

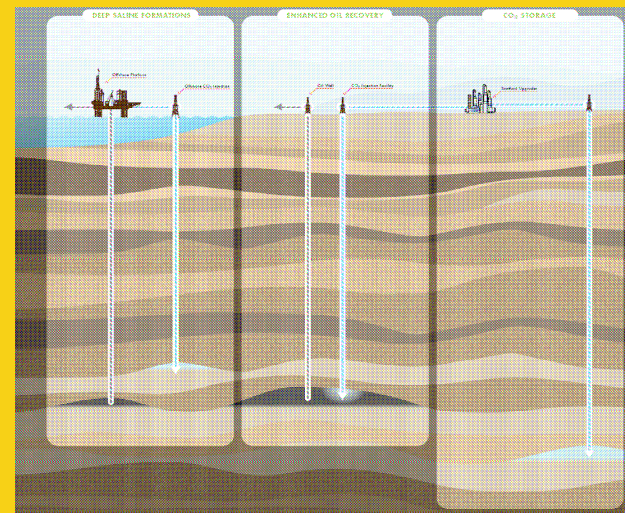


QUEST Carbon Capture & Storage Project

Carbon Sequestration Leadership Forum

Warsaw

October 2010

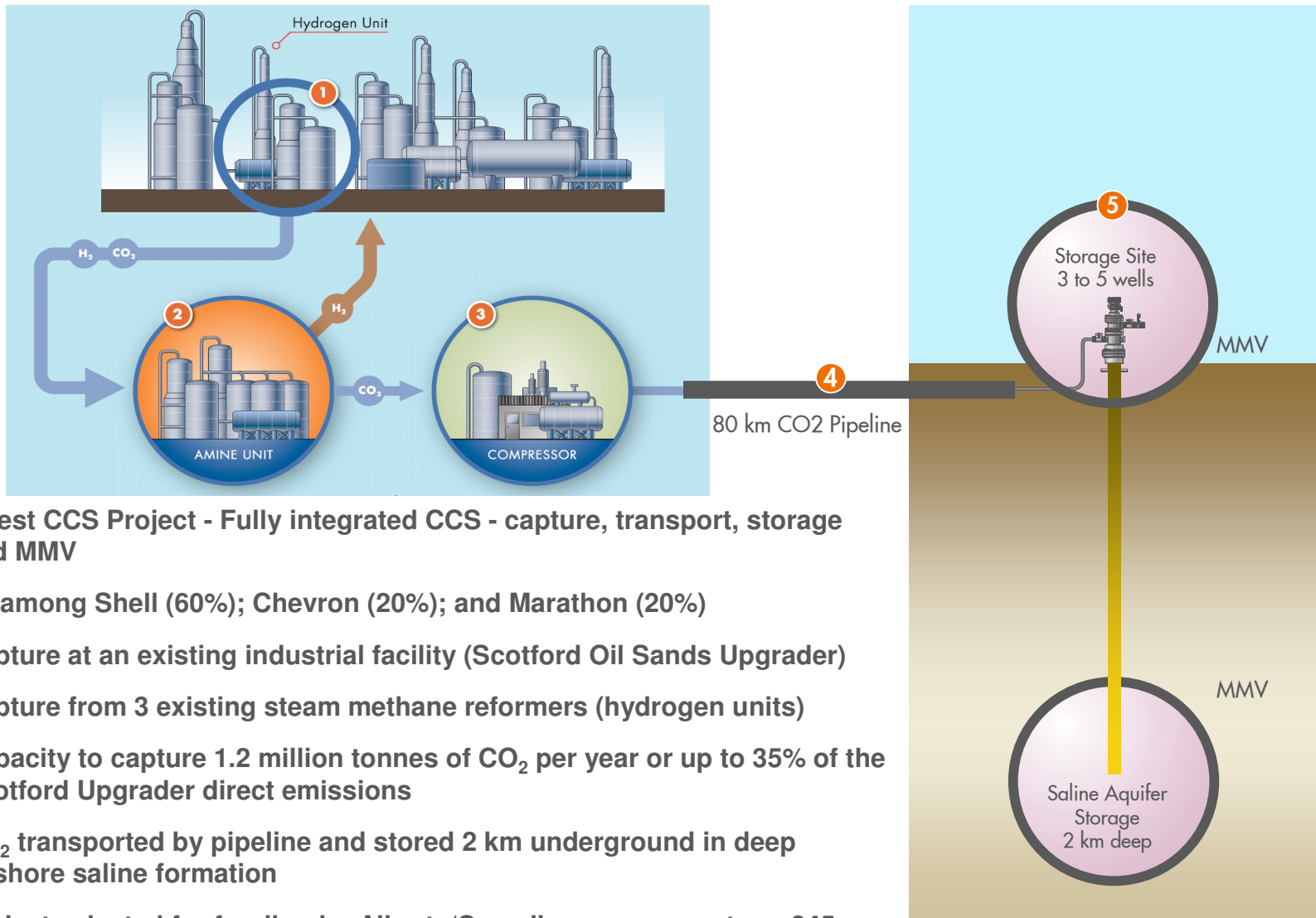


Bill Spence

Quest CO2 Capture – Shell Scotford Complex

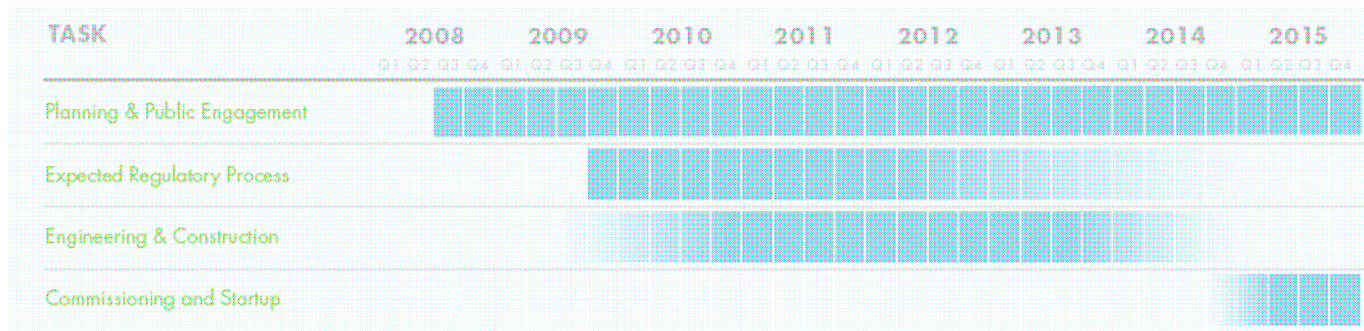


Quest CCS Project - Overview



- Quest CCS Project - Fully integrated CCS - capture, transport, storage and MMV
- JV among Shell (60%); Chevron (20%); and Marathon (20%)
- Capture at an existing industrial facility (Scotford Oil Sands Upgrader)
- Capture from 3 existing steam methane reformers (hydrogen units)
- 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 and stored 2 km underground in deep onshore saline formation
- Project selected for funding by Alberta/Canadian governments ... 845 Million \$ Can awarded

Quest CCS Development Activities



Project Milestones

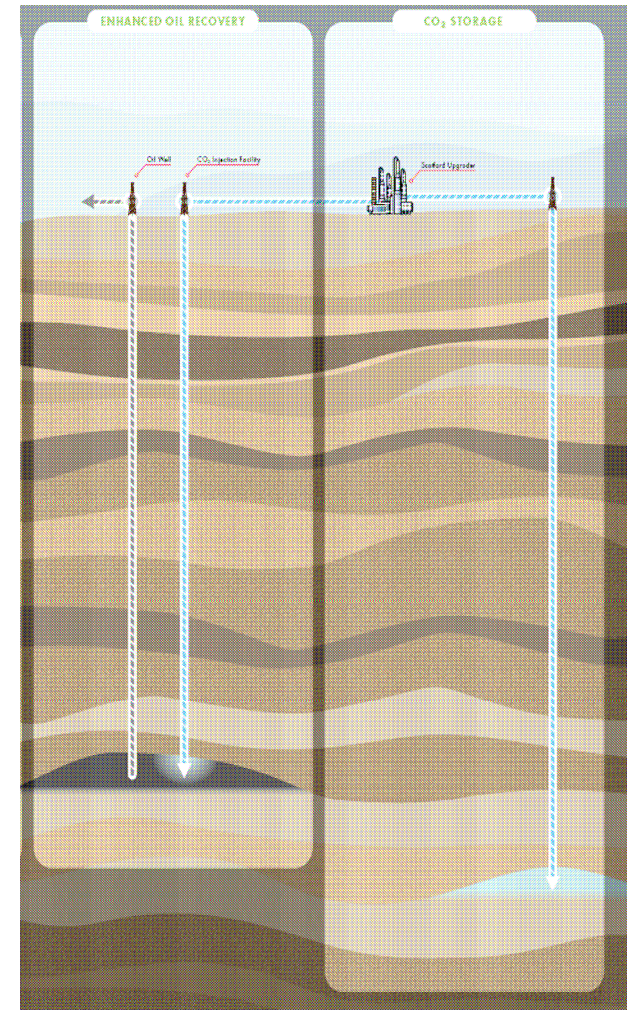
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|--|------------|
| ■ Complete government funding agreements | End 2010 |
| ■ Regulatory approval | Q1 2012 |
| ■ Design / construct | 2012/13/14 |
| ■ Commissioning and Start-up | 2015 |

Public outreach and stakeholder Engagement

- Ongoing consultation with local landowners (over 300 one on one visits to date)
- Ongoing engagement with local governments (mayors, town councils, municipal or county governments)
- Ongoing open houses and workshops in 4 communities
- Broader CCS public outreach and education (Shell, industry groups, government)

Quest CCS Project – Contribution to CSLF

- Demonstration of a fully integrated, commercial scale CCS project ... implementation and operating by 2015
- Pre-combustion capture in an industrial application (steam methane reforming) ... applicable to refineries, chemical plants, heavy oil upgrading worldwide
- Deep saline aquifer storage in an onshore consolidated sandstone formation (BCS) characteristic of North America
- Storage site characterization, well spacing and pattern, caprock and salt seal integrity
- Optimum injection rates and capacity for consolidated sandstone formation
- Full MMV program designed for temperate climate in North America, with four distinct seasons
- Public outreach and stakeholder engagement program for a large scale, fully integrated CCS project in Canada
- Global capability, capacity and project management processes for successful implementation





Thank You !

www.shell.ca/quest/