

# Case Study: Shell Canada Quest Carbon Capture and Storage Project

Photo: Shell

**The world's first commercial scale application of carbon capture and storage (CCS) technology in an oil sands operation.**

Carbon dioxide (CO<sub>2</sub>) will be captured from the Athabasca Oil Sands Project (AOSP) Scotford Upgrader's hydrogen manufacturing units using an amine solvent. It will then be transported by pipeline to injection sites within 80 km of the upgrader facility, and stored in saline formations more than 2 km underground. Over 1 million tonnes of CO<sub>2</sub> will be captured and stored each year.

## Developer

Shell Canada will construct and operate Quest on behalf of the AOSP joint venture owners (Shell Canada, Chevron Canada Limited, and Marathon Oil Canada Corporation).

## Key stakeholders

Key stakeholders for the Quest CCS project include landowners and community members along the pipeline route, the proposed injector well sites, and near the capture point; local and regional NGOs; First Nations and Metis Nations representatives; and all levels of government.

Key local communities include City of Fort Saskatchewan, Town of Bruderheim, Town of Josephburg, Sturgeon County, Hamlet of Radway, Strathcona County, Thorhild County and Lamont County.

## Timeline

- 2006** Early discussions about possibility of CCS in their oil sands operations
- 2008** Initial consultations with local stakeholders. Reaction of local stakeholders was generally positive (curiosity about 'new type' of pipeline)
- 2009** Quest signed letter of intent to receive funding from the GoA CCS fund  
Initiation of extensive engagement process with stakeholders
- 2010 to 2011** Submission of initial major regulatory applications (including an environmental assessment)
- 2011** DNV issues world's first certificate of fitness for CO<sub>2</sub> storage for Quest project  
Quest signs final funding agreements with GoA and GoC
- 2012** Regulatory hearings conducted (March)  
Final regulatory approval granted (July)  
AOSP makes final investment decision to proceed with Quest (September)  
Construction activities begin
- 2015** Quest project to begin operating

# Engagement and communication processes

Shell developed an engagement strategy early on in the development process to guide engagement activities.

The main objective of the engagement strategy was to ensure that Shell could develop “mutually prosperous, long-term relationships with neighbours living in close proximity to Shell’s operations” — their ‘Good Neighbour Policy’.



Surveys and ground-truthing exercises were conducted to better understand the important issues facing community members and to ensure engagement activities could be tailored to the local context.



Stakeholders were identified and categorized into engagement groups to ensure the appropriate amount of engagement could be completed for each stakeholder group or representative.



Engagement activities varied depending on the stakeholder groups and included:

- Setting up a 1-800 number and website for stakeholders to receive project information
- One-on-one visits with landowners
- Setting up displays at local community events
- The formation of a Community Advisory Panel
- Customized presentations to specific stakeholder groups
- World Café sessions (small group workshops with local stakeholders)
- Multiple open houses held in local communities

## Example 1

Using their engagement strategy, Shell was able to address concerns of Thorhild-area residents that their community might be seen as a ‘dumping ground’. In June 2006, a new landfill project was announced in the community which residents had mixed feelings towards. When Shell announced they were considering the area for CO<sub>2</sub> injection wells, some community members were concerned about what they saw as an additional waste being stored in the region. As this concern was determined early on in the engagement process, Shell was able to get in contact with the landfill developer to better understand their own engagement strategy and identify specific stakeholders to discuss the CCS process with in more detail. Through doing this, Shell was able to connect with concerned community members through one-on-one discussions as well as through innovative techniques such as ‘World Café’ sessions — small group dialogues with a diverse set of stakeholders, which brought out both concerns and solutions. In addition, by understanding these concerns early on in the development process, Shell was able to tailor their messaging around Quest to focus on educating community members about the proven nature of the technologies to be used and the safety procedures they would be putting into place.

## Example 2

Shell, as a global energy company, supports many different CCS-related activities around the world and is able to leverage the learnings from these activities for future developments. Prior to the decision to develop Quest, Shell was also exploring the option of developing a CCS facility in the Dutch town of Barendrecht. The Barendrecht project was supported by the national government in the Netherlands, but was only presented to the municipal level government and local stakeholders after Shell had won a tender from the federal government to proceed. Local politicians and stakeholders opposition to the project was so strong that it was eventually cancelled. The failure in this top-down style approach to project planning and development was recognized by the Shell Quest team, who made sure to liaise with local council members and community members early on in the development process. This was to both educate local community members about the technical details of the project as well as develop long-term trust-based relationships. Shell was able to ensure their concerns were taken into account, and in some places, to modify the project design to accommodate them. Local support, both from government representatives and landowners around the Quest area, remains high.

## Location analysis/impact

The site location was selected based on the favourable local geology, low number of legacy wells in the area and proximity to the Scotford Upgrader. The communities near the project location are rural farming communities, for the most part, although they are near to Alberta's Industrial Heartland area, a joint land-use development zone for the chemical, petrochemical, oil, and gas industries.

Stakeholders near the capture site were very familiar with Shell's operations and activities and the other industrial activities in the area. Community members along the pipeline route and injector sites were less familiar with Shell. Shell focused on educational and engagement activities, along with one-on-one consultations with these stakeholders throughout Quest's development. As a result of these consultations, the pipeline route was modified over 30 times to incorporate local feedback and minimize disturbances.

## Outcome in terms of project developer's aim

Quest received funding assistance from both provincial and federal governments, as well as local support and approval. It has received all necessary regulatory approvals and is currently under construction, with an expected start date of 2015.

## Outcome in terms of communication and engagement

Quest had strong support from local stakeholders and all levels of government. Issues that were identified by stakeholders were taken into consideration, and project plans were modified accordingly.

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## Lessons

1. Timing was very important for engagement activities during all parts of the project. Consultation began very early (prior to any project design), and was designed with local stakeholders in mind (e.g. to accommodate the rural constituency, Quest 'World Café' sessions were held before the start of the harvest season in June, and then after the harvest season in October 2011.)
2. A mutual understanding of outcomes by the project team allowed all members to engage effectively with stakeholders. For example, the construction manager participated in engagement activities from an early stage (years before construction activities would take place), which allowed for diverse perspectives to be heard and acted on throughout the process.
3. Using the appropriate terminology tailored to different audiences minimized miscommunications between project proponents and stakeholder groups (e.g. using 'storage' as opposed to 'disposal' so the CO<sub>2</sub> would not be thought of as waste, or using 'rock formation' as opposed to 'saline aquifer' as the latter was found to be too technical and misunderstood by some audiences).
4. Engaging stakeholders at their own events (e.g. agricultural fairs, community events) helped reach a broader set of community members than traditional engagement meetings.
5. Having a process to work with stakeholders who may have reservations about the project, or may be in opposition to it, can be beneficial if conducted properly.
6. Engaging local government representatives early on in the process ensured that they would be knowledgeable about issues when speaking with constituents.
7. Ensure there are multiple avenues for local stakeholders to learn about and engage in the project early (e.g. local events and festivals, town council meetings, open houses, website, telephone number, etc.) and that there are ways to incorporate feedback from local stakeholders into the project design.

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