive research and therefore have explanatory value. In the case of the domestic - international shift, the cases added nuancing to the MLG framework by showing that international interdependencies are not just created by sub-national authorities, civil society and business, but also by nation states themselves (cf. Majone, 1996:68) and through the operation of (global) market mechanisms. For the centre - periphery shift a nuance was added acknowledging that regions are potentially effective, yet that this effectiveness depends on contextual factors (such as (un)wanted outcomes of EU-level agreements) beyond their direct control. In the state - society shift we have seen a clear need for governance *with* society, though no 'Piattonian' far-reaching blurring of state and society.

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: extensive qualitative research is needed to untangle the dynamics underlying the three dimensions of governance. The next chapter suggests ways to move forward with this type of research.