

CCS COMMUNITY OUTREACH – SHELL'S EXPERIENCE

Carbon Sequestration
Leadership Forum
Perth, WA
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Shell Upstream International
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SHELL'S RECENT PARTICIPATION IN CCUS PROJECTS

OCAP



Gorgon



Mongstad



Quest



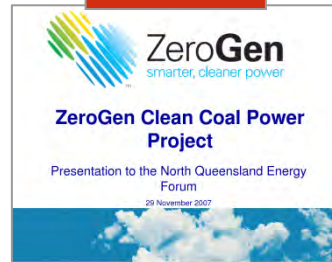
Peterhead



Barendrecht



ZeroGen



Draugen



Longannet



OVERVIEW

- The OCAP CCUS Project
- The Barendrecht CCS Projects
- The Quest CCS Project
- Summary

OCAP



Barendrecht



Quest



OCAP ROTTERDAM - OVERVIEW



- Shell's Pernis Refinery captures ~400kTPA CO₂, compresses and pipes it to green houses in The Netherlands.
- The elevated CO₂ levels in the greenhouses increases plant yields (~25%).
- The CO₂ is only required in summer. In winter the CO₂ is vented.
- Prior to this project, Greenhouse owners burned natural gas to generate their CO₂.
- The project began in 2004 and is still owned & operated today by OCAP.

BARENDRECHT - OVERVIEW

- The Barendrecht gas field sits on the edge of the Barendrecht village (45,000 inhabitants).
- Production began in 1997 and was nearing end of field life in 2007
- In 1997 the gas field was surrounded by grasslands and meadows.
- To keep Rotterdam harbour competitive, road and rail upgrades occurred in and around the village in the early 2000's .



THE DUTCH GOVERNMENT - CCS VISION



- Next to ‘Gas Roundabout Netherlands’, create ‘CO₂ Hub Netherlands’
 - Energy Efficiency, renewables and CCS
 - 30% lower CO₂-emissions in 2020 compared to 1990
- Demonstrate CO₂ storage offshore: K12 project (GdF)
 - Started in 2004 and still ongoing (successfully)
- Demonstrate CO₂ storage onshore
 - National CO₂ storage competition called in 2007
 - Storage of at least 2 MTCO₂, start in 2010, preferably onshore

BARENDRECHT – TWO PERSPECTIVES

Government & Project Developer

- 400kTPA compressed CO₂ available at no incremental cost 6 months of the year.
- The Barendrecht onshore reservoir is nearly depleted and would be available for almost immediate use.
- The field is relatively new so the wells & the production history is well known.
- Only 17km of pipeline required and a pipeline corridor already exists
- Barendrecht CCS would be an ideal fit for the NLCCS competition.

Barendrecht Residents

- The village has already been subjected to a number of ‘good for the nation’ projects (road & rail) without significant local benefit
- A significant rail crash had recently occurred.
- CCS is new technology and not proven. Why should they be subjected to the risks.
- As new homeowners in new homes, how will this project affect local house prices.

BARENDRECHT – HISTORY OF THE PROJECT

- 23 Apr 2007 Minister of Environment (VROM) gets budget for National CCS Tender
- 5 Feb 2008 Shell organises first public hearing evening in Barendrecht
- 27 Nov 2008 Minister (VROM) announces selection of Barendrecht project
- From Feb 2008 Increasing negative media coverage, CO₂ horror stories
- 26 Jan 2009 Shell publishes its Environmental Impact Assessment (EIA)
- 19 Feb 2009 Emotional public hearing in Barendrecht with full media cover
- 23 Apr 2009 EIA approved by authorities with only minor comments
- 21 May 2009 Minister (VROM) announces delay of decision to October 2009
- 29 June 2009 Barendrecht Town Council votes against the CCS project
- 18 Nov 2009 Responsible Ministers give go ahead after additional studies
- 26 Jan 2010 Parliament rejects proposals to cancel the project
- 28 Mar 2010 Very negative media coverage ‘CO₂ bomb under Barendrecht’; political support in the face of elections eroding
- 13 Apr 2010 Ministers will not make ‘definitive’ decisions before elections
- 20 May 2010 Parliament rejects proposals to cancel the project
- 4 Nov 2010 New government cancels the project due to lack of local support

BARENDRECHT CCS - OVERVIEW

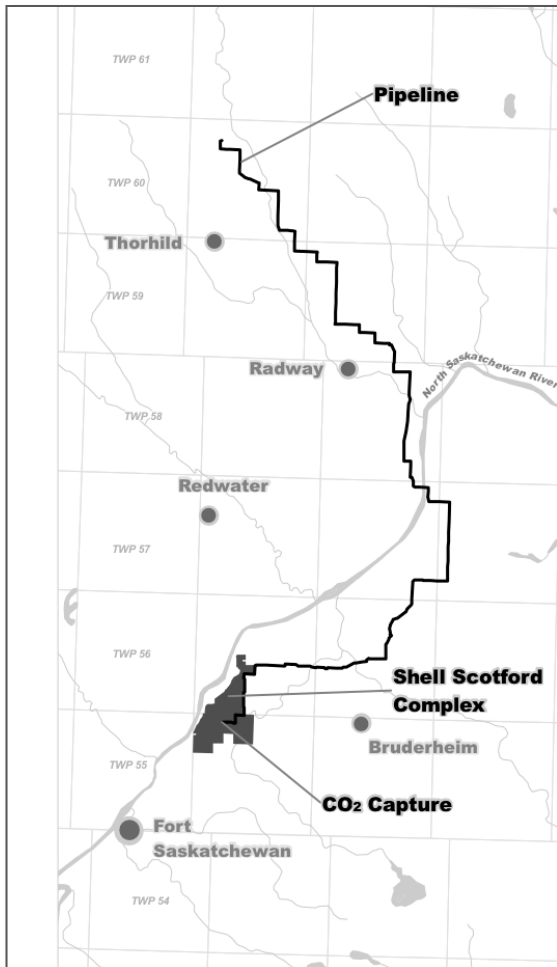
- Barendrecht made ‘technical’ sense on the basis it was simple and fast to implement
- Initially there was political support (potentially overestimated)
- Influence of local stakeholders was underestimated
- Late involvement of government led to insufficient local stakeholder engagement
- Tender conditions resulted in a schedule driven approach that was often hard to reconcile with societal need for more debate
- The Project was stopped by the new Government as a result of public resistance and the lack of political will in a changed Government agenda
- It has closed the door for onshore CCS in Netherlands
- Project team has done good work on capturing and disseminating learnings,

QUEST - OVERVIEW

- Fully integrated capture, transport, storage & MMV project.
- JV among Shell (60%); Chevron (20%); and Marathon (20%)
- Capacity to capture 1.2 million tonnes of CO₂ per year or up to 35% of the Scotford Upgrader direct emissions
- CO₂ transported by pipeline 65kms and stored 2 km underground in deep onshore saline formation
- Project selected for funding by Alberta/ Canadian governments
\$C845 Million awarded



PUBLIC ACCEPTANCE - LOCAL STAKEHOLDER ENGAGEMENT



- Laws & regulations necessary but not sufficient to secure public support
- Public acceptance has been stumbling block for previous projects

Objectives of our Engagement Programme

- Inform stakeholders & provide opportunity to discuss concerns and identify ways to mitigate
- Establish / build upon existing relationships
- Identify opportunities to maximize benefits to stakeholders

WHO ARE THE KEY STAKEHOLDERS?

- Landowners/ occupants along pipeline route at injection and storage sites
- Federal and Provincial Government Agencies;
- Counties/ Town Councils (Thorhild, Radway, Lamont, Sturgeon, Fort Saskatchewan & Strathcona)
- Residents within Scotford public consultation area
- ENGO's
- Joint Venture Partners
- Media
- Commercial Industry Partners / Competitors

CONCERNS / QUESTIONS RAISED IN OPEN HOUSES

- Questions regarding CCS/ Quest focused on following areas:



- Technology – Is it proven?
- Climate Change – Is it real?/ How will CCS address vs. other technologies?
- Environment/ Health & Safety – How will you know the CO₂ remains contained?/ questions on wells/ pipeline safety
- Costs – Why is government support necessary?
- Local Benefits - (business, contracting & employment opportunities & social investment)

CCS PUBLIC OPINION SURVEY – IPSOS REID



- 1,600 telephone interviews within Alberta (2010 & 2011) to test peoples' knowledge/ opinions of CCS & and proposed CCS projects (survey funded by Shell/ TransAlta)
- 400 interviews conducted with residents of the Industrial Heartland (Sturgeon County, Lamont County, Thorhild County, Strathcona County, and the City of Fort Saskatchewan).
- CCS mention as technology to reduce CO₂ emission – about 64% of people surveyed had heard of CCS
- Of those aware of CCS 67% strongly/ somewhat support the use of CCS
- CCS should be a top priority of companies that produce energy (76% strongly/ somewhat agree)
- Impression of Shell among those that were aware Shell operated in the community (63% good/ very good; 31% fair)
- About one in five people were aware of the Quest Project – of those 65% strongly/ somewhat supported the project

STAKEHOLDER ENGAGEMENT

About Quest

QUEST CARBON CAPTURE AND STORAGE

MORE ENERGY...
LESS GREENHOUSE GAS

Shell Canada, on behalf of the Athabasca Oil Sands Project, is (CCS) Project -- a fully integrated project that would capture,

Quest Overview

The Need for CCS

Safe, Existing Technology

Shell strives to be a good neighbour and is committed to sharing info. If you have any questions or comments about Quest, please contact us at:
E-mail: quest-info@shell.com
Phone: 1-800-250-4355

[Draft Quantification Protocol for the Capture of CO2 and Permeability](#)
Posted by Alberta Environment and Water for a Public Comment Period

[A Notice of Hearing was issued by the ERCB on Dec 22, 2011.](#)
[Notice of Hearing - opens in new window](#)

[Shell Responded to Additional Questions from the ERCB on November 30, 2011.](#)
[Shell Quest Response to Nov 30 - opens in new window](#)

The Quest EIA was deemed complete by AENV on December 1, 2011.

Extensive and continuous public engagement

- 1st public project disclosure: Oct 2008 (booklet, news release and open house)
- Stakeholder consultation program initiated Jan 2010
 - All landowners within 450 meters of either side of pipeline right of way
 - All landowners in storage Area of Interest
 - All Landowners within 5 km of Scotford
 - Municipal districts/ local authorities
 - Industry stakeholders
 - Provincial / Federal regulators
 - Aboriginal communities
- Open Houses: March, November 2010 and September 2011
- Quest Café's: June, October 2011
- Bi-annual County and Town Council updates
- Quest phone line, e-mail address and web site available for project questions

COMMUNITY OUTREACH - CONCLUSIONS

- Developed community outreach strategy including learning's from other CCS projects from around the world
- Build alignment amongst the project developer, the community and the government from the outset
- Developed stakeholder, issues and priority matrix
- Actively seek feedback for continuous improvement by participating in a number of 3rd party reviews of the engagement strategy to ensure robustness
- Numerous community engagement events and communications materials were implemented
- Pro-actively developed key messages with ongoing updates so internal staff responses were aligned
- Review the strategy regularly and adapt as necessary





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