



## Quest CCS Project

<b>Project type</b>	Large-scale carbon capture and storage demonstration project
<b>Project proponents</b>	Shell Canada Energy, on behalf of the Athabasca Oil Sands Project, a joint venture among Shell Canada Energy (60%), Chevron Canada Limited (20%) and Marathon Oil Canada Corporation. (20%)
<b>CO<sub>2</sub> source</b>	3 hydrogen manufacturing units at the Scotford Upgrader
<b>Capture application</b>	Oil sands upgrading
<b>CO<sub>2</sub> storage type</b>	Permanent storage in the Basal Cambrian Sands formation, about 2 km below the surface
<b>CO<sub>2</sub> stored</b>	More than 1 megatonne per year
<b>Exp. start date for storage</b>	2015
<b>Project locations</b>	Capture: Scotford upgrader in Fort Saskatchewan, northeast of Edmonton, Alberta, Canada Storage: approximately 80 km north of the Shell Scotford upgrader in Fort Saskatchewan, Alberta
<b>Funding</b>	
<b>Government of Canada</b>	\$120 million
<b>Provincial government</b>	\$745 million
<b>Total project cost</b>	\$1.35 billion

### Project description

Quest is a fully integrated carbon capture and storage (CCS) project that is being led by Shell Canada Energy, on behalf of the Athabasca Oil Sands Project. This is a joint venture among Shell Canada Energy (60 percent), Chevron Canada Limited (20 percent) and Marathon Oil Canada Corporation (20 percent). The project includes the capture, transportation, injection, storage and monitoring of CO<sub>2</sub>. An absorber vessel will use an amine solvent to capture the CO<sub>2</sub> from the upgrader's hydrogen manufacturing units. Then the CO<sub>2</sub> will be released from the amine by heating. The CO<sub>2</sub> will be compressed, dehydrated into a dense fluid and transported by pipeline to an injection location approximately 80 kilometres (km) north of the Shell Scotford upgrader. The CO<sub>2</sub> will be stored permanently in a geological formation called the Basal Cambrian Sands, located 2 km below the surface of the earth.

Quest will use measuring, monitoring and verification (MMV) technologies and systems to ensure the storage site performs as expected. The evaluation of potential MMV tools and systems is an integral part of an ongoing appraisal and technical study work of a future storage site. In addition, both the CO<sub>2</sub> capture and pipeline facilities will be part of the monitoring program to ensure the CO<sub>2</sub> is handled and stored in a safe and secure way.

### Expected outcome

The Quest project is designed to capture and store up to 1 megatonne of CO<sub>2</sub> per year – the equivalent of taking 175 000 North American vehicles off the road.

### Proponent profile

Royal Dutch Shell is a global group of energy and petrochemicals companies. With approximately 102 000 employees in more than 100 countries, Shell plays a global role in helping to meet the world's growing energy demand in economically, environmentally and socially responsible ways. Its businesses consist of the upstream businesses of exploration and production of gas and power and the downstream businesses of oil products, chemicals and oil sands. Shell has been operating in Canada since 1911 and is now one of the country's largest integrated oil and gas companies.

### Project Web site

[www.shell.ca/home/content/can-en/aboutshell/our\\_business/business\\_in\\_canada/upstream/oil\\_sands/quest/](http://www.shell.ca/home/content/can-en/aboutshell/our_business/business_in_canada/upstream/oil_sands/quest/)

