

## **South Africa ready to capture, store carbon emissions**

Climate change is the environmental challenge of this generation, one that cannot be ignored because of the overwhelming impact it is beginning to have on the wellbeing of the planet and its people.

Global efforts to minimise the effects are gaining strong traction with increased focus on Carbon Capture and Storage (CCS) as a proven, safe and effective method of CO<sub>2</sub> containment. CCS is the capture of CO<sub>2</sub> emissions from large sources such as coal power generation and industry (iron/steel/cement). Thereafter the transport of CO<sub>2</sub> depending on the quantity, is via road (trucks), pipelines, rail, sea for safe and permanent storage thereof in deep suitable underground rock formations, similar to those that have stored oil, gas and naturally occurring CO<sub>2</sub> for millions of years.

At this stage, there are 21 fully operational CCS sites around the world, particularly in Norway (the global leader in CCS), US, Canada, UAE, Australia, Algeria and China, with further sites at an advanced stage of development.

South Africa is the leading developing country in CCS and has made good strides in research into CCS and its potential use through the SA Centre for Carbon Capture and Storage (SACCCS), a collaborative research organisation launched in 2009, which operates as a programme within the South African National Energy Development Institute (SANEDI).

Dr Tony Surridge, head of SACCCS, says, “CCS is an internationally tried and tested technology in large-scale, effective sites since 1996, and is proving to be an important measure against climate change. It is every country’s responsibility to offset the impact of its CO<sub>2</sub> emissions and South Africa, which releases 450 million tons of CO<sub>2</sub> into the atmosphere every year, can be justifiably proud of the progress it has made on its CCS roadmap for close to 15 years.”

### **First test now imminent**

South Africa’s CCS roadmap started in 2004, with extensive assessment of the potential for CCS in South Africa; in 2010, it incorporated the development of an atlas of geological storage of CO<sub>2</sub>; and the current phase is the SACCCS Pilot Carbon Dioxide Storage Project (PCSP) with the aim to inject 10-50 000 tons of CO<sub>2</sub>.

“The project also has the backing of the South African government. CCS is one of the eight flagship programmes of the National Climate Change Response Policy White Paper 2011, and is included in government’s National Development Plan, as an intervention for optimal value creation of coal. In addition, six South African universities are now incorporating CCS into their research programmes.

“A potential site has been identified in northern KwaZulu-Natal that offers ideal geological structures for CCS and has been proposed for the pilot project. The priority now is intensive stakeholder engagement to ensure that South Africans understand the risks that come with climate change and the value of CCS. SACCCS is reaching out to provincial and local government structures, local authorities and communities, for an opportunity to share

knowledge and encourage participation in its efforts to ensure a better future. Paramount is the communication of the intensive soil flux and water monitoring precautionary measures that are taken when deploying CCS technology,” concludes Surridge.

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#### **About SANEDI**

The South African government established the South African National Energy Development Institute (SANEDI) to direct, monitor and conduct applied energy R&D, demonstration and deployment, as well as to undertake specific measures to promote the uptake of green energy and energy efficiency in South Africa. Its mission is to use applied and energy research and resource efficiency to develop innovative, integrated solutions that will catalyse growth and prosperity to meet its vision of sustainable living for growth and prosperity in Africa. For more information, go to [www.sacccs.org.za](http://www.sacccs.org.za).