

Review of Clean Coal Technology Worldwide and the Southern African Perspective

*Second International Energy Agency Clean Coal Centre
(IEA.CCC) Conference and Workshop on
Clean Coal Technology in Southern Africa*

Presented by
Fossil Fuel Foundation of Africa
&
Eskom

FIRST ANNOUNCEMENT

Date

20 and 21 April 2010

Venue

*Franklin Auditorium, Eskom Conference Centre
Megawatt Park, Woodmead, Johannesburg*

OBJECTIVES

This conference and workshop will provide a review of current clean coal technologies in selected developed countries, and will critically assess them for their potential application in Southern Africa.

International experts under the auspices of the International Energy Agency Clean Coal Centre (IEA.CCC) will discuss

- § Technologies as experienced in their own countries
- § Barriers and enablers such as government, industry and public perceptions
- § Funding, legislation, pilot studies and policies, and
- § Cooperation between government departments

Thereafter interactive sessions will be facilitated between the speakers and Southern African industry and policy leaders in order to reach a Southern African perspective on the barriers and enablers and the technologies and opportunities most suited to Southern Africa.

MOTIVATION

The international effort to reduce greenhouse gas emissions, and hence limit the effects of climate change, is gaining momentum and *Southern African countries are now required to respond.*

South Africa's President Jacob Zuma announced, on 6 December 2009, prior to the start of the Climate Change Negotiations in Copenhagen, that South Africa would undertake a range of voluntary nationally appropriate mitigation actions. These will result in a deviation below the current emissions baseline of around 34% by 2020 and by around 42% by 2025. This enables South Africa's emissions to peak between 2020 and 2025, then plateau for approximately a decade and finally decline in absolute terms thereafter.

In world terms, the reductions in emissions required are from today's 6.7 tons for every person on Earth to 1.6 tons by 2050. Coal based emissions account for 2.0 tons of current totals.

While the coal industry may take comfort from the perceived problems of the alternatives - nuclear energy has high capital costs and renewable sources are still several years away from maturity and cost competitiveness, *the reality is that without significant increases in coal combustion efficiencies and successful carbon capture and storage, the industry will not survive to 2050.* Hence huge technical challenges lie ahead for the industry, unlike the incremental developments of the past. The impediments to using clean coal technologies may no longer be with the technologies themselves – the biggest hurdle is society's reluctance to change and to pay more for energy.

Southern Africa, as a developing region with a strong coal-based economy, is currently reviewing its options with respect to clean coal technologies, and for this reason is opening its doors to experts from the rest of the world to assist in guiding these developments.

INTERNATIONAL SPEAKERS

- Ø Dr John Topper –IEA.CCC [Global Overview](#)
- Ø Dr Hans Joachim Meier – [Europe](#)
- Ø Dr Jim Craigen (or possibly Burt Beasley) - [Australia](#)
- Ø DR Kouros Zanganeh - [Canada](#)
- Ø Mrs Barbara McKee – [USA](#)
- Ø Mr Nick Otter - [GCCSI](#)
- Ø Mr Robert Davidson –IEA.CCC
- Ø Dr Colin Henderson – IEA.CCC
- Ø Dr Lesley Sloss – IEA.CCC
- Ø Mr Gordon Couch – IEA.CCC

WHO SHOULD ATTEND

Those who have an interest in the sustainability of the coal industry:

- Mining industry personnel - geologists, mining/beneficiation engineers, management
- Users of coal in the fields of power generation, coal-to-liquids and metallurgical industry,
- Environmentalists
- Engineering manufacturers
- Government agencies, legislators, strategists and policy makers
- Project managers
- Academics, researchers and consultants.

TOPICS TO BE ADDRESSED

- ✓ ECONOMIC AND SOCIAL REALITIES OF CCT
 - § Costs
 - § Cost recovery mechanisms (tax, tariffs, surcharges)
 - § Consumer psychology on the need to pay
- ✓ GLOBAL OVERVIEW AND COUNTRY CASE STUDIES OF CLEAN COAL TECHNOLOGIES
- ✓ IEA-CCC REVIEW OF CCT ROADMAPS IN THE SOUTHERN AFRICAN CONTEXT
- ✓ CLEANING BEFORE USE – BENEFICIATION
- ✓ COAL-FIRED POWER STATIONS OF THE FUTURE
 - § Combustion efficiency
 - § Gasification
- ✓ SYNFUELS OF THE FUTURE
- ✓ EMISSIONS
 - § Carbon, capture and storage
 - § SO_x, NO_x, PM₁₀/PM_{2.5}, heavy metals
- ✓ ECONOMIC IMPACT OF CCT ON GDP AND GROWTH – Global and in Southern Africa
- ✓ THE FUTURE.

ANTICIPATED OUTCOMES

- Identify barriers and enablers global and local
- Identify areas for further research
- Identify other uses and value for carbon in coal
- Identify areas for capacity building
- Enhance public conceptions

PRESENTATIONS AND WORKSHOP

All presentation will be in English. Power Point presentations will be used. A CD will be produced of all presentations at the end of the conference/workshop.

The workshop will consist of an international paper followed by a South African paper and then 30-45 minutes of debate and discussions in each specific topic sessions.

ACCOMMODATION

Accommodation in the form of hotels or bed and breakfast in the vicinity can be obtained from the Conference Secretariat.

PROVISIONAL PROGRAMME

TUESDAY 20 APRIL - CONFERENCE

13:00-14:00 *Registration*
14:00-15:30 *Plenary session*
15:30-16:00 *Tea*
16:00-17:30 *International papers*
17:30-19:00 *Cocktail party*

WEDNESDAY 21 APRIL - WORKSHOP

07:30-08:30 *Registration*
08:30-10:30 *Workshop*
10:30-11:00 *TEA*
11:00-13:00 *Workshop*
13:00-14:00 *LUNCH*
14:00-15:30 *Workshop*
15:30-16:00 *TEA*
16:00-18:00 *Workshop and closing session*

ORGANISING COMMITTEE

Chairman: Mr Dick Kruger, President FFF/Chamber of Mines

Technical Programme Committee:

Co-Chairman: Mr Chris Gross, Eskom

Co-Chairman: Mr Dave Collins, FFF/Consultant

Dr John Topper, IEA-CCC UK

Mr Barry McColl, Eskom

Mr Paul White, Venmyn

Mr Brian North, CSIR

Ms Marie Parramon, Imbewu

Prof R Everson, North West University

Prof T Surridge, SANERI

Prof R Falcon, University of the Witwatersrand

CONFERENCE SECRETARIAT

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REGISTRATION

The registration fee includes: - entrance to all sessions, name badge, tea & coffee breaks, lunch on day 2, cocktail party on Day 1 and CD of presentations, delegate file and printed materials.

Registration fees to be announced.