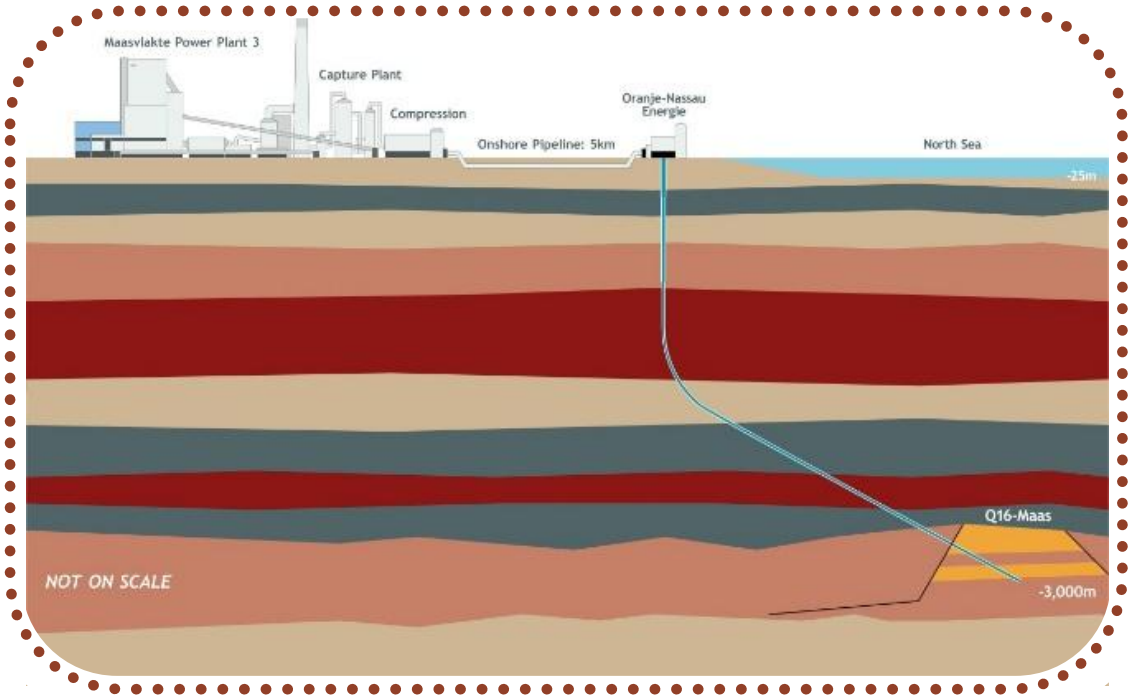
Close-Out Report Public Engagement

Rotterdam Opslag en Afvang Demonstratieproject



Maasvlakte CCS Project C.V.

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Close-Out Report 11 of 11: Public Engagement

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Index of ROAD Public Close-out Reports

No	Title	Scope
1	Overview	Introduce and summarise the public close-out reports.
2	Capture and Compression	Technical report covering capture, compression and power plant integration.
3	Transport	Technical report covering CO_2 pipeline transport.
4	CO_2 Storage	Both technical and commercial aspects of CO_2 storage for ROAD. Subsurface work required to demonstrate permanent storage is described.
5	Risk Management	The risk management approach used by ROAD.
6	Permitting and Regulation	Description of the regulatory and permitting framework and process for the ROAD project, including required changes to regulations.
7	Governance and Compliance	Company structure and governance for Maasvlakte CCS Project C.V., the joint venture undertaking the ROAD Project
8	Project Costs and Funding	A presentation of the projected economics of the project, with both projected income and costs.
9	Finance and Control	Description of the financial and control systems, including the costs incurred and grants claimed.
10	Knowledge Sharing	Outline of the Knowledge Sharing & Dissemination plan as developed by the ROAD project and completed KS deliverables and actions
11	***Public Engagement***	***Description of how ROAD organized and managed the Public Engagement process.***

Table of Contents

1. Management Summary

Project Summary

This public close-out report describes how the CCS demonstration project "ROAD" organized and managed the Public Engagement process. The ROAD Project (Rotterdam Opslag en Afvang Demonstratieproject) was one of the largest integrated carbon capture and storage (CCS) projects in the world, aiming to install carbon capture on a coal-fired power station in Rotterdam and store the CO_2 in an empty off-shore gas-field.

The project ran from 2009 to 2017. The developer was Maasvlakte CCS Project, a joint venture between Uniper (formerly E.ON) and Engie (formerly Electrabel and GDF SUEZ), with financial support from the EU EEPR program, the Dutch Government, the Port of Rotterdam and the Global CCS Institute.

In the first phase of the project, 2009-2012, the project was developed to Final Investment Decision (FID) based on using the TAQA P18-4 gas-field as the CO_2 storage location. This required a pipeline of approximately 25km from the capture location (Uniper's coal-fired Maasvlakte Power Plant – MPP3), about 5km onshore and 20km off-shore.

Unfortunately, the collapse in the carbon price undermined the original business case, and in 2012 a positive FID was not economically possible. The project then entered a "slow-mode" in which activities focused on reducing the funding gap, either by reducing costs or by securing new funding. In late 2014, a possible new funding structure was identified, and explored in 2015 and 2016. This included additional grants for operation and cost reductions. The cost reduction that could be successfully applied was to change storage sink to Q16-Maas, operated by Oranje-Nassau Energie (ONE). This smaller field was much closer, with only a 6 km pipeline required. This resulted in a remobilization of the project late in 2016, and development of the new scheme. However, in mid 2017 work was again halted, and formally stopped in November 2017.

Scope of this report

After an introduction and project description, this report decribes how the ROAD project organized and managed the Public Engagement process. It explains how Public Engagement, embedded in the Stakeholder Management department, was an integrated part of the project organization. Furthermore, it describes the development and implementation of the Public Outreach plan. Finally, throughout the report the key lessons learnt are highlighted in boxes.

Lessons Learnt

The ROAD project had a dedicated Stakeholder Management team focusing on i.a. Communications & Public Engagement. Integration of Stakeholder Management into the project team strengthened a multidisciplinary perspective of the organization and created cross-functional teams. For a technical project it enhanced taking non-technical aspects (e.g. stakeholder perceptions) into account in decision-making processes. However, such an approach also demanded more co-ordination, planning and time management.

ROAD, like other CCS demonstration projects, had to deal with many issues that are non-technical and to large extent depend on stakeholder perceptions and interests. Ultimately stakeholder engagement and managing stakeholders' expectations was instrumental in creating necessary conditions for other project functions (e.g. capture, transport & storage).

In addition, CCS projects are driven by technology and can easily be caught up in technological tunnel vision. One of the biggest threats is losing track of stakeholders' views and interests. Therefore an outside in perspective enables taking into account stakeholder expectations. Developing a stakeholder dialogue enables a two-way communication with stakeholders relevant to the implementation of the project.

2. Introduction

2.1 Introduction

The ROAD project was one of the leading European CCS Projects from 2010 to 2017. During that time, a great deal of project development and engineering work was completed, including full design and procurement to allow a possible FID at end 2011 or early 2012.

This report is one of a set of "Close-out" reports written after the formal decision to terminate the project was made in September 2017. The report aims to summarise describe the risk management system used by the project. The objective is to give future CCS project developers, and knowledge institutes, the maximum opportunity to use the knowledge gained and lessons learnt by the ROAD project team. Unlike the other close-out reports, which cover the whole project development from 2010 to 2017, this report describes the risk management approach applied in 2011 and 2012 only. This is because work during and after the "slow mode" that began in 2012 was not done to a sufficient level of detail to justify a systematic update of the risk database. This was planned prior to a new FID decision in 2017, however, it was not completed before the project was stopped.

This brief introduction to the "Close-out Report Risk Management" gives a general description of the overall project, including the history of its development, and describes the scope and structure of the rest of this risk management report This should enable readers to quickly locate information of relevance to them in this report

2.2 General Project Description

The ROAD Project is the Rotterdam Opslag and Afvang Demonstratieproject (Rotterdam Capture and Storage Demonstration Project) which ran from 2009 to 2017, and was one of the leading integrated Carbon Capture and Storage (CCS) demonstration projects in the world.

The main objective of ROAD was to demonstrate the technical and economic feasibility of a large-scale, integrated CCS chain deployed on power generation. Previously, CCS had primarily been applied in small-scale test facilities in the power industry. Large-scale demonstration projects were needed to show that CCS could be an efficient and effective CO_2 abatement technology. With the knowledge, experience and innovations gained by projects like ROAD, CCS could be deployed on a larger and broader scale: not only on power plants, but also within the energy intensive industries. CCS is one of the transition technologies expected to make a substantial contribution to achieving European and global climate objectives.

ROAD is a joint project initiated in 2009 by E.ON Benelux and Electrabel Nederland (now Uniper Benelux and Engie Nederland). Together they formed the joint venture Maasvlakte CCS Project C.V. which was the project developer. The ROAD Project is co-financed by the European Commission (EC) within the framework of the European Energy Programme for Recovery (EEPR) and the Government of the Netherlands. The grants amount to € 180 million from the EC and € 150 million from the government of the Netherlands. In addition, the Global CCS Institute is knowledge sharing partner of ROAD and has given a financial support of € 4,3 million to the project. The Port of Rotterdam also agreed to support the project through investment in the CO_2 pipeline.

In the first phase of the project, 2009-2012, the project was developed to final investment decision (FID) based on using the P18-4 gas-field operated by TAQA as the CO_2 storage location. This required a pipeline of approximately 25km from the capture location (Uniper's coal-fired Maasvlakte Power Plant – MPP3), about 5km onshore and 20km off-shore.

Unfortunately, the collapse in the carbon price undermined the original business case, and in 2012 a positive FID was not economically possible. The project then entered a "slow-mode" in which activities focused on reducing the funding gap, either by reducing costs or by securing new funding. In late 2014 a possible new funding structure was identified, and explored in 2015 and 2016. This included additional grants for operation and cost reductions. The cost reduction that could be successfully applied was to change storage sink to a

newly developed field, Q16-Maas, operated by Oranje Nassau Energie (ONE). This smaller field was much closer, with only a 6 km pipeline required. This resulted in a remobilization of the project late in 2016, and development of the new scheme. However, in mid 2017 work was again halted, and the grant formally terminated in November 2017.

The ROAD project design applied post combustion technology to capture the CO_2 from the flue gases of a new 1,069 MWe coal-fired power plant (Maasvlakte Power Plant 3, "MPP3") in the port and industrial area of Rotterdam.

The capture unit has a design capacity of 250 MWe equivalent. During the operational phase of the project, approximately 1.1 megatons of CO_2 per year would be capture and stored, with a full-load flow of 47kg/s (169 t/h) of CO_2. For transport and storage two alternatives were developed as described above: storage in the P18-4 reservoir operated by TAQA; and storage in the Q16-Maas reservoir operated by Oranje-Nassau Energie.

After a competitive FEED process, Fluor was selected as the supplier for the capture technology in early 2011. The plant was fully engineered, and long lead items contracted for, ready for an FID in early 2012. All the necessary permitting was completed, with a permit for the capture plant being granted in 2012. Following the delay to the project, an updated design was developed with Fluor in 2017 incorporating lessons learnt from research and development in the intervening years, changes to the MPP3 site, and the impact of the changes to the transport and storage system. A revision to the permit was under development when the project was halted.

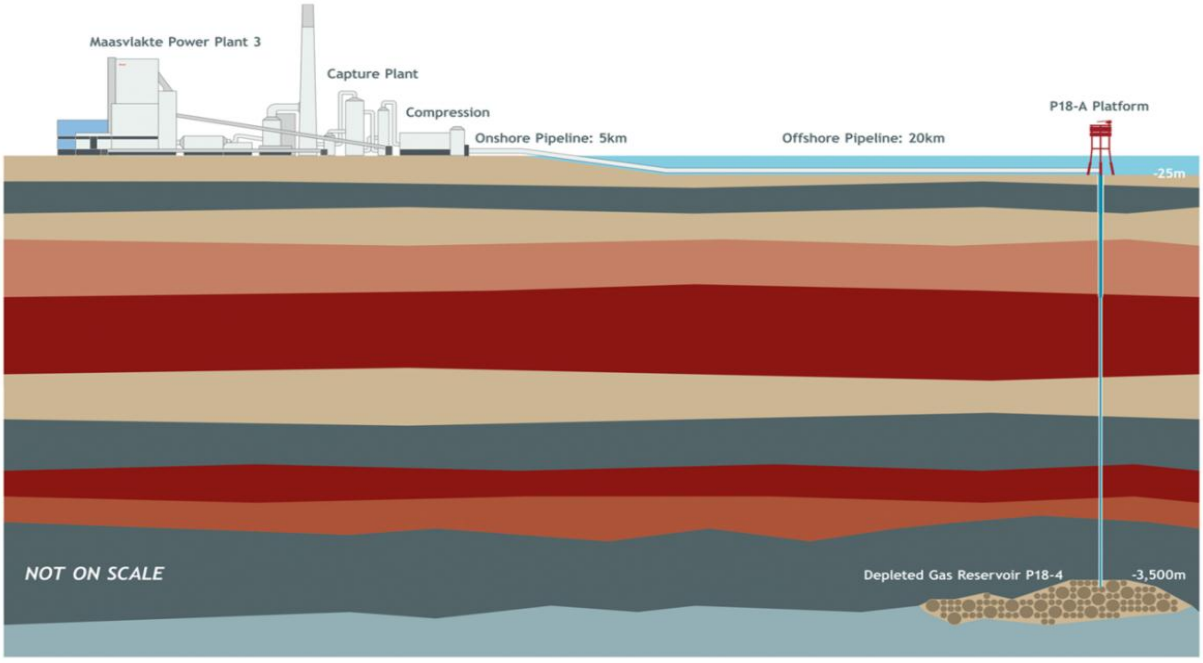
For storage in P18-4

From the capture unit the CO_2 would be compressed and transported through a pipeline: 5 kilometers over land and about 20 kilometers across the seabed to the P18-A platform in the North Sea. The pipeline has a transport capacity of around 5 million tonnes per year. It is designed for a maximum pressure of 140 bar and a maximum temperature of 80 °C. The CO_2 would be injected from the platform P18-A into depleted gas reservoir P18-4. The estimated storage capacity of reservoir P18-4 is approximately 8 million tonnes. Figure 2.1 shows the schematic illustration of this.

P18-4 is part of the P18 block which also includes the larger P18-2 and also a small field, P18-6. These depleted gas reservoirs are about 3.5 km below the seabed under the North Sea about 20km from the Dutch coastline, and have a combined CO_2 storage capacity of around 35 Mt.

The ROAD Project with storage in P18-4 was fully developed for FID at the end of 2011, including all engineering, regulatory and permit requirements. A CO_2 storage permit was granted in 2013, the first such permit in Europe. Unfortunately, a positive FID was not possible due to funding problems, and in 2012 technical project development on P18-4 was halted.

Figure 2.1 Schematic overview of the ROAD Project using storage in P18-4



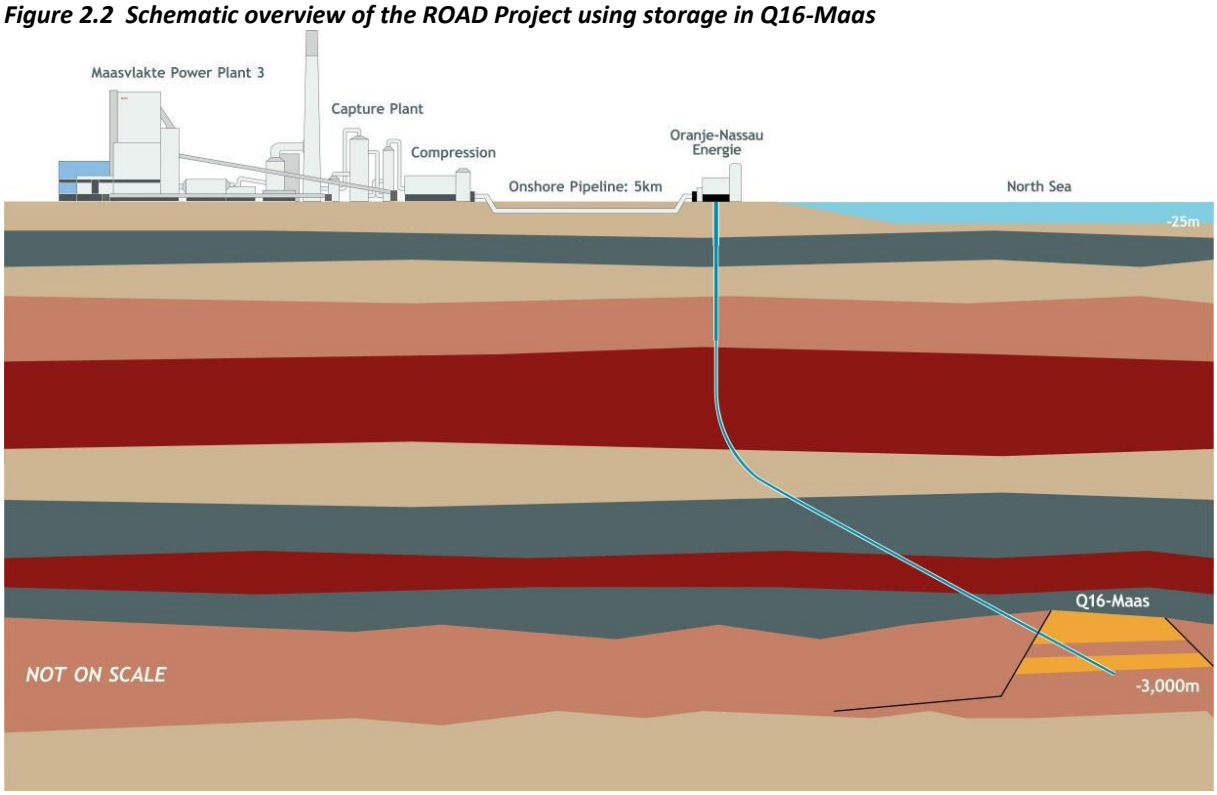
For storage in Q16-Maas

From the capture unit the CO_2 would be compressed and transported through a pipeline over land to the current ONE-production site Q16-Maas (Figure 2.2). The selected pipeline design would have a transport capacity in excess of 6Mt/year. It was designed for a maximum pressure of 40 bar although in the first phase operation at 20 bar was planned. Final compression to injection pressure (around 80 bar) would be at the injection site.

The Q16-Maas reservoir is located just off-shore from the Maasvlakte, and is reached by a long-reach well, drilled from on-shore. The well is about 5km long, and travels approximately 3km down to reach the reservoir depth, and 3 km horizontally (off-shore) to reach the reservoir location. The reservoir is relatively new (production started in 2014) and was not due to finish production until 2022. Therefore this scheme involved the drilling of a second well to accelerate gas production and so allow CO_2 injection to start in 2020. This second well would also allow co-production of modest amounts of condensate (and possibly natural gas) during CO_2 injection. The estimated storage capacity of reservoir Q16-Maas is between 2 and 4 million tonnes.

This reservoir was identified as a possible storage location only at the end of 2014, with project development running through 2015-2017. Due to funding uncertainties, the work focused on feasibility, cost estimation and concept design to the level required for permitting. Therefore a lower level of detail is available for this storage location, compared to P18-4. It should also be noted that unexpected water production was experienced from Q16-Maas in 2016, leading Oranje-Nassau Energie to issue a revised reservoir model and production plan in May 2017. Since this was only shortly before the ROAD work was halted, the ROAD plans for Q16-Maas were not fully amended to reflect this new production data.

Figure 2.2 Schematic overview of the ROAD Project using storage in Q16-Maas



2.3 Scope and Structure of this Report

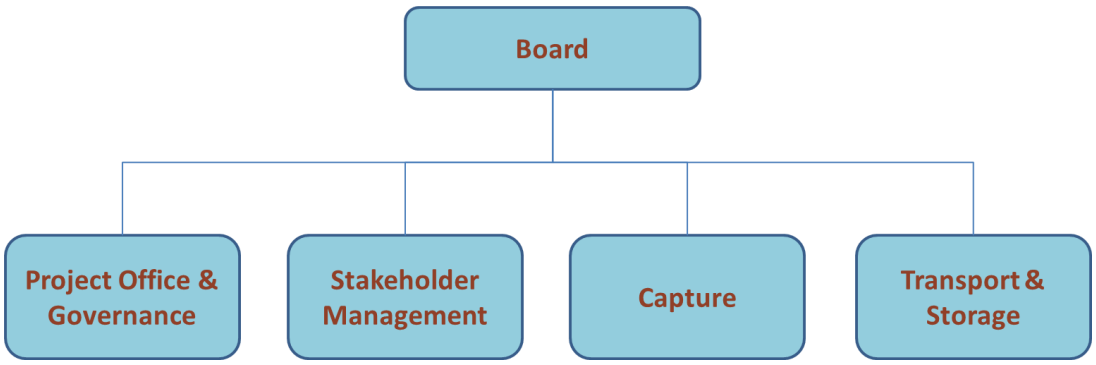
This report decribes how the ROAD project organized and managed the Public Engagement process. It is based on the Special Report “Stakeholder Management ROAD” that ROAD produced for the Global CCS Institute, in 2010. Section 3 explains how Public Engagement, embedded in the Stakeholder Management department, was an integrated part of the project organization. Section 4 describes the development and implementation of the Public Outreach plan of ROAD. In Section 5, the key lessons learnt are summarized.

3. Stakeholder Management in ROAD project

3.1 Project Organisation

Uniper and Engie created the joint venture Maasvlakte CCS Project C.V., a limited partnership with a 50-50 division of shares. This project organization provided the technical, operational and economic management of the activities. The Maasvlakte CCS Project C.V. had the following organizational structure:

- Project Office & Government.
- Stakeholder Management.
- Capture.
- Transport & Storage.



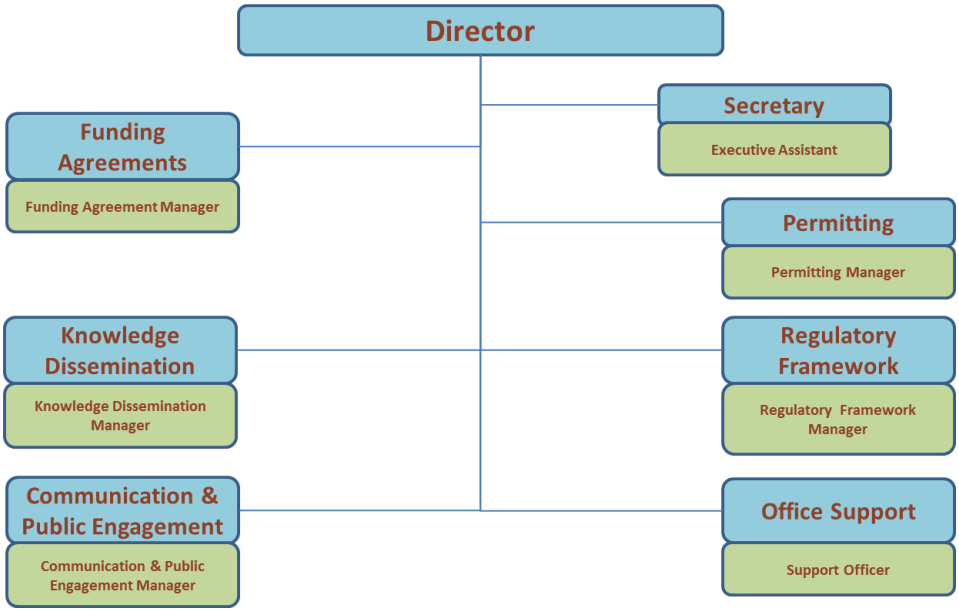
Project Organisation of Maasvlakte CCS Project C.V.

The entire project organization was accommodated on the same location. All project teams had a shared office space on one floor.

3.2 Stakeholder Management Department

The ROAD project organisation had a dedicated team focusing on Stakeholder Management covering the following specialisms:

- Communications & Public Engagement.
- Regulatory Affairs.
- Permitting.
- Funding Agreement Management.
- Knowledge Dissemination.



Stakeholder Management within Maasvlakte CCS Project C.V.

The members of the Stakeholder Management team of ROAD were responsible for managing and coordinating relations with key stakeholders of the project. The Director Stakeholder Management was member of the Board of Directors of ROAD.

3.2.1 Permitting

The Permitting team was responsible for managing the Environmental Impact Assessment (EIA) procedure and permitting application process of the ROAD-project. The Permitting team coordinated all relations with the relevant authorities: the Ministry of Economic Affairs, Agriculture and Innovation (EA&I), the DCMR Rijnmond Environmental Agency (DCMR), the Department of Construction and Transport of the City of Rotterdam, Province of Zuid-Holland, State Water Authority of Zuid-Holland, State Water Authority of the North Sea and the Netherlands Commission for Environmental Assessment. The Permitting team members were from the parent companies Uniper and Engie, intended partners and supported and advised by external consultants.

3.2.2 Regulatory Affairs

The Regulatory Affairs team was responsible for identifying all relevant legislative dossiers and managing these dossiers in a way the ROAD project could become operational. Not only the identification of legislative dossiers was important, monitoring the regulatory risks and opportunities was at least as important. Furthermore, the Regulatory Affairs team aimed to support all relevant stakeholders to develop an effective legislative and regulatory framework for deploying large scale CCS projects in the Netherlands. The Regulatory Affairs team shared knowledge and experience with a range of stakeholders.

Regulatory Affairs was a specialism within Stakeholder Management, however, close cooperation with other (technical) experts of the ROAD project was essential. Particularly, there ere close ties with Permitting and Communications & Public Engagement. In addition, the Regulatory Affairs team worked closely with the Regulatory and Public Affairs specialists from the parent companies. Together they formulated positions and coordinated contacts with e.g. government officials and members of Parliament.

3.2.3 Communications & Public Engagement

The Communications & Public Engagement team was responsible for the communication objectives, strategy, key messages, activities and materials. Responsibilities, roles and procedures on internal and external communication of ROAD were clearly defined in an internal communication policy document. It also described coordination procedures with the parent companies and partners on communication activities and materials with a (potential) high impact or visibility (e.g. press interviews, public presentations, advertisements).

External communication activities and materials with (possible) high exposure for stakeholders were reviewed by technical specialists on accuracy of facts and figures. External (formal) documents (e.g. Environmental Impact Assessment) were checked by Communication and Public Affairs specialists on potential political and reputation issues for the project. In addition, technical specialists had received presentation trainings for public events, given the experience that technical specialists tend to focus on the content of their message and less on delivery. This increased their awareness and sensitivity for potential perception issues.

The Communications & Public Engagement team of ROAD and the communication officers of the parent companies and the intended partners periodically met within a communication taskforce. The taskforce was used as a platform to regularly exchange views on communication objectives, strategy, key messages, on-going activities and materials of the project. In addition, regularly updated insights from stakeholder contacts were taken into account in order to enhance an outside-in perspective and create positions which were mutually beneficial.

3.3 Integration of Stakeholder Management

The Stakeholder Management team shared an open office space with other project teams. This cultivated bilateral and cross-functional contacts between teams. In addition, specialists of the Stakeholder Management team frequently participate in meetings and working groups of capture, transport and storage teams.

The Stakeholder Management team also contributed to the risk register of ROAD. The team was responsible for identifying and assessing causes and effects of potential stakeholder and reputation risks. Furthermore, they were accountable for planning and managing mitigating and response measures. Ultimately, the director Stakeholder Management and the management board of ROAD authorized whether stakeholder risks were deemed acceptable or unacceptable.

Integration of the Stakeholder Management into the project team strengthend a multidisciplinary perspective of the project organization and created cross-functional teams. For a technical project it enhanced taking non-technical aspects (e.g. stakeholder perceptions) into account in decision-making processes. However, such an approach also demanded more co-ordination, planning and time management.

Full Integration of Public Engagement

Lessons learnt: The communication & public engagement function should be integrated in the project management since CCS projects have to deal with many issues that are non-technical and to large extent depend on stakeholder perceptions and interests. Ultimately Stakeholder Management is instrumental in creating necessary conditions for other project functions (e.g. capture, transport & storage).

4. Public Outreach Process

4.1 Mapping of Key Issues and Stakeholders in Public Outreach Process

4.1.1 Mapping of social-political context and issues

The ROAD project integrated the full CCS chain. The capture unit of ROAD was planned in the Rotterdam port and industrial area, in the Western part of the Netherlands. Initially, the captured CO_2 would be stored in depleted gas reservoirs under the North Sea, 20 km off the coast of Rotterdam. In the new project set-up, the new storage location Q16-Maas was much closer to the coast.

The greater Rotterdam area is known as the Rijnmond region: an urbanized and industrialized area of 800 km^2. It inhabits approximately 1.2 million people in 16 local communities. It also hosts important economic activities including heavy industries such as refineries, chemical plants, transport, power plants and other energy-intensive industries.

Economic activities in the Rotterdam port and industrial area put a considerable demand on environment and space in the region. In the Rijnmond area activities in the port-industrial complex compete with other social-economic functions such as living, working, mobility and leisure. Also the environmental effects by heavy industry and road transport put substantial pressure on the living environment in the Rijnmond region.

Rotterdam Climate Initiative

In 2007, a number of governments and authorities in the Rotterdam area initiated a joint programme to ambitiously reduce CO_2 emissions in the region. Initiators of the so-called Rotterdam Climate Initiative (RCI) were: the Port of Rotterdam Authority, the City of Rotterdam, Deltalinqs (port and industry organization) and DCMR Environmental Protection Agency Rijnmond. RCI had two objectives: reduce 50% of the CO_2 emissions by 2025 as compared with 1990 and become 100% climate proof by 2025.

Rotterdam offered a favourable location for a CCS network due to the concentration of industrial emissions in the Rotterdam port and industry area and its proximity to (significant volumes of) storage capacity, primarily offshore (on the Dutch continental shelf). CCS was an essential part of RCIs strategy to reduce CO_2 emissions by 50% in 2025 as compared with 1990 levels. RCI invested in energy efficiency, sustainable energy, and large-scale implementation of CCS. Compared to a business as usual scenario Rotterdam had to decrease its CO_2 emission in 2025 by 34 megatonnes/year, whereas 20 megatonnes/year was expected to be achieved by implementing CCS.

The RCI begun working with a core group of potential CCS network participants, including large emitters (amongst others Uniper and Engie), gas and CO_2 transport companies and operators of hydrocarbon fields, with the objective of producing a detailed CCS business plan and model. Both Uniper and Engie signed a Letter of Cooperation (LOC) with RCI in order to investigate the integration of the potential capture facilities with a CO_2 transport infrastructure and permanent CO_2 storage in depleted gas reservoirs under the North Sea.

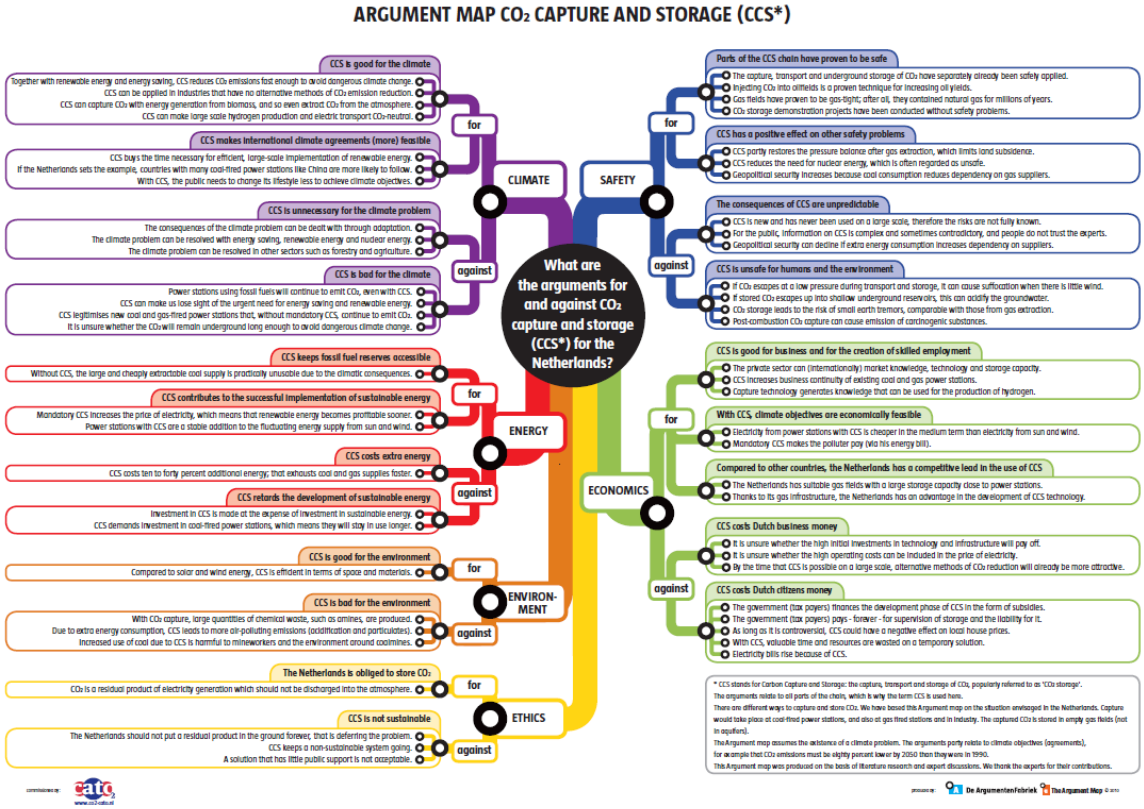
Political context

At the initiation of the ROAD-project, the political and public debate on CCS was evolving into a climax (especially onshore CO_2 storage). The public turmoil around the CO_2 storage projects in Barendrecht and the Northern provinces moved public acceptance as necessary condition for onshore CO_2 storage high on the political agenda. It also became clear that support and involvement of local and regional governments was a prerequisite for a successful implementation of a CCS project. In addition, NGO's positioned CCS in the public debate as legitimacy for new coal-fired power plants.

Within this political context, ROAD conducted an issues and stakeholder analysis in which the following relevant developments were identified for the ROAD project:

- Mid 2010, climate change was not at the top of the political agenda anymore (also as a consequence of the financial and economic crisis).
- A sustaining opposition from environmental NGO's against new coal-fired power plants and conflicting opinions on the need and necessity of CCS within the transition to a sustainable energy supply (e.g. public funds allocated to CCS competing with renewable energy investments).
- Strong and emotional resistance of local residents in Barendrecht and Northern provinces against onshore CO_2 storage in inhabited areas.
- Following the national elections in June 2010, the new government and coalition agreement stated that local support should be a necessary condition for onshore CO_2 storage.
- The general public was relatively uninformed on fact-based risks and advantages of CCS.

In order to map relevant issues ROAD also used the CCS Argument Map presenting an overview of the pros and cons on CCS used the public debate in the Netherlands. The CCS Argument Map was produced by CATO2 (the Dutch national R&D program for CCS) and is available on the CATO2-website (www.co2-cato.nl).



CCS Argument Map

The Barendrecht CO_2 storage project showed that public outreach and pro-active Public Engagement was a critical factor for successful implementation of CCS projects. Key lessons learned from the Barendrecht project were:

- Early start of communication activities.
- Timely, sufficient and transparent information.
- Involvement of relevant stakeholders.
- Two-way communication (e.g. active listening, responsiveness).
- Involvement of stakeholder interests in decision-making process.
- Clarity on objectives and expectations.

From the Barendrecht case also became clear that good and open relations with local governments (e.g. aldermen) were a valuable asset for CCS projects. Local government representatives could act as bridgehead between local communities and a CCS project. In an early stage ROAD established contacts with relevant representatives and informed them on facts and figures of the project. ROAD maintained regular contacts with these representatives also to be kept informed on local developments.

Beside technical issues directly related to Health, Safety, Environmental (HSE) effects of CCS, also (potential) non-technical issues were relevant for the ROAD project:

- Further pressure on liveability and quality of life in the Rotterdam region (including living conditions, physical and mental health, recreation, leisure time, nature and landscape).
- Lack of support from local-regional governments and authorities caused by resistance from local residents.
- Experiences from the construction of the new coal-fired power plant taught that local communities had worries about effects of industrial activities that impact the liveability of their direct environment (e.g. hinder and nuisance such as noise, air pollution, dust, traffic), beside external safety issues.

Context is Everything

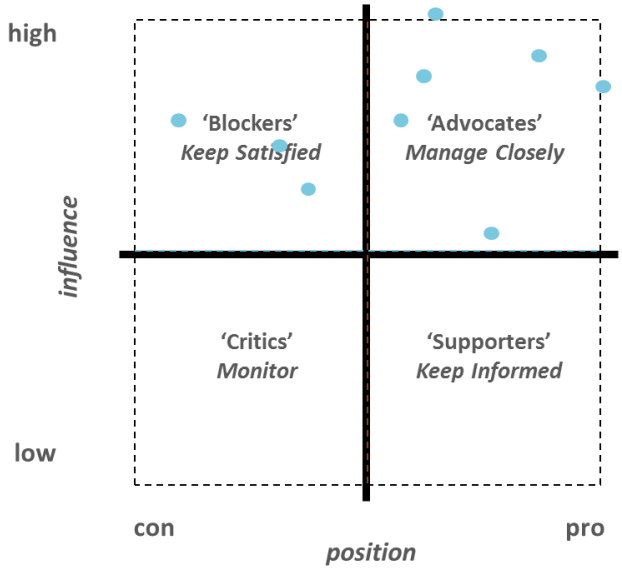
Lessons learnt: Context is everything and perceptions are relative. In many cases historic events, affect and interests in local communities determine to a large extent perceptions and positions of stakeholders regarding the project.

4.1.2 Mapping of stakeholders

In an early stage ROAD defined the key stakeholder groups and their perceptions of CCS and related issues. The project could tap into relevant issues and stakeholder insights which the parent companies acquired during the construction of the new power plants in the Rotterdam port and industrial area. Also the experiences of the Port Authority of Rotterdam from the development of the new Maasvlakte 2 (large-scale land reclamation) was a valuable reference for mapping local and regional stakeholders.

Both cases provided helpful insight into relevant stakeholder groups, perceptions and potential issues for large-scale (infrastructure) projects in the Rijnmond region. ROAD had on-going contacts with specialists from other organizations and projects. In order to keep the issues and stakeholders map up to date ROAD regularly conducted (internal) workshops, also with specialists from parent companies. In addition, ROAD developed structural relations with other local communities platforms in order to monitor stakeholder developments.

ROAD used these insights to map the force field of stakeholders. A force field map (see graphic) is instrumental in plotting the relative positions of stakeholders on relevant issues concerning the project.



Stakeholder map

ROAD identified an extensive list of local, regional and national stakeholders and made an analysis of the force field. The following categories of stakeholders were listed:

- Local communities and civic groups.
- Regional NGO's (e.g. environmental).
- Local and regional governments and authorities.
- Regional business platforms (port and industrial area).
- National government and parliament.
- Local and national media.
- National NGO's.
- Knowledge institutes.

Important (regional) ambassadors for the ROAD-project were the Alderman of the City of Rotterdam and the director of the Port of Rotterdam Authority. Both in the Rotterdam region and the national government level they had actively endorsed and advocated the ROAD project.

Furthermore, ROAD used the following research sources in order to get a more in-depth understanding of the perceptions of relevant stakeholder groups on CCS:

- Opinion surveys and focus groups.
- Consultations of regional stakeholders.
- NEARCO2 research project (e.g. Energy Centre of the Netherlands) on public perceptions of CCS.
- Consultation of the Global CCS Institute on public engagement.

One of the outcomes was that the ROAD project should primarily focus on local and regional stakeholders (also following the projects in Barendrecht and the Northern provinces). The alignment of local and regional stakeholders was seen as primary condition for the implementation of the ROAD project. Furthermore, being an active partner of the envisaged Rotterdam CCS network would create a strong local value proposition for the ROAD project: contributing to the sustainable economic development of the Rotterdam port and industrial area.

Inform and Mobilize Ambassadors and Advocates

Lessons learnt: A near neighbour is better than a distant cousin. It´s important to structurally inform key stakeholders that can act as ambassador and advocate for the project.

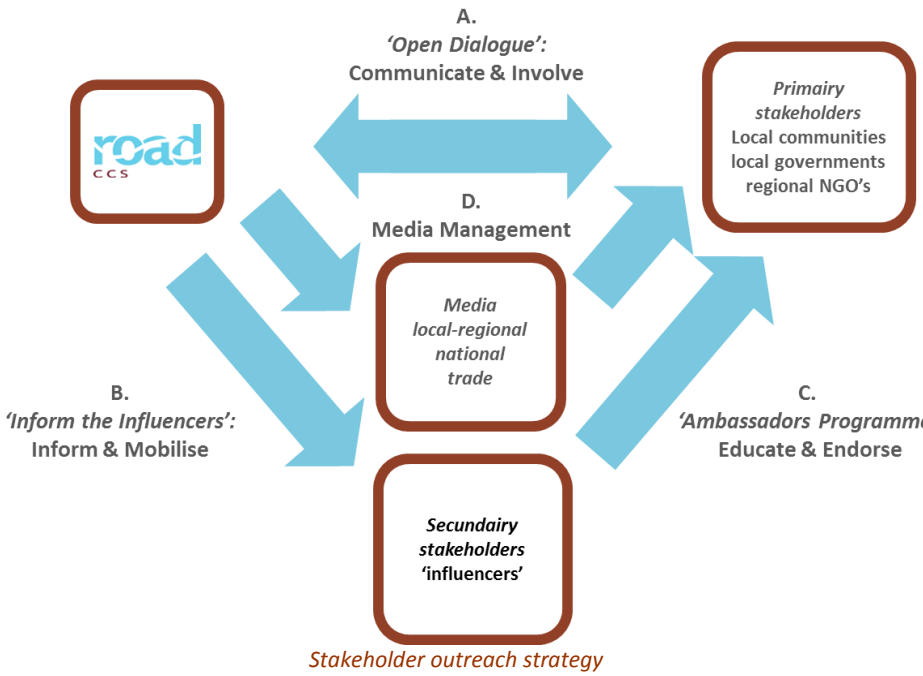
4.2 Development of Public Outreach Plan

Although the planned capture unit and storage location were remote from residential areas, ROAD chose to develop a stakeholder outreach plan that focused to a large extent on local and regional stakeholders. Experiences and perceptions from Barendrecht and the Northern provinces taught local acceptance was perceived as necessary condition for (onshore) CO_2 storage. After the cancellation of Barendrecht and the Northern provinces, offshore CO_2 storage was being perceived as a better option for demonstration projects. Nonetheless, the ROAD project considered public engagement activities as important for the feasibility of the project.

Furthermore, large-scale infrastructure projects in the Rotterdam port and industrial area, like the development of Maasvlakte 2 and the construction of new (coal-fired) power plants, did put pressure on the living environment in the Rijnmond region. The perception could emerge that a CCS demonstration project like ROAD would further degrade the local and regional living environment.

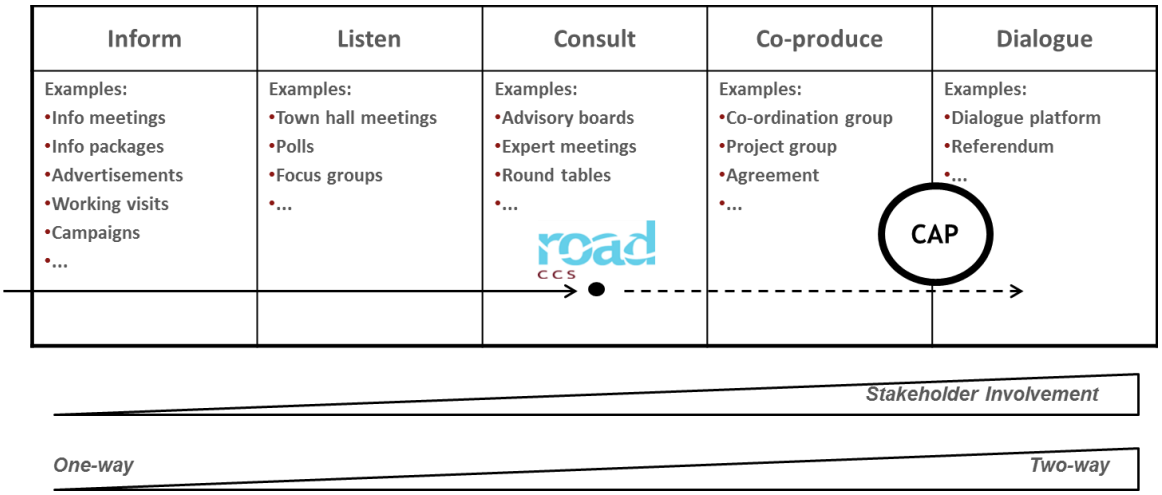
Within this context, ROAD developed an integral outreach strategy and communication plan for the long term. The communication strategy mainly focused on three stakeholder groups:

- Primary stakeholders: local communities, local governments, regional NGO's.
- Secondary stakeholders: local and regional influencers and opinion-leaders (e.g. scientists, officials, regulators, authorities, interest groups).
- Intermediary stakeholders: local, regional and national media.



Stakeholder outreach strategy

The outreach strategy of ROAD was aimed at gradually involving local communities in the project. In the first stage (e.g. design and permitting) of the project communication activities were generally aimed at informing stakeholders with balanced and objective information on the project (e.g. brochure, website).



The probing phase focused on listening to what general perceptions, opinions and positions of stakeholders are. The consulting phase aimed at obtaining community feedback on analysis, alternatives or decisions. With the co-production phase relations with local communities become more direct and structured in order to ensure that concerns and aspirations are understood and considered. Finally, in the dialogue phase the relationships with local communities should develop into a close partnership in each aspect of the decision-making process, including the development of alternatives and the identification of the preferred solution.

As the ROAD project wouldevolve, relationships with relevant stakeholder would become more regular and intense. This would gradually build up a dialogue with local communities. On the long term the outreach strategy was focused on creating a structural platform via a so-called Community Advisory Panel (CAP) and building and securing mutual understanding and trust. On the longer term, the development of a CAP should also offer an on-going platform for an open, constructive dialogue between ROAD and its stakeholders and to monitor developments in public perceptions.

In general, CAP's can be seen as a best practice in the chemical industries. In the 1980, the global chemical industry was confronted by a number of major accidents at chemical facilities. These accidents severely undermined public trust and confidence in the chemical industry. In response, the CAP's were initiated to rebuild public confidence in the industry. Meanwhile, they have proven to be very effective in (re)building relationships and trust between chemical plants and local community members.

The CAP could offer a platform for an open, constructive dialogue between a company or project and its stakeholders. It would be composed of approximately 10 members representing local communities (not representing interest groups. It would be presided by an independent chair and meet ca. 4 times a year. The CAP would formulate its own agenda and have independent financial and communication means, but also have periodic meetings with the management of the company or project (incl. working visits to the production site). Topics that the CAP could cover were: external safety, environment, hazard and risks, hinder and nuisance, monitoring and alarm systems, external communication, incident and complaint procedures.

Speech Is Silver, Listening Is Golden

Lessons learnt: With a two-way communication strategy and getting an insight in expectations and mutual interests of stakeholders the project will be better able to secure public acceptance on the long term.

4.3 Implementation of Public Outreach Plan

At the start of the implementation of its public outreach programme, ROAD defined a clear vision and mission statement for the project. This vision and mission statement drove all communication and corresponding key messages. It also clearly defined the position of ROAD vis-à-vis its parent companies on general energy issues. The vision and mission of ROAD was as follows:

Vision

"In transition to a sustainable energy supply we will have to rely on various transition technologies (and-and) in order to secure a reliable, efficient and clean energy supply."

Mission

"Demonstrating that a large-scale, integrated CCS-chain (offshore) can be applied in a reliable and efficient way within 10 years (2020) and can make a substantial contribution to the climate change objectives, and share knowledge and experiences with other industries and countries."

Within the framework of the vision and mission statement ROAD formulated a number of positioning statements that should drive key communication messages:

- Industrial, integrated CCS chain.
- Offshore.
- Reliability (safe).
- Transition technology (reliable, efficient, clean).
- Public engagement and dialogue.
- Knowledge development and innovation.
- Rotterdam CCS network and sustainable economic development.
- Dutch and European (financial) support.

It's Also The Economy…!

Lessons learnt: Not only focus on climate change, but also on the economic benefits of CCS and local value propositions it can offer to local communities.

ROAD developed various basic communication materials to support its outreach strategy such as: project brochure with background information, website, exhibition materials and animations of how the CCS chain (capture, transport and storage) works. For public events like town hall meetings the technical specialists also used core samples in order to show how stone from the gas reservoirs looks and feels.

All materials were reviewed by the technical team. However, materials were easy to read and understand and mostly visualized. If possible they were endorsed by independent research institutes and/or scholars and scientists. The information was not only specifically on the ROAD project and CCS, but also included background information on climate change.

ROAD periodically reviewed its positioning and key messages in several ways:

- Surveys and focus groups.
- Media monitoring;
- Regular talks with key stakeholders
- Meetings with research institutes (e.g. ECN, the Global CCS Institute).

A Picture Is Worth A Thousand Words

Lessons learnt: CCS is technical and complex and for local communities it's easier to understand and experience images and tangibles than words and numbers.

4.4 Basic Outreach Efforts

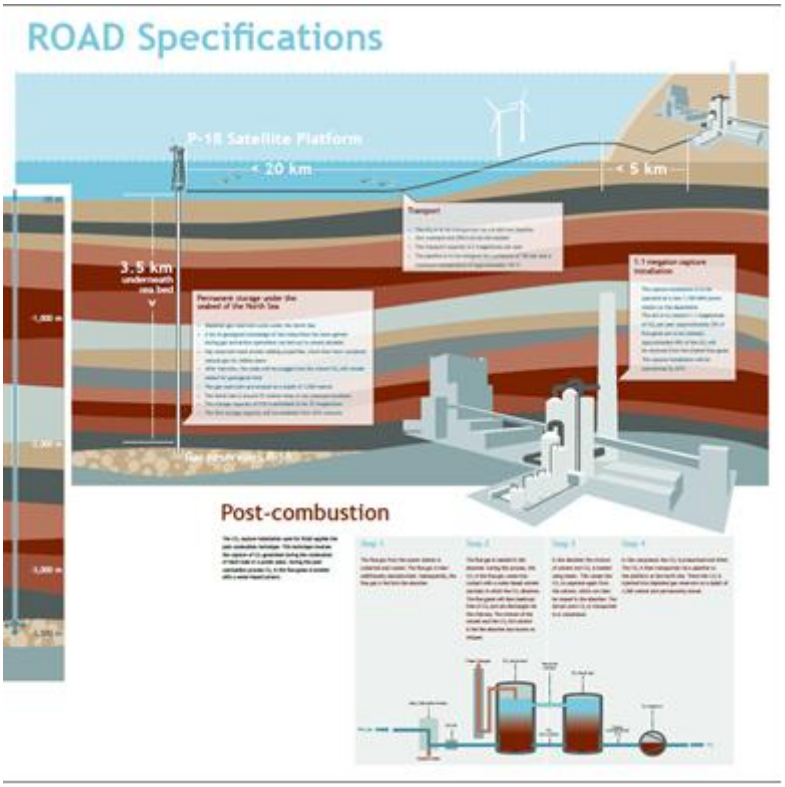
4.4.1 Individual presentations to key stakeholders

One of the first communication activities ROAD implemented were individual presentations to key stakeholders in the Rotterdam region. Main objective of these one-on-one meetings was to inform these stakeholders on the ROAD project and to lay a basis for a long-term relationship. It also provided further insight into relevant stakeholder groups, perceptions and potential issue for the project.

Included stakeholders were: aldermen and council members of communities in the Rijnmond region, representatives of relevant regional authorities (Port of Rotterdam Authority, DCMR) regional business platforms like Deltalinqs, local communities and civic groups and regional NGO's. In addition, ROAD gave presentations at existing local platforms and community information meetings. ROAD also used a so-called 'snow-ball' approach by asking key stakeholders for stakeholder referrals to be included for one-on-one meetings.

4.4.2 Project brochure

On the basis of the presentations used for the one-on-one meetings, ROAD produced a compact project brochure with a variety of content on the project and relevant backgrounds. The Information in the brochure covered topics like climate change, EU policies, need and necessity of CCS and ROAD objectives and planning. It also offered a lot of details on the planned capture, transport and storage technologies.



Project brochure

The brochure included a lot of graphics in order to visually support the facts and figures and make the presented information more accessible and understandable.

4.4.3 Project website

In line with the project brochure, ROAD developed a dedicated project website (www.road2020.nl). It explained the ROAD objectives, core activities, planning and details on the planned capture, transport and storage technologies. Furthermore, it contained relevant backgrounds on national and EU climate change policies, need and necessity of CCS, etc. In addition, the website linked to social media like Facebook, Twitter and LinkedIn.

4.4.4 Frequently Asked Questions

In order to align messages on various CCS related topics, ROAD drafted a document with Frequently Asked Questions (FAQs). This document listed relevant questions and answers with the purpose of informing and coordinating positions and statements on topics and issues both internally with experts and with specialists from the parent companies and partners. The FAQs were identified and answered in close cooperation with e.g. parent companies and the national government. ROAD also compared its FAQs with those of other stakeholders in order to identify potential gaps and issues.

4.4.5 Town hall meetings

After submitting the starting note of the Environmental Impact Assessment (EIA), ROAD organized two town hall meetings in communities closest to MPP3 in October. These town hall meetings were mandatory in the EIA procedure and were organized in close cooperation with relevant authority's (e.g. Ministry of Economic Affairs, Province of Zuid-Holland, DCMR and the City of Rotterdam).

The town hall meetings were set up as information markets with a number of information stands on various topics. ROAD consciously chose for this format instead of a plenary setting with central presentations in front of an audience with local inhabitants. The format of an information market allowed more personal and dedicated interaction and dialogue with interested stakeholder showing up at the event. Technical experts also used exhibits like drill cores from the gas reservoirs in order to explain technical details.

Town Hall meetings

In preparation of the town hall meetings, the technical experts got a special presentation and conversation training in order to improve their deliverance and strengthen their active-listening capabilities.

Soft Skills Can Make a Difference

Lessons learnt: It´s not only about (technical) knowledge and information, but also about soft skills and empathy of personnel of the project organisation. Technical experts received trainings in presentation, conversation and how to adequately cope with emotional situations.

4.4.6 Working visits

For several individual and groups of stakeholders ROAD arranged a number working visits to the MPP3 in the Rotterdam port and industrial area. These visits comprised a guided tour on the building site of the new power plant and of the planned capture plant.

4.4.7 Uniper Visitors Centre

ROAD used the Uniper visitors centre next to the building site to facilitate stakeholders meetings and presentations. The visitors centre also offers information and education on energy related topics, such as: climate change, fuel mix, emissions, energy efficiency, CCS, etc.

Uniper Visitors Centre

4.4.8 Press releases

ROAD externally communicated achieved milestones of the project by distributing press releases to local, regional and national media. ROAD sent out press releases on e.g. submitting the starting note of the EIA and the advice of the Netherlands Commission for Environmental Assessment.

4.4.9 Media briefings

Following the intense media coverage on CO_2 storage projects in Barendrecht and the Northern provinces, ROAD had one-on-one briefings with journalist from local, regional and national media. Objective of these briefings was to inform and educate them on ins and outs of the ROAD-project and relevant backgrounds. Although these briefings were not primarily aimed at generating media publicity, they provided the journalist the necessary (factual) information to build a well-informed opinion of the ROAD-project.

4.4.10 Op-ed articles and advertorials

In October 2010, Greenpeace sent an op-ed article to one of the local newspapers in Rijnmond region. In the article Greenpeace suggested that ROAD plans to store CO_2 under their backyards and that there would be local resistance. ROAD instantly responded with an op-ed article refuting the incorrect statements made by Greenpeace. ROAD also distributed its response to relevant stakeholders in order to inform them on the publicity.

4.5 Specific Outreach Efforts

4.5.1 Stakeholder round-table

In September 2010, ROAD initiated a round-table with key stakeholders from e.g. government, authorities, industry and science to discuss several CCS related topics. One of the issues raised at this meeting, was the need and urgency to more closely coordinate CCS initiatives in the Rotterdam port and industrial area. Consequently, a number of participants of the round-table decided to initiate a regional stakeholder platform: the Regional Advisory Committee on CCS.

4.5.2 Regional Advisory Committee on CCS

Members of the Regional Advisory Committee on CCS (RAC CCS) were the Port of Rotterdam Authority, the City of Rotterdam, regional industry organization Deltalinqs, DCMR Rijnmond Environmental Agency and CCS projects and initiatives. These stakeholders closely cooperated in order to create necessary conditions (regulatory, permitting, public engagement) for the development of CCS activities in the Rotterdam port and industrial area. Various experts of involved stakeholder met on a regular basis and shared relevant information and knowledge. The RAC CCS also planned to initiate a Community Advisory Panel to structurally and closely involve local and regional communities in CCS project and initiatives in the region.

5. Lessons Learnt

One of the necessary conditions was that the ROAD project had a dedicated Stakeholder Management team focusing on i.a. Communications & Public Engagement. Integration of Stakeholder Management into the project team strengthened a multidisciplinary perspective of the organization and created cross-functional teams. For a technical project it enhanced taking non-technical aspects (e.g. stakeholder perceptions) into account in decision-making processes. However, such an approach also demanded more co-ordination, planning and time management.

ROAD, like other CCS demonstration projects, had to deal with many issues that are non-technical and to large extent depend on stakeholder perceptions and interests. Ultimately stakeholder engagement and managing stakeholders' expectations was instrumental in creating necessary conditions for other project functions (e.g. capture, transport & storage).

In addition, CCS projects are driven by technology and can easily be caught up in technological tunnel vision. One of the biggest threats is losing track of stakeholders' views and interests. Therefore an outside in perspective enables taking into account stakeholder expectations. Developing a stakeholder dialogue enables a two-way communication with stakeholders relevant to the implementation of the project.

In summary, the key lessons learnt on the public engagement process have been:

- The Stakeholder Management and public Engagement function should be integrated in the project management since CCS projects have to deal with many issues that are non-technical and to large extent depend on stakeholder perceptions and interests. Ultimately Stakeholder Management is instrumental in creating necessary conditions for other project functions (e.g. capture, transport & storage).
- It´s not only about (technical) knowledge and information, but also about social skills and empathy of personnel of the project organisation. Technical experts received trainings in presentation, conversation and how to adequately cope with emotional situations.
- Context is everything and perceptions are relative. In many cases historic events, affect and interests in local communities determine to a large extent perceptions and positions of stakeholders regarding the project.
- A near neighbour is better than a distant cousin. It´s important to structurally inform key stakeholders that can act as ambassador and advocate for the project.
- Speech is silver, listening is golden. With a two-way communication strategy and getting an insight in expectations and mutual interests of stakeholders the project will be better able to secure public acceptance on the long term.
- It's also the economy,…! Not only focus on climate change, but also on the economic benefits of CCS and local value propositions it can offer to local communities.
- A picture is worth a thousand words. CCS is technical and complex. For local communities it's easier to understand and experience images and tangibles than words and numbers.