



Indaba

Coal, Carbon and Energy

2009

14th Southern African Coal Science
and Technology Conference

Clean Coal Technologies

Opportunities Based on Latest Research
and Development in Southern Africa

11 & 12 March 2009

Glen Hove Conferencing
Melrose, Johannesburg, South Africa

Presented by



Second Announcement and Provisional Programme

Introduction to the Conference

Indaba 2009 is the 14th Conference in the Series “The Southern African Conference in Coal Science and Technology”. Held annually, these conferences seek to provide the premier platform in the region upon which global trends and state-of-the-nation reviews are presented along with new and innovative topics in research developments and debatable issues pertinent to coal, carbon, energy and related environmental issues. This is an international event thereby encouraging participation from delegates in all walks of the coal, carbon and energy industries, both locally, regionally and abroad.

Conference Objectives

The purpose of this conference is to present a review of recent advances in Clean Coal Technology (CCT) pertinent to southern Africa which could lead to major opportunities for industries and the general community in this region.

Motivation

For southern Africa to enhance its industrialisation and development, it will need to increase its energy production as well as its minerals extraction, reduction and usage and its manufacturing industry. As coal remains the primary source of energy as well as the source for C-based chemicals and carbon reductants in most countries in this region (and this will be so for some time to come), countries will be required to develop this resource in a considerably cleaner and more efficient manner than has been the case to date. For these reasons, Clean Coal Technology (CCT) in southern Africa requires that all aspects be considered with respect to improvements in the extraction, production, beneficiation, utilisation and environmental management of coal and its carbon-based derivatives. Furthermore, given the nature of the Gondwana coals available to the local market, southern Africa is obliged to undertake more in-depth research than other countries in order to achieve the increasingly stringent levels of efficiency and environmental responsibility that are now being imposed. For this reason, research and development in all coal-related matters is of prime importance in the region.

Provisional Programme

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Welcome Mr Dick Kruger *President FFF*

SESSION 1 – OPENING PLENARY

PLENARY - Global use of coal for power generation – opportunities and challenges now and in the forthcoming decades Dr John Topper *IEA Clean Coal Centre, UK*

SESSION 2 – GEOLOGICAL / MINING

PLENARY – The determination of the coal reserves / resources of South Africa and its neighbours – A fresh approach Mr Johan Dempers *Eskom*

Coal resources for small scale mines – 2009 perspective Mr Xavier Prevost *Wood MacKenzie*

SESSION 3 – BENEFICATION

PLENARY - De-stoning of raw coal to improve efficiency Mr Johan de Korte *CSIR*

A techno-economic study of sulphur reduction for coal utilisation – is prevention better than cure - that is the question Mr Ed Koper *Consultant*

The partitioning of trace elements in the 4 seam of the Witbank Coalfield Mr Kobus Bergh *Anglo Coal*

Fluidised bed beneficiation for coal in South Africa Professor Jon Pocock *et al* *University of KwaZulu-Natal*

The potential of electrostatic separation in the upgrading of South African fine coal prior to utilisation Mr Samson Bada *Wits University*

The application of dual energy X-Ray transmission sorting to the separation of coal from torbanite Mrs Hayley Strydom *et al* *Minerals Processing Division, Mintek*

SESSION 4 & 5 – UTILISATION – COMBUSTION & POWER GENERATION

Doubling the electric efficiency of waste-fired power plants with the aid of SA coals: The influence of kaolinite on alkali deposits and corrosion in co-firing in FBC combustion – Research from Finland Mr Pasi Vainikka *V V T Technical Research Centre of Finland*

Unusual experiences of a fluidised bed operation in South Africa Mr David Brook *Babcock Engineering*

The influence of particle density on the gasification of high-ash, inertinite-rich coals Professor Hein Neomagnus *et al* *North West University*

Review and evaluation of combustion prediction formulae Mr Happing Masuku *Eskom*

Validation of the combustion test rig relative to full-scale PF boilers Mr Priven Rajoo *Eskom*

Investigation into char structures using raman & petrographic techniques to assess combustion reactivity Mr Vongani Chabalala *Wits University*

SESSION 6 – UTILISATION – UNDERGROUND GASIFICATION & CONVERSION

Underground coal gasification – The Eskom experience Professor Mark van der Riet *Eskom*

UCG Pilot study in Secunda South Africa – The experimental design and operating parameters for the demonstration of the UCG technology and verification models Mr Johan Brand *Sasol Synfuels*

COCKTAIL PARTY

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SESSION 7 – UTILISATION – GASIFICATION & CONVERSION

Lump Coal physical-property behaviour impacting on a commercial-scale Sasol–Lurgi FBDB gasifier
Dr John Bunt *et al* *Sasol Technology*

Characterisation of South African coals & chars in fluidised bed gasification Mr Bilainu Oboirien
CSIR

Characterisation of lump coal from a pipe reactor Ms Nandi Malumbazo *Wits University*

Manipulation of the ash flow temperature and viscosity of a carbonaceous Sasol waste stream
Dr Johan van Dyk *Sasol Technology*

PLENARY - Advanced carbon products and graphite Professor Brian Rand *University of Pretoria /
University of Leeds, UK*

SESSION 8 – UTILISATION – METALLURGICAL ASPECTS

Improving the understanding of coke prediction parameters Mr Pierre Jordan *Exxaro*

Anthracites as a substitute for coke in metallurgical processes Dr Ricky Pinheiro *Petmin Limited*

Study of selected reductants for the FeCr industry Ms Rachel Thlole *Exxaro*

SESSION 9 – ENVIRONMENTAL ASPECTS – EMISSION REDUCTION

PLENARY – There is hope in renewables for the fossil fuel industry Mr Bob Tait *Wits University*

Application of chemical looping combustion for pure CO₂ capture during power generation Professor
Adam Luckos *Sasol*

Combustion optimization by accurate air and fuel flow as well a unburned carbon measurement
Mr Hans George Conrads *et al* *Promecon, Germany*

PLENARY – CO₂ capture and storage global review with status quo in South Africa Dr Tony Surridge
SANERI

Geological sequestration of CO₂ – lessons for southern Africa from the European experience
Dr Ricky Pinheiro *Petmin Limited*

PLENARY –NO_x and chlorine in coal – are they so bad? Dr Philip Lloyd *IPC*

Methane from mines eradication and CDM Mr Kinesh Chetty *OneCarbon*

**Delayed coking of South African petroleum heavy residues and the potential environment benefit
to the shipping industry** Mr John Clark *Sasol Synfuels*

Methane from mines – eradication and CDM opportunities Mr Kinesh Chetty *OneCarbon*

Implications of global climate change and opportunities for the southern African fossil fuel industry
Dave Collins *Promethium Carbon*

DRINKS WILL BE SERVED IN THE BAR

Who Should Attend

All involved in the assessment, production, use and strategic planning of coal, carbon and energy:

- Coal geology, mining and beneficiation personnel
- Combustion and power generation personnel
- Gasification and conversion personnel including CTL and carbon-based industrial chemicals
- Iron, steel and ferroalloy metallurgical personnel
- Traders and marketers
- Environmental engineering and SHE management
- Technical consultants and engineering manufacturing personnel
- Policy developers and project managers
- Government personnel, academics and researchers

Technical Organising Committee

Mr Dick Kruger – Chamber/ Mines (Chair)
Dr Tony Surridge - SANERI
Mr Chris Gross – Eskom ERID
Mr Johan Beukes – CoalTech Research Ass
Prof Frans Waanders - NWU
Mr Brian North - CSIR
Prof R Everson – NW University
Prof Quentin Campbell - NW University
Prof R Falcon – Wits University
Dr N Wagner – Wits University

Conference Secretariat

RCA Conference Organisers

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Tel +27 11 728 8173/4511
Fax: +27 11 728 1675 or +27 86 653 7108

Fossil Fuel Foundation
Postal address:
P O Box 72147 Parkview 2122

Exhibition

An exhibition will take place alongside the conference. Interested parties should please contact the Conference Secretariat: Mrs Robbie Cameron

Tel +27 011 728 8173 • Fax +27 011 728 1675 • Email: robbie@rca.co.za • techevents@mweb.co.za

Sponsorship Options

Several exciting sponsorship opportunities are available to industry members. Sponsorship packages are available as well as sponsorship on specific items. All sponsors will be offered branding promotion whether this is inclusion of your logo on the sponsored item or as banner displays in the dining hall or venue. The Conference Secretariat has details.

Accommodation

Accommodation in nearby hotels or B&Bs is available. Please contact the Conference Secretariat for details: Mrs Robbie Cameron

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11 & 12 March 2009

Title Surname First Name

Postal address

Telephone Mobile Fax

Email (please print clearly)

Company or Organisation (to be invoiced)

Your company's VAT registration number

Purchase order number

Your position in the company

Accounts contact person

Accounts tel/fax number

Accounts email address

Company's Postal Address

Are you a member of the Fossil Fuel Foundation? YES NO

Specific dietary requirements

Registration Fees

Full registration fees to the conference include VAT, delegate file, name tag, materials, CD, tea/coffee breaks, lunch on 11 and 12 March 2009. **PLEASE TICK YOUR REGISTRATION OPTION:**

Early Bird Member (payable before 6 February 2009)	R3 163.50	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Early Bird Non Member (payable before 6 February)	R3 519.00	<input type="checkbox"/>	<input type="checkbox"/>
Full Registration FFF Member	R3 775.00	<input type="checkbox"/>	<input type="checkbox"/>
Full Registration Non Member	R4 105.00	<input type="checkbox"/>	<input type="checkbox"/>
Academic / Fully Retired Person	R1 111.50	<input type="checkbox"/>	<input type="checkbox"/>
Full-time registered student	R1 111.50	<input type="checkbox"/>	<input type="checkbox"/>
I will attend the Cocktail party - no charge		<input type="text"/> YES	<input type="text"/> NO
TOTAL PAYMENT			<input type="text"/>

Please note: if your registration fees have not been paid by 10th March 2009 you will remain personally liable for the full amount.

SIGNED:

DATE:

Please complete a registration form for **each person attending** the conference.

Fax or email registration forms to:-

Fax: +27 11 728 1675

Email to: robbie@rca.co.za • techevents@mweb.co.za

An invoice will be issued on receipt of a completed registration form and the cancellation clause will come into immediate effect. A deposit slip or transfer form with the invoice number as a reference is required as proof of payment please.

ATTENDANCE IS STRICTLY SUBJECT TO PRIOR PAYMENT

CANCELLATION OF REGISTRATION

Cancellation may be made in writing 14 days prior to the course; a 25% administration fee will be charged. No refund or credit note will be issued if written cancellation is not received timeously. You will then remain liable for payment of the invoice. Registrations are transferable.

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