CCS REGULATION

NEWSLETTER

Welcome to the CCS Regulation newsletter. This is produced by the **MIT Carbon Capture and Sequestration Technologies Program**. It is a quarterly report designed to keep the reader up to date with the current regulatory news and issues surrounding Carbon Capture and Storage (CCS).
For more information about the program please see http://sequestration.mit.edu

CCS Public Communication and Outreach

Lessons from Comparison of Five International Case Studies

Contributed by Sarah Wade

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A recent study, entitled "Communication, project planning and management for carbon capture and storage projects: An international comparison," was presented at the November 2010 MIT Carbon Sequestration Forum. The study was prepared as an account of work sponsored by the Global CCS Institute (GCCSI) through the Australian Commonwealth Scientific and Industrial Research Organization (CSIRO). The international study compared public communication and outreach practices associated with five large scale carbon dioxide capture and storage (CCS) projects including:

- ZeroGen Project – Australia
- Otway Basin Project – Australia
- FutureGen Project – United States of America
- Barendrecht Project – The Netherlands
- Carson Project – United States of America

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The study provides an overview of findings including key lessons around what constitutes best practice in communications and outreach. However, an important finding from the comparison underscores the point that a focus on communication and outreach alone are not sufficient to ensure successful CCS project deployment. Rather, the authors suggest that a project's ability to adjust its planning and management to its social context is more likely to ensure a positive outcome for all involved in the project. A fundamental conclusion is that communication and outreach should not be seen as an add-on to the project. Successful projects integrate communication and outreach as a critical component of the project from the beginning.

Additionally, there are many interpretations of the terms 'communication', 'stakeholder engagement' and 'outreach' depending on the cultural backgrounds and prior experiences of the reader. Too often communication in the context of projects can be interpreted as public relations. And in some countries, stakeholder engagement and outreach are considered as one-way messaging of information to the community, general public and other stakeholders. In this report, the researchers stress the importance of communication, engagement and outreach being considered as an active two-way dialogic approach to working with stakeholders internal and external to the project, including the community and general public.

Approach

The research was sponsored by the GCCSI and was conducted by international researchers from the following institutions: CSIRO, Australia; Energy research Centre of the Netherlands (ECN), Netherlands; Illinois State Geological Survey, University of Illinois, USA; Pacific Northwest National Laboratory, operated by Battelle for the US Department of Energy, USA; and AJW Inc., USA.

The five case studies were developed independently but the authors utilized a consistent interview guide to collect data from individuals representing developer, government official, and civic society perspectives. The data was supplemented with information gathered through social data and media research. Each case study is included as an Appendix to the comparison report. The research team jointly considered the case studies in order to identify important characteristics or criteria that may be useful in evaluating other projects. These criteria were then applied to the five case studies and the findings are described in the comparison report. In addition, a toolkit of suggested activities has been developed to assist projects and appropriate references are made to this document in the report.

General Overview of the Case Studies

The five projects selected for the case studies are technically, geologically, geographically and socially diverse as indicated in the table on the next page (page 3).

The researchers strongly recommend readers consider the full case studies in conjunction with the comparison report because of the richness they provide as background to the issue of communication, stakeholder engagement and outreach.

Findings

The report includes three primary areas of findings. First, the authors identified a number of important considerations during the initial conceptual development of a CCS project:

1. To what extent are the key government (national, state, local) and project team members aligned?

2. Can the project developer affect the situation and enhance coordination and a shared agenda?

3. Are communication experts/staff included as an integral part of the project team from the outset of the project?

4. To what extent are factors related to social context included in the selection of a specific site and/or in the project design and implementation?

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5. What degree of flexibility does the project developer have in framing the project and/or adjusting the implementation strategy to meet local needs?

Second, the authors identified approximately fifty (50) evaluation factors that can be broken broadly into seven categories: (1) national/state context, (2) local context, (3) general communication, (4) informal communication, (5) formal communication, (6) project design, and (7) project management. Using these evaluation factors, the authors used a color coding scheme to highlight, where possible, the extent to which the factor was addressed and/or seemed to have a positive or negative impact on the project.

And finally, the authors described lessons learned regarding communication, stakeholder engagement, and outreach. These lessons touched on timing, knowledge of the local communities, the identification of local benefits, and considerations for developing and disseminating communications materials and working with the local community.

The link to the full report: http://www.csiro.au/resources/CCS-Comparison-report.html

We thank Sarah Wade for this contribution.

GENERAL OVERVIEW OF THE CASE STUDIES

	ZeroGen	Otway	FutureGen	Barendrecht	Carson
Plant	530 MW IGCC	Existing Gas Ops	275 MW IGCC	Existing H_2 Plant	500 MW H_2 Plant
Funding	State Government	Public Private Partnership	Public Private Partnership	Private; Government Grants	Private; Government Tax Credit
Injection Volume	3 Mt/yr	65kt (in phase1)	1 Mt/yr	10 Mt total	~5 Mt/yr
Initial Planned Timing	Launch 2006	Launch 2004 Inject 2006	Created 2005 Sited 2006	Awarded 2007 Start 2012	Launch 2006 Start 2012
Initial Site Selection Process	Government investigation of best storage sites	Geological variability/ site characterization	Competitive process using RFP to select from interested potential host communities	Private industry selection, supplemented by grant award, based on need for CO_2 emissions mitigation	Private industry selection, based on commercial advantage of proximity to feedstock

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Federal CCS Regulation News and Updates

EPA Announces 2 Rules for CO_2 Geological Storage

November 22, 2010. The EPA finalized two rules related to CCS which aim to protect drinking water and to track the amount of CO_2 that is sequestered from facilities that carry out geologic sequestration. These rules are in response to the recommendations from the Inter Agency Task Force to finalize rules and for clarity in the regulation of CO_2 storage in geologic formations.

Development of UIC Class 6 Well

The EPA completed the Federal requirements under the UIC program for a Class 6 geologic sequestration well, to ensure the protection of underground sources of drinking water.

This falls under the Safe Drinking Water Act to ensure that CO_2 injection doesn't impact drinking water and to allow for transparency and flexibility in the permitting process. The rule-making does not change any of the requirements to obtain or comply with a UIC permit for facilities that are subject to EPA's UIC program under the Safe Drinking Water Act. The rule covers many aspects including well permitting, sighting, area review and delineating, construction of the wells, the injection, operating, monitoring wells, well plugging, post site care and site closure.

The act is flexible to provide for a variety of settings and there is availability for amendment of the regulation when more information becomes available from research and experience.
http://water.epa.gov/type/groundwater/uic/wells_sequestration.cfm

Reporting of CO_2 Sequestration

The EPA requires all facilities that conduct CO_2 geologic storage to report the source and amount of injected CO_2. Data collection starts in 2011 for reporting by March 2012. This rule is complementary and builds on the EPA UIC permit requirements.

There are 2 subparts of the existing regulation which have been implemented for the injection of CO_2 in geologic formations: Subparts RR and UU. All projects which inject CO_2 must report to the EPA under one of these subparts. (Minimum injection requirements are 15kt over 3 years and 25kt over 5 years).

Subpart RR addresses facilities that inject CO_2 for long term geologic sequestration, including class 6 wells. Facilities under subpart RR are required: to report the amount and source of CO_2; to develop and implement an EPA approved site specific MRV plan; and to report the amount of CO_2 by using a mass balance approach.

Subpart UU addresses facilities that inject CO_2 underground for all other purposes, including EOR. Subpart UU only requires that facilities report on the amount and source of the injected CO_2 . R&D projects are allowed to report under subpart UU.
http://www.epa.gov/climatechange/emissions/downloads10/Subpart-RR-UU_FAQ.pdf

Other News

John Podesta's Center for American Progress, Al Gore's Alliance for Climate Protection and former Federal Communications Commission chair Reed Hundt are drafting an energy bill for the next congress. The bill will focus on lowering the cost of clean energy through long term finances and the use of the low borrowing rates that exist at the moment. The bill will not raise the price of carbon initially, but after clean energy has become more established.
http://www.nytimes.com/external/gigaom/2010/09/17/17gigaom-former-fcc-chair--team-working-on-a-new-energy-bi-50938.html

November 8, 2010. The EPA finalized 40 CFR Part 98 of the Consolidated Appropriations Act, HR 2764, which requires large sources and suppliers in the US to report their GHG emissions. Part 98 is intended to collect accurate and timely emissions data to inform future policy decisions. Facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to EPA. Part 98 became effective December 29, 2009.
http://www.epa.gov/climatechange/emissions/ghgrulemaking.html

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State CCS Regulation News and Updates

California

September 22, 2010. "California's Clean Energy Future" was announced. It outlines how California's energy agencies will achieve the environmental and energy policy goals established by Governor Schwarzenegger. The plan requires that 1/3 of California's electricity come from clean, green sources by 2020. This announcement was accompanied by an implementation plan which includes the development of one large-scale CCS facility in California by 2020.
http://www.pennenergy.com/index/power/display/1736892101/articles/pennenergy/power/renewable/2010/09/new-vision_unveiled.html

Efforts to suspend California's Assembly Bill #32, The Global Warming Solutions Act, failed at the polls on November 4, 2010. Proposition 23 was aiming to suspend the law until unemployment in the state fell below 5.5%.
AB 32 Summary: http://www.arb.ca.gov/cc/ab32/ab32.htm
News article: http://www.truckinginfo.com/news/news-detail.asp?news_id=72124

Texas

December 3, 2010. The Texas Railroad Commission has issued updated rules regarding the capture and storage of carbon dioxide in response to Senate Bill 1387, which passed during the last session of the Texas Legislature. A hearing at the Texas Commission on Environmental Quality occurred on December 14, 2010.
http://www.reporternews.com/news/2010/dec/03/tenaska-close-to-clearing-major-hurdle-n-new-for/

International News

Alberta, Canada

November 02, 2010. The Government of Alberta, Canada, released The Carbon Capture and Storage Statutes Amendment Act, 2010 (Bill 24) which guides how large scale CCS projects will continue. Bill 24 stipulates that the Alberta government would accept long-term liability for injected carbon dioxide once the operator provides data showing that the stored CO_2 is contained. It would also establish a fund financed by CCS operators for ongoing monitoring costs and any required remediation.
http://www.energy.alberta.ca/Initiatives/1902.asp

Shell's CCS Quest project submitted its regulatory application to the Albertan government on November 30, 2010.
http://www.pennenergy.com/index/petroleum/display/4088225602/articles/pennenergy/petroleum/refining/2010/12/shell-files_for_quest.html

Netherlands, Europe

November 04, 2010. Barendrecht, Shell's Netherlands CCS project, has been cancelled by the government due to lack of public support and delays in obtaining permits. The project had already been delayed by 3 years following huge local opposition. Other CCS projects in the Netherlands are still going ahead.
http://www.businessweek.com/news/2010-11-04/shell-s-barendrecht-carbon-capture-project-canceled.html

Images: *Page 1: Sandstone Formation http://www.wg3too.net/Scenic/1280x1024/*

This newsletter was constructed using information from internet searches. All the websites used have been cited.

Holly Javedan compiled this report. For more information, questions and comments please email javedan@mit.edu. Thank you.