The Unique Challenges for CCS Public Engagement in South Africa

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About South Africa

- **Population**
  - 51.7 m - Census 2011
  - 11 Official languages and 9 provinces
  - Cultural diversity

- **Socio-Economic Challenges**
  - Unemployment – 26% of people remain unemployed;
  - Only 41% of the working-age population is employed;
  - First & Second economy (two-tiered economy);
  - GDP - 3.0% per capita;
  - Reliant on fossil fuels for its energy supply making it a significant emitter of CO₂;
  - Fossil fuels will remain the main contributor to the country’s economy for years to come (employment, exports).
About South Africa

• Socio-Economic Challenges
  • Coal burned – 175 Mt per annum (2008);
  • Electricity produced – 283.3 billion KWh per annum (2012);
  • Electricity consumption – 212.2 billion (2012);
  • Electricity consumption per capita – 4.347 KWh per annum (2012);
  • Annual earnings per capita 4 847 USD;
  • Only 25.5% of households have access to ICT;
  • In 2011, there were 24 793 ordinary public schools;
  • Huge disparity between the public schools (Model Cs and rural)
    • 79% have no libraries;
    • 85% have no laboratories;
    • 77% are without computer centres;
    • 14.29% have no electricity.
About SACCCS

- The DoE was designated by the government to lead the CCS programme;
- SACCCS was established in 2009 as a leading authority for CCS - a division of SANEDI;
- Its mandate is to undertake CCS Research & Development as well as Capacity building to:
  - Attain a state of country readiness for the implementation of the CCS Project;
  - Understand the role CCS plays in lowering CO₂ emissions to meet Climate Change challenges.
Government Support

- The Government has committed to reduce CO₂ emissions by 20% in 2015 and 42% by 2020;
- The DoE has committed 18m USD (R197m) to SACCCS;
- CCS has been named a near-term Flagship Programme in the National Climate Change Response White Paper in 2011;
- Cabinet endorsement of the CCS Roadmap – 4 May 2012;
- An Inter-Departmental Task Team on CCS established in Pretoria, 2011.
South African CCS Roadmap

- **2004**: CCS Potential
- **2010**: Storage Atlas
- **2017**: Pilot Storage
- **2020**: Demonstration
- **2025**: Commercialisation

- 2004: x 10,000t
- 2010: x 100,000t
- 2017: x
- 2020: 1,000,000t

Hosted by South African Centre for Carbon Capture & Storage
South African Atlas on Geological Storage
Pilot CO₂ Storage Project

- Objectives
  - Demonstrate CO₂ storage in South African conditions;
  - Gain experience and develop South African capacity in handling and storing CO₂;
  - Provide an educational facility for public and stakeholders.

Sources: Vattenfall/CO2CRC
Potential sites
The Zululand Basin

• Demographics
  • Falls within the jurisdiction of the UMkhanyakude District Municipality;
  • Has a population of 625,846;
  • Spoken languages are Zulu (94.6%), English (1.7%), IsiNdebele (1.2%) and Other (2.5%);
  • Larger percentage of females due to migrant labour;
  • More than 76% of the population is between the ages 0 to 34;
  • Racial make-up is 98% Africans; 0.7% Whites; 0.2% Indian-Asians and 0.2% Coloureds;
  • 68% of the community still does not have access to electricity.
The Zululand Basin

• Demographics
  • 38% has no access to water and;
  • 24% has no access to sanitation;
  • There is a considerable need for housing provision;
  • However there is not enough land available.

Sources: wsscc.org
The Zululand Basin

• Socio-Economic Status
  • Unemployment, inequality and poverty remain the major economic challenges in the District;
  • 42.8% is unemployed;
  • Only 2% of the population has tertiary education;
  • More than half of the population survive on less than 46 USD (R500) per month;
  • Each household consists of 5 or more individuals.
The Algoa Basin

• Demographics
  • Falls within the Cacadu District Municipality (CDM), incorporating:
    • The Sundays River Valley and
    • The Nelson Mandela Bay Local Municipality
  • Spoken languages are isiXhosa (49%), Afrikaans (45%) and English (6%). The current population size is estimated to be 1.1 million.

Source: www.cacadu.co.za
The Algoa Basin

- Demographics
  - The CDM has a population of 450 584;
  - It is predominantly rural and poverty stricken;
  - A large proportion of the population is dependent on social grants/ Pensions;
  - Employment in the area is derived from retailers, tourism, agriculture and community services (EPWP).

Source: Census 2011
The Algoa Basin

• Socio-Economic Status
  • Access to and provision of water resources is a challenge;
  • The community is entirely reliant on groundwater for human consumption and agricultural activity.
Integrated NatLoc Plans

- The WBG in partnership with DoE & SACCCS commissioned the international and national researchers to:
  - Prepare National and Local Stakeholder Plans (NatLoc);
- Key considerations of the stakeholder plans revolve around the deployment of CCS in South Africa;
- CCS must be fully considered as part of the country’s energy strategy;
- Stakeholders must be engaged and provided with information in a transparent manner;
- The information must address the following objectives:
  - Raise awareness of CCS as a possible mitigation measure;
  - Outline the benefits and potential risks of the CCS technology;
  - Build mutually beneficial relations with stakeholders;
  - Manage stakeholders expectations to ensure that they are factually informed; and
  - Provide opportunities to raise issues/concerns and make suggestions.
Integrated NatLoc Plans

• The consortia recommended the following:
  • Establishment of the governance structures (BoG/SC/SE Sub-Com & Fin Sub-Com) essential for the implementation of the Stakeholder engagement programme;
  • Compile Integrated Communications Action Plan (ICAP);
  • Project Management team;
  • Community Liaison Working Group;
  • SACCCS communication governance RACI matrix.
The Stakeholders

- Government (National, Provincial & Local);
- Traditional authorities;
- Environmental Groups;
- Directly affected communities/landowners;
- Researchers and academia;
- Project Developers;
- Industry;
- Organised Labour;
- Media; and
- Schools.
Stakeholder Engagement

- SACCCS has embarked on public outreach programmes with various stakeholders to:
  - Provide Stakeholders an opportunity to raise concerns / issues and make suggestions
Stakeholder Engagement

- Governance structures are kept abreast on engagement activities. i.e
- Stakeholder Engagement Sub-Committee & BoG Meetings;
- Integrated Stakeholder Communication Action Plan;
- Embarked on an iterative systematic process with key stakeholders
Stakeholder Engagement

- Conduct info sessions using existing structures;
- Dissemination of appropriate info materials (Atlas, Technical Report & FAQs);
- Adopted a proactive approach to address concerns/questions raised;
- Conduct Perceptions Surveys (Prior, During & Post) Pilot CO₂ Storage Project.
Progress to date

- To date consultations/introductory meetings have been held with the following:
  - National Government (DMR, SALGA, GCIS, & DAFF);
  - Provincial Government (DMR, RMDEC, DWA & PCEC);
  - Local Government (SALGA & UMDM).
- Issues Logbook compiled.
Concerns/Suggestions

• How do we envisage dealing with the “illegal miners” once permitting has been granted?
• Are there intentions/plans to compensate the farmers in the potential sites?
• Consider conducting presentations in a simple language (jargon free);
• Consider conducting presentations in the vernacular of the affected communities in the potential sites;
• What is the projected cost associated with CO₂ storage per tonne?
• Consider raising awareness at the universities & schools
• Consider leaving legacy.
The Legacy

- A needs analysis will be conducted to determine the legacy;
- SACCCS will consider the following options:
  - Drilling water wells;
  - Visitor’s centre;
  - Partnering with the DBE to demystify Maths, Science & Technology
  - Using a visitor’s centre as a multipurpose centre.
Way forward

• To date, exploratory talks have been held with the National Department of Basic Education (DBE) with regard to the Pilot Schools’ Project;
• Continuous benchmark research is conducted on the international CCS schools projects;
• Compiled a proposal for the submission to the DBE;
• Awaiting slot for presentation to the Minister and her team;
• Compiled databases of the EC & KZN schools;
• Coordinating of meetings with the Provincial DBE.
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