Annexes

Annexes

Annex I

Interview coding scheme

- Shifts in multi-level governance
  - State - society shift
    - Cross-linkages between public and private actors
      - Resource flows
        - Policy-making capacity
        - Personnel
        - Knowledge
        - Capital
      - Joint goal-setting
    - Blurring of state and society
      - Private —> public
      - Public —> private
  - Domestic - international shift
    - Interdependencies at international level
      - Cross-border networks
      - Representation in IOs and associations
    - Policy coordination at X level of government
      - Relevant binding policy decisions at X level of government
        - Policy output EU
        - Policy output NL
        - Policy output PZH
        - Policy output Rotterdam
      - National references to EU-level decision-making

- Centre - periphery shift
  - Coordination of activities
    - Activity at supranational level
    - Activity at national level
    - Activity at regional level
    - Activity at local level
  - Local empowerment
- Power relations

Reconfiguration of existing relationships

- Changing perception of relationships
- New jurisdictions and constituencies
- Defiance of hierarchy

Contextual

- Hurdles
  - Hurdles negative
  - Hurdles positive
- Requirements
- Mistrust
- Connections
- Status Port of Rotterdam Authority
- Policy priorities
- LNG facts
- CCS facts
- LNG history
- CCS history
- Competencies

Annex II

Rotterdam Energy Port[321]

ROTTERDAM ENERGY PORT: WHAT IS IT?

Rotterdam Energy Port is a "growth concept focusing on infrastructure, transhipment, production and knowledge with regards to energy in the port of Rotterdam" (Marcom plan, author's translation). The concept consists of five pillars and a backbone. The five pillars are the LNG hub, the coal and biomass hub, the CO2 hub, (sustainable) electricity generation, and energy efficiency. The backbone covers all energy infrastructure necessary to make the pillars viable. In practice, this infrastructure amounts to pipelines for residue heat, CO2, utilities, and resource trade. In its 2030 Port Compass, the Port of Rotterdam envisages an energy transition from fossil fuels to an increasing share of renewables in the Dutch and European energy mix. Such a transition effectively means diversifying the already existing oil, coal, and gas resources. Newer developments in the Energy Port are LNG, biomass, and CCS. Other examples of renewable energy are wind and solar power. It becomes clear that the Energy Port concept entails various energy resources, some of which sustainable, and some not. The 'energy transition' part of the concept makes it a dynamic one. As such, the Energy Port is a relatively broad concept and in constant development.

321 Based on personal communication with Pieter van Essen (PoR), Ruud Melieste (PoR), and supporting documents — October 2013, facts & figures updated with most recent (2016) data

THE GROWTH OF ROTTERDAM ENERGY PORT

There were two facilitating conditions for the initial development of Rotterdam Energy Port:
1) Abundant and varied facilities were needed for customers in the energy sector
2) Growth in demand of energy production

Facilities

Diversification of energy resources and facilities was deemed important because the Dutch natural gas supply is not without limits. The dwindling supply of Dutch natural gas could also pose a problem to the Dutch competitive position on the international energy market. With the process of diversification came an increase in facilities and competitors, thereby expanding the share of energy-associated companies in the Port of Rotterdam. A few examples of the expanding Energy Port will be given below.

A possible solution to the diversification challenge was to build an LNG terminal (by oil company Petroplus) in the Europoort area. Due to the Russian-Ukranian gas dispute of 2005-2006, the accompanying MER-procedure (or Milieueffectenreportage, which is a report assessing the environmental impact of projects that are potentially harmful to the environment) to approve the construction of such a terminal was sped up. Eventually, however, these plans died down in 2010 due to lack of willingness of clients to engage in long-term contracts. Another diversification project had gained the upper hand: VOPAK/ GasUnie built an LNG terminal, named Gate, in the Maasvlakte area of the port in 2011. Yet another example of diversification is the construction of a different terminal (bunker fuel) in the Botlek-area by VOPAK. The reason for this terminal was to increase available facilities when VOPAK could not supply growing demand for bunker fuel. The company had also lost a lot of its business in the container sector due to a monopoly for ECT (Europe Container Terminals). The VOPAK terminal then received competition from Vitol, a company that also exploits fuel oil terminals. As the number of terminal facilities grew, so did competition.

Energy production

With the Port of Rotterdam growing continuously, the demand for energy within the port area grew. Energy production thus had to go up, which meant expanding energy production facilities. This development also led to the growth of Energy Port. The growth in production was spread across different types of energy carriers and resources: electricity, gas, coal, oil. Certain types of energy resources, such as plant oil, were deliberately attracted to the

port. Furthermore, competition between energy producers was increased. An example is the settling of Air Liquide in the port area, which functions as a direct competitor of Air Products. Market dynamics were the reason for this increase in competition.

The factors described above essentially cover the logistics and industry of Rotterdam Energy Port. Both aspects are mutually intertwined and dependent on each other. Expansion in the industrial side leads to expansion in infrastructure and the other way around. The five pillars and the backbone are therefore integrated.

All in all, the growth of Rotterdam Energy Port was very market-driven. Noticing the notable increase of energy industry in the port, the Port of Rotterdam Authority decided to give the cluster a name: Rotterdam Energy Port. The Port of Rotterdam Authority went further to create strategies and policy in order to support the process of a growing energy cluster. The main idea behind the policy is to make energy accessible and to provide it under the most competitive circumstances. The current Energy Port policy is also meant as selling point towards other parties, such as the European Union. The focal point of the policy is the uniqueness of Rotterdam Energy Port within the EU: the industrial complex is incredibly large and there is great synergy between companies. The result is a stable system.

Facts & figures (2016)

- Dutch primary energy usage = 3.130 PJ (most notably: 40% natural gas, 39% oil, 13% coal, 4.5% renewables)
- Energy value throughput Port of Rotterdam = 9.120 PJ
- Rotterdam/Moerdijk industrial cluster primary energy usage = 2.553 PJ
- Rotterdam/Moerdijk industrial cluster CO_2 emissions = 33.4Mt (about 20% of Dutch emissions)

(sheets internal presentation 'Energie- en CO_2-balans' by Ruud Melieste)

Vessels (2016):

- 29.022 total sea-going vessels
- 105.000 total inland vessels

(Facts & figures Port of Rotterdam, Port of Rotterdam Authority - accessible from [https://www.portofrotterdam.com/sites/default/files/facts-and-figures-port-of-rotterdam-2016.pdf]

Rotterdam Industrial cluster (2015):

- >55% of Port of Rotterdam revenues
- ±40% of added value in the port
- ±20% of added value of the Dutch industrial sector

(Facts & figures Energy Port and Petrochemical Cluster, Port of Rotterdam Authority - accessible from [https://www.portofrotterdam.com/nl/lading-industrie/raffinage-en-chemie/olieraffinage])

Annex III

Non-ETS emission limits per member state under EDS

Non-ETS emission limits per member state under EDS

Member state	GHG emission limit in 2020 compared to 2005
Belgium	-15%
Bulgaria	20%
Czech Republic	9%
Denmark	-20%
Germany	-14%
Estonia	11%
Ireland	-20%
Greece	-4%
Spain	-10%
France	-14%
Italy	-13%
Cyprus	-5%
Latvia	17%
Lithuania	15%
Luxembourg	-20%
Hungary	10%
Malta	5%
Netherlands	-16%
Austria	-16%
Poland	14%
Portugal	1%
Romania	19%
Slovenia	4%
Slovakia	13%
Finland	-16%
Sweden	-17%
United Kingdom	-16%

Source: 406/2009/EC.

Annex IV

The organisation of the European Commission

The 2009-2014 European Commission (most important for this dissertation due to the preparation of legislation and decision-making) was headed by President José Manuel Barroso, aided by six Vice-Presidents: Catherine Ashton (High Representative for Foreign Affairs), Neelie Kroes (Digital Agenda), Joaquín Almunia (Competition), Siim Kallas (Transport), Michel Barnier (Internal Market), and Maroš Šefčovič (Inter-Institutional Relations). The Commission further consisted of 23 other Commissioners. The for Rotterdam Energy Port relevant Commissioners — and, by extension, DGs — are Siim Kallas for DG MOVE, Günther Oettinger for DG ENER, Connie Hedegaard for DG CLIMA, Janez Potočnik for DG ENV, and Ferdinando Nelli Feroci for DG ENTR.

With the advent of the new 2014-2019 Juncker Commission, several changes have been made to the set-up of the Commission. The Commission is headed by President Jean-Claude Juncker, aided by seven Vice-Presidents with DG overarching themes: Frans Timmermans (First VP, better regulation, inter-institutional relations, rule of law), Kristalina Georgieva (Budget & Human Resources), Alenka Bratušek (Energy Union), Jyrki Katainen (Jobs, Growth, Investment & Competitiveness), Valdis Dombrovskis (Euro & Social Dialogue), Andrus Ansip (Digital Single Market), and Federica Mogherini (High Representative of the Union for Foreign Policy & Security). The Commission also consists of 20 Commissioners. The most relevant Commissioners for the Port of Rotterdam are Maroš Šefčovič (DG MOVE), Miguel Arias Cañete (DG CLIMA / DG ENER), Karmenu Vella (DG ENV), and Elżbieta Bieńkowska (DG ENTR) The table below briefly outlines the relevant DGs, their area of responsibility, and the reason why they are relevant for this thesis.

Commission DGs and their connection to this dissertation

DG	Area of responsibility	Why relevant
DG MOVE	Development and implementation of transport policies to ensure efficient mobility within a single European transport area	- Promotes environmental policy and competitiveness through transport policy and funding (TEN-T programme) - Ports are transport hubs - LNG as fuel is also a transport case
DG ENER	Development and implementation of European energy policy	- Promotes sustainable energy through the 2020 targets - Energy Port concept falls under the area of energy policy - Both LNG and CO2 cases are examples of sustainable energy
DG CLIMA	Development and implementation of European climate change action strategies and coordination of ETS	- Monitors and guards progress toward 2020 targets - Energy Port entails more sustainable use of energy related to climate change - LNG and CO2 are cleaner than conventional energy and thus contribute to CLIMA agenda
DG ENV	Development and implementation of environmental policy	Monitors correct implementation of EU environmental law, which can affect daily port operations (f.e., Natura 2000)
DG ENTR	Development and implementation of industrial policy, stimulation of competitiveness and entrepreneurship	Industry present in Port of Rotterdam area is subject to DG ENTR regulation

Source: European Commission website ec.europa.eu.

Annex V

The CCS network*

The CCS network

Actor Type of actor	Position in CCS case	(Policy) Responsibilities	Ambition
Rotterdam Port Authority (PoR) Hybrid public/private (officially 'N.V.'), Dutch	Landlord to businesses in the port, so coordinating and facilitating role	Ensuring good port operations, answers to shareholders (R'dam & NL)	Developing a CO_2 hub
DG ENER Public sector, supranational	Awarded funding to CCS projects under the EEPR program	Policy input regarding CCS in the electricity sector	Ensuring a secure, competitive and sustainable energy supply
DG CLIMA Public sector, supranational	Considered CCS projects under NER-300 funding	Leads CCS Directive and ETS	Protecting the climate
DG ENV Public sector, supranational	Follows CCS from the sidelines	Monitoring MS adherence to emission limits	Protecting the environment
DG GROW Public sector, supranational	Considers potential of CCS for industry	Protecting European industry	Stimulating competitiveness and industrial innovation
DG RTD Public sector, supranational	Funds research on CCS/ CCU, sits on ZEP	Developing a European research agenda	Stimulating CCS/CCU research and long-term use
Ministerie van Infrastructuur en Milieu (I&M) Public sector, Dutch national government	Works together with EZ	Safeguarding CCS safety and monitoring / reducing national emissions	Protects the climate and environment, widespread infrastructure development

Actor Type of actor	Position in CCS case	(Policy) Responsibilities	Ambition
Ministerie van Economische Zaken (EZ) Public sector, Dutch national government	Stimulates CCS development	Formulates and manages CCS policy, implements CCS Directive	Ensuring competitiveness in a decarbonising economy
Provincie Zuid-Holland Public sector, Dutch regional government	Active in permit process for coal-fired power plants & underlying conditions	Manages the province's underground affairs	Safeguarding safe CO_2 storage
DCMR Public sector, Dutch regional climate watchdog	Stimulates CCS development	Environmental permits	Safeguarding safe CO_2 storage and emissions monitoring
Gemeente Rotterdam Public sector, Dutch local government	Stimulates CCS development, co-founder of RCI	Ensuring the safety of citizens, considering role of CCS in local policy & economy	Developing CCS in Rotterdam
Rotterdam Climate Initiative (RCI) Public & private sector, Dutch local initiative	Advocates a more sustainable city of Rotterdam	Used as networking organisation and brand	Reduction of GHG emissions and improving local air quality
Afvalverwerking Rijnmond (AVR) Private sector, waste disposal	Developing, with TNO, a small-scale CO_2 capture method	Processes waste of the Rotterdam region, privatised company	Capturing and delivering CO_2 to horticulture in the region
Shell Private sector, energy company	Tried to develop Barendrecht & Peterhead CCS	Ensure market share through cleaner fossil fuels	No current initiatives
Engie Private sector, energy company	Co-invester in the ROAD project, owner of coal power plant MV2	Ensure market share through cleaner fossil fuels	Develop ROAD project and keep coal power plant open
Uniper Private sector, energy company	Co-invester in the ROAD project, owner of coal power plant MV2	Ensure market share through cleaner fossil fuels	Develop ROAD project and keep coal power plant open
RWE Private sector, energy company	Not active in Rotterdam but in the northern part of the country	Ensure market share through cleaner fossil fuels	No current initiatives
Air Liquide Private sector, liquid air industry	Initiator of Green Hydrogen project	Delivers liquid gasses to various institutions	Remains open to CCS but no current initiatives
TNO Dutch knowledge institute	CCS R&D	Advising governments and private sector	Further develop CCS technology
Natuur & Milieu Dutch NGO (environmental)	Advocating a sustainable future (preferably without CCS)	Protecting the climate and environment	Ensuring climate and environment protection

Actor Type of actor	Position in CCS case	(Policy) Responsibilities	Ambition
Global CCS Institute International network organisation	Information collection regarding global CCS efforts	Partner for anyone interested in CCS	Further development of CCS
Zero Emissions Platform (ZEP) European network platform, think tank	Collects and disseminates knowledge about CCS and advises the EC	Established by the EC and the EC is also represented in it	Supporting the development of CCS

*Not all industry stakeholders are represented. Source: author's own compilation.

Annex VI

The Small-Scale LNG Network*

The Small-scale LNG network

Actor Type of actor	Position in LNG case	(Policy) Responsibilities	Ambition
Rotterdam Port Authority (PoR) Hybrid public/private (officially 'N.V.'), Dutch	Landlord to businesses in the port, so coordinating and facilitating role	Ensuring good port operations, answers to shareholders (R'dam & NL)	Support development of small-scale LNG, increase large-scale LNG share
DG ENER Public sector, supranational	Consideration of role LNG in EU's energy mix	Makes and coordinates EU energy policy	Formulation of LNG Strategy within EU energy policy objectives
DG MOVE Public sector, supranational	Consideration of role LNG in EU's transport sector	Makes and coordinates EU transport policy, monitors subsidy projects under INEA	Stimulate alternative fuel uptake, such as (but not limited to) LNG + infrastructure development
DG CLIMA Public sector, supranational	Regulating emissions targets and establishing the role of LNG in EU's climate policy	Makes and coordinates EU climate policy, monitors implementation and coherence with other policies	Reduction of GHG emissions, preferably electrification of transport
DG ENV Public sector, supranational	Provision of contextual regulations to preserve environment	Makes and coordinates EU environment policy	Improving air quality and reduction of GHG emissions, electrification of transport is preferable
Ministerie van Infrastructuur en Milieu (I&M) Public sector, Dutch national government	Consideration of role LNG in NL, especially for transport sector and within acceptable environmental limits	Makes and implements Dutch infrastructure, transport and climate/ environment policy, grants subsidies	Making transport more sustainable, LNG should not compete with cleaner alternatives, infrastructure development

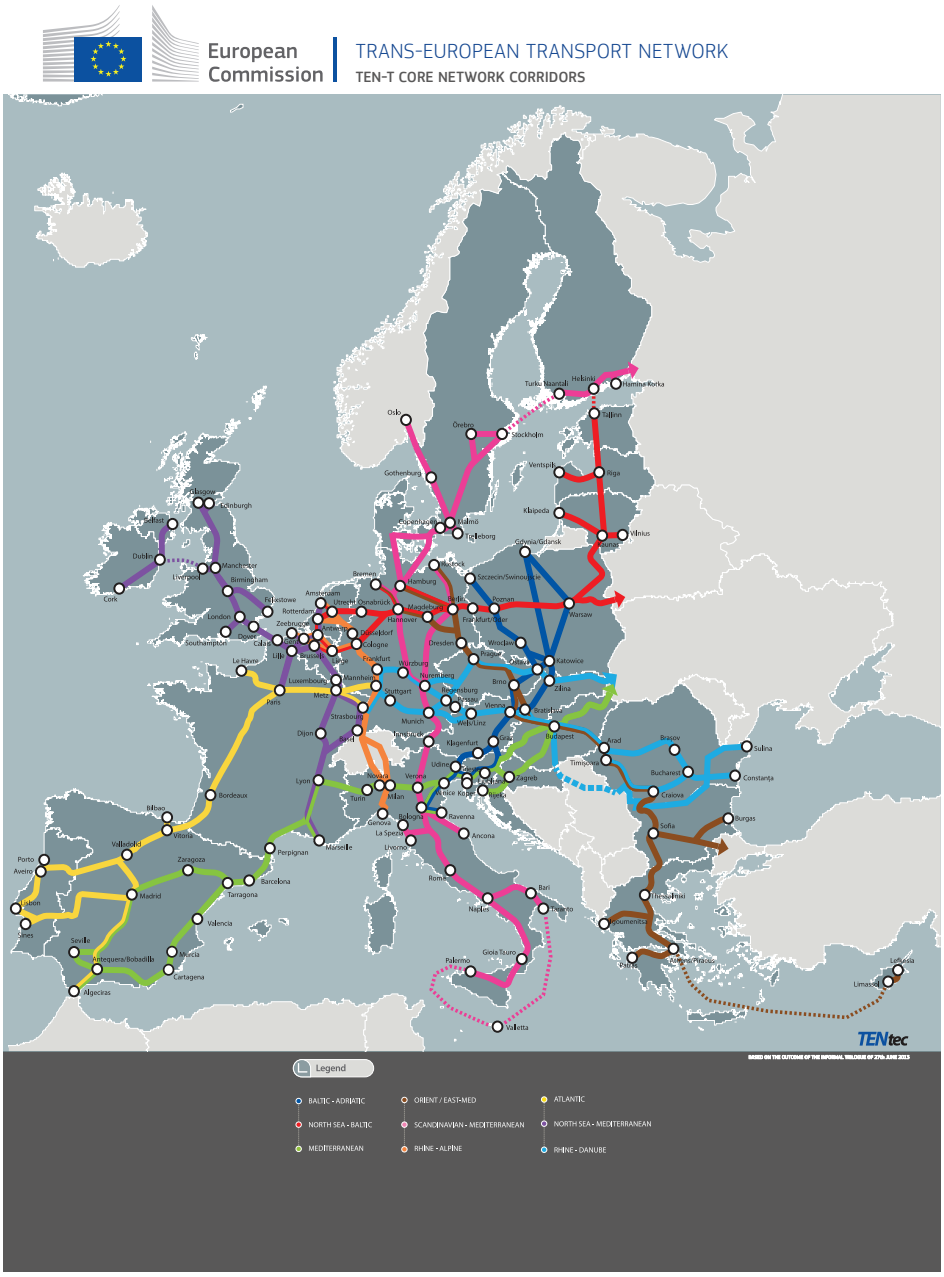
Actor Type of actor	Position in LNG case	(Policy) Responsibilities	Ambition
Ministerie van Economische Zaken (EZ) Public sector, Dutch national government	Consideration of role LNG in Dutch energy mix	Makes and implements Dutch energy policy, grants subsidies	Assessing the importance of LNG for the Dutch energy mix
Provincie Zuid-Holland Public sector, Dutch regional government	Maintaining rivers, financial and regulatory support	Coordination of regional spatial policy and land use, carries out delegated national policy, Green Deals	Supporting cleaner inland shipping through alternative fuels, such as LNG
Gemeente Rotterdam Public sector, Dutch local government	Financial and regulatory support	PoR shareholder, makes and implements policy for Rotterdam	Supporting cleaner inland shipping through alternative fuels, such as LNG
Nationaal LNG Platform Network organisation, Dutch	Consists of relevant public & private parties and provides a platform for discussion and initiatives	Connecting Green Deal parties, facilitating introduction of LNG in NL, knowledge exchange	Identifying challenges to small-scale LNG uptake and solving them, broad LNG advocacy
Central Commission for the Navigation of the Rhine (CCNR) International organisation, regulatory body	Can allow or prohibit navigation down the Rhine using LNG-powered ships	Law-making for Rhine navigation, cooperation with DG MOVE	Monitoring and regulating Rhine traffic, assessing the safety and acceptability of using LNG as fuel
Rotterdam Climate Initiative (RCI) Public and private sector, Dutch local government initiative	Advocates a more sustainable city of Rotterdam	Used as networking organisation and brand	Reduction of GHG emissions and improving local air quality
Deltalinqs Private sector, umbrella organisation	Against small-scale LNG at first, now active	Employer's organisation operational in the Rotterdam port	Preserving the position of the private sector within the Port of Rotterdam
GATE Terminal Private sector, energy import, export and storage	Imports and exports LNG for large-scale use and now also small-scale use	Important for the Dutch (and European) gas position/supply	Increasing LNG import and export, preserving clients for the terminal, construction of small-scale LNG infrastructure
Expertise- en Innovatiecentrum Binnenvaart (EICB) Branch organisation & knowledge institute	Receives funding from I&M, represents CCNR and other parts of the shipping branch	Doing research for innovation in inland shipping	Providing expertise for and about the inland shipping branch, supporting sustainable initiatives
Shell Private sector, energy company	Owns two LNG ships and is developing LNG infrastructure	Acts as proponent of LNG and has strong ties to Ministry of Economic Affairs	Preserving market share, supporting large- and small-scale LNG developments

Actor Type of actor	Position in LNG case	(Policy) Responsibilities	Ambition
Engie (GDF Suez) Private sector, energy company	Buys, uses and trades LNG and develops LNG infrastructure	Alongside Cofely the company delivers expertise regarding LNG	Preserving market share, supporting large- and small-scale LNG developments
Vopak Private sector, energy storage	Co-owner of GATE and responsible for terminal operations	High expertise regarding the safety of LNG, shares knowledge with government	Preserving market share, supporting large- and small-scale LNG developments
Deen Private sector, shipping	Owner of first LNG ship 'Argonon', stakeholder	Part of LNG Masterplan Rhine-Danube	Preserving market share, exploiting *MTS Argonon* and other possible future LNG ships

*Not all industry stakeholders are represented. Source: author's own compilation.

Annex VII

TEN-T Corridors



TEN-T Core network corridors
Source: European Commission website (DG MOVE).

Annex VIII

List of interviewed experts

- A. Mason, DG ENER
- M. Schuetz, DG ENER
- B. Sinobas, DG ENER
- V. Andre, DG ENV
- R. Hoenders, DG ENV
- A. Genty, DG GROW
- V. Kougionas, DG RTD
- L. Mueller, DG CLIMA
- M. Velkova, DG CLIMA
- S. Cabanis, DG MOVE
- A. van der Vlies, European Parliament
- J. den Blanken, European Parliament
- P. Hofhuis, PV-NL
- B. Hassing, PV-NL
- P. van Slobbe, Ministerie van Economische Zaken
- E. de Wit, Ministerie van Infrastructuur & Milieu
- N. Lyklema, Ministerie van Infrastructuur & Milieu
- D. Holtrop, Ministerie van Infrastructuur & Milieu
- C. Kampfraath, Ministerie van Infrastructuur & Milieu
- L. Mutsaers, Ministerie van Infrastructuur & Milieu
- G. Mensink, CCNR
- R. Geurts, Provincie Zuid-Holland
- M. Groen, Provincie Zuid-Holland
- E. van Heijningen, Raad van State

- M. de Hoog, DCMR
- A. Jumelet, ILT
- M. Huijs, Gemeente Rotterdam
- W. de Raaf, Gemeente Rotterdam
- W. Schaap, Gemeente Rotterdam
- V. Schoenmakers, Port of Rotterdam Authority
- N. van Dooren, Port of Rotterdam Authority
- M. Prinssen, Port of Rotterdam Authority
- S. Olierook, Port of Rotterdam Authority
- J. Hoogcarspel, Air Liquide
- E. de Jong, Deen Shipping
- E. Groensmit, VOPAK
- G. Dijkstra, GATE
- J. van Dijk, GDF Suez
- J. Limbeek, OCAP
- O. Tillema, ROAD CCS
- H. Schoenmakers, ROAD CCS
- J. Rookmaaker, RWE
- C. Dikker, Shell
- T. Bertels, Shell
- M. Hanegraaf, TNO
- C. Hendriks, Ecofys
- K. Tachi, EICB
- G. van Tongeren, LNG Platform
- R. Goevaers, LNG Platform
- W. Wiskerke, Greenpeace
- G. van Hooijdonk, Natuur & Milieu

Personal communications

- T. Ohliger, European Parliament (Think Tank)
- M. Pape, European Parliament (Think Tank)
- R. Melieste, Port of Rotterdam Authority
- P. van Essen, Port of Rotterdam Authority
- C. Boon, Port of Rotterdam Authority
- A. Janssen, Port of Rotterdam Authority
- R. Cuelenaere, TNO

Annex IX

Example interview CCS case

General part (identical for all interviews)

CCS reduces CO_2 emissions, thereby helping us reach climate goals. The reduction of these emissions is high on the agenda of the EU, national governments, and businesses. Energy and climate are viewed as two sides of the same coin, especially when considering the EU's 2030 energy & climate framework or comparable Dutch policy documents.

1. What are reasons for connecting climate action strategies to energy policy?
2. How does [insert organisation] deal with the tensions between a competitive energy policy and sustainable, but costly, ambitions?
3. What are, in your view, the respective roles of governmental authorities and businesses in the implementation of CCS?
4. What are the requirements for a successful implementation of energy and climate ambitions towards a more sustainable and environmentally friendly Europe?

I am interested in the relationship between and within the public and private sector in the area of CCS.

5. How are the public and private sector connected in the effort to further the implementation of CCS?
6. In your view, have relationships between the public and private sector changed — and if so, how — in recent years in the area of:
   A. sustainable energy in general?
   B. CCS in particular?
7. What is the future of CCS?

Specific (tailor-made to befit expertise of the person)

1. Could you describe the history of CCS as an instrument to combat climate change in the EU's climate policy?
2. While CCS can help in reducing CO_2 emissions, studies indicate that — depending on the exact way CCS is applied — PM, NOx and NH3 emissions can rise when employing CCS. What is DG X's take on the potential adverse effects CCS could have on air quality?
3. How does the Commission envisage the ETS reform in light of possible CCS deployment?
4. Could you reflect on the tools available to the European Commission in order to stimulate the development of CCS further?
   A. What role do national authorities play in this matter?
5. From my observations in the field and exploratory interviews I've gathered that — in general — people have an uneasy feeling about CCS: we know we need it, but we don't really want it. What is your take on this feeling? Do you recognise it or not?
   A. How does this relate to achieving the objectives of the 2050 Energy Roadmap, which relies heavily on CCS?
6. The Port of Rotterdam is actively involved in stimulating CCS. How does DG X view the role of the port authority in this matter?

Annex X

Example interview LNG case

General (identical for all interviews)

LNG can be helpful in reducing CO_2 emissions, and GHG emissions in general. The reduction of these emissions is high on the agenda of the EU, national governments, and businesses. Energy and climate are viewed as two sides of the same coin, especially when considering the EU's 2030 energy & climate framework or comparable Dutch policy documents.

1. What are reasons for connecting climate action strategies to energy policy?
2. How does [insert organisation] deal with the tensions between a competitive energy policy and sustainable, but costly, ambitions?
3. What are the respective roles of governmental authorities and businesses in achieving cleaner shipping?
4. What are the requirements for a successful implementation of energy and climate ambitions towards a more sustainable and environmentally friendly Europe?

I am interested in the relationship between and within the public and private sector in the areas of LNG.

5. How are the public and private sector connected in the effort to achieve a cleaner shipping sector?
6. In your view, have relationships between the public and private sector changed — and if so, how — in recent years in the area of:
   C. sustainable energy in general?
   D. LNG in particular?
7. What is, in your view, the future of LNG (as fuel for shipping)?

Specific (tailor-made to befit expertise of the person)

1. Could you briefly describe the history of the development of LNG as fuel for inland shipping as part of the EU's policy priorities?
2. The development of the use of LNG as fuel for (inland) shipping is an example of a link between transport policy and energy and climate policies.
   A. What is DG X's view on linking those issues?
   B. What are the challenges for such policies?
3. The Commission's *Clean Power for Transport Directive* calls for the facilitating of LNG bunkering in inland ports and seaports that are part of the TEN-T network. These bunkering facilities should be ready by 2030. At the same time, DG Enterprise has sent its proposal for a Non-Road Mobile Machinery (NRMM) Regulation to the EP and Council, which, if I understand it correctly, proposes that — with the use of proper after-treatment techniques — inland waterway vessels be regulated comparable to the Euro VI norm for road transport. How are these issues interlinked within the European Commission, ie., are they addressed together?
4. The Dutch government, with the Ministry of Infrastructure and Environment in the lead, is currently devising an implementation plan for *Clean Power for Transport*. Last year a national policy document concerning the same topic was published after extensive stakeholder consultation. LNG was placed high on the Dutch agenda. How does DG X coordinate with the Dutch government on issues related to the Directive in general, and LNG in particular?
5. Currently, sailing down the Rhine using LNG as fuel is prohibited by law, yet facilitated with permission of the Rhine Commission and relevant governmental authorities. The Rhine Commission is in the process of adjusting the regulatory framework so that LNG bunkering and shipping will be allowed in the future. Is DG X involved in this process, and, if so, how?
6. How do you view the Commission's role in advocating clean energy?
   A. How important is Commission support for (new) market initiatives?
7. The Port of Rotterdam is actively involved in stimulating LNG in the shipping sector. How does DG X view the role of the port authority in this matter?