

SACAA's QUICK ELECTRONIC COMMUNICATIONS WITH THE MEMBERS AND ASSOCIATES

Website: [www.coalash.co.za](http://www.coalash.co.za)

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## Introduction

The Ash Flashes newsletter, which SACAA deems necessary to share news of our association, members and **ash** in general, as well as topics of interest. Please share some articles, news, views for publication.

- ❖ Membership news
- ❖ Phakisa re-visited
- ❖ Feedback from the Ash Conference

Kind regards

*Mark Hunter*

SACAA GM

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## Membership news

**AGM** – SACAA this year held its 30<sup>th</sup> AGM where we presented our financial results, introspection of achievements and approved the new budget for the next year. As an association we try to run an economical yet efficient administration, by trying to keep costs down and still facilitate the **ash** beneficiation drive to the benefit of South Africa. As such we have kept the membership increases between 5 – 7%. Here are some of the achievements from the Presidents report.

Key activities and achievements in 2018/19:

- ASPASA has continued to provide an efficient administrative function and have supported the SACAA General Manager
- Establishing Phakisa Steering Committee and Work Streams
- A successful site visit to Kusile power station
- Informative **ash** flashes
- Engagement with international peers and sharing of information
- Sponsoring of a University Student to attend the WOCA conference in May

- Media publications promoting **ash** utilisation
- Recognising the years members have contributed to SACAA
- Counsel meetings have been well attended
- The Mancom has continued to provide support to the GM and to the Phakisa process through the Work Streams and the recent Phakisa two-day workshop.

**New Mancom Members** – The following members were appointed as a Mancom to run the affairs of SACAA between the Council meetings where decisions are made and/or ratified. Deidre Herbst - President, Ruth Terblanche - Deputy President, Mark Hovy – Concrete Testing Solutions, Dirk Odendaal – Ash Resources/Lafarge and Albert Da Serra – Afrimat and Belinda Heichler – Kwikbulk, Mark Hunter - General Manager (will remain until a new GM is appointed).

**Membership fees** – The membership fee invoices will be sent out shortly, if we could please request you to expedite these promptly, to ensure that we don't have to have follow-up mails. Your assistance is always appreciated.

**New Membership**– Welcome to Robert Madubanya from Marobi Holdings who joined SACAA during the month. Robert, we hope to see you at the association events and meeting, as this is where the networking takes place.

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## *Accelerating Ash Beneficiation Conference*

Following on from the previous Ash Flashes where we gave a little insight of the successful conference, in this edition we thought it prudent to unpack the Ash Conference in more detail as part of the education and awareness to members on the extreme knowledge base that South Africa is blessed with in terms of Ash Research, tests and practical demonstrations as well as Ash Beneficiation and consumption opportunities.

The venue at Sasol Place in Sandton was very elegant and SACAA would like to thank Sasol for hosting the event at their offices, which had to be logistically compliant to a functioning office building. The facility had limited space for elaborate exhibitions, but this did not distract from the quality of the posters and exhibitors. A big thanks to all the exhibitors and conference co-ordinators.

### **Day 1**

The SACAA President, Deidre Herbst, presided over the Conference after a brief safety induction, by giving a good account of the SACAA history. She indicated that it was not only about the talks, but the networking and sharing research to learn from each other. She further gave an overview of the Phakisa working groups and invited participation within the various stream. She reminded the delegates of the 2 elements of challenge - the Regulations and the ash availability particularly with Eskom.

**KEYNOTE ADDRESS – Ronel Kotze** -Vice President Technical Support Process at Sasol Secunda Operations

In the keynote address Ronel indicated that to beneficiate waste needs a collaborated effort between Business, Industry and Government. She presented an overview of the Sasol Secunda site, emphasising the vast environmental

footprint that requires strict compliance management. Sasol disposes around 200 thousand tons of ash for beneficiation per annum. Sasol has completed an economical study that revealed that ash could be utilised quite competently within a 200 km radius, however, the current Provincial and Municipal road infrastructure is risky and would need upgrading to allow for the mass movement of ash. Sasol are fully committed to the Phakisa Initiative of waste reduction and beneficiation by small entrepreneurs.



### **Surprise Zwane**

**Surprise Zwane** – Department of Environmental, Forestry and Fisheries - Phakisa Delivery Manager

Surprise gave a broad overview of the Waste Phakisa and its objectives, focussing on volumes of ash, potential jobs and areas where the jobs should be generated as well as the benefits to the environment. From a waste perspective the ash is categorised within the Bulk Industrial Sector and this sector is targeted to accelerate and commercialise all opportunities to reduce and reuse the waste as much as possible. In this regard a sewerage sludge pilot project has been established in conjunction with a municipality and driven by the research from AgriMintech.

**Anton Odendaal** – Geopolymer Entrepreneur and owner of Voyatex



### **Anton Odendaal**

Anton gave a dynamic presentation on Geopolymer characteristics versus the Portland Cement. He gave some visual demonstrations on some of his achievements in making products by using ash and geopolymer to create products. The major benefits being the quick drying/setting time and then the house that was built with a “Lego block” concept, meaning that it can be constructed by non-skilled persons.

The PHAKISA THEME: **Roads, Embankments and Concrete** – Chaired by Bryan Perrie from the Concrete Institute



**Dennis Moyo**



**Refiloe Mokoena**

This session involved a talk by **Dennis Moyo** – Pretoria University, on the Physio-chemical characteristics of using fly ash as an extender in rubber compounds. He stressed that the high silica compound in the fly ash is what makes it useful. **Refiloe Mokoena** from the CSIR presented a paper on the laboratory testing and research on utilising ash in the Railway Infrastructure. This was some excellent work and will have a major impact in getting more ash beneficiated in future for these applications.

The next speaker was **Theo Fischer** who is an Environmental Consultant with Essience, who unpacked the potential of cement extenders to reduce the carbon footprint in cement. This is quite critical when looking at the new Tax Implications. Finally, in this session was a presentation by **Mark Hovy** from the Concrete Testing Solutions on the quality testing for the prevention of Pop-outs in concrete masonry units. This was to ensure that a self-test by all manufactures utilising ash in their processes can ensure that the most suitable ash is used to ensure a quality product.

The PHAKISA THEME: **Ash Exportation** – Chaired by Kelley Reynolds-Clausen from the Eskom Research and Testing



**Dirk Odendaal**



**Naushaad Haripersad**

**Dirk Odendaal** from Ash Resources shared a presentation on the Ash Exportation titled “it’s about the economics”. He shared some trends, potential opportunities, costs, and infrastructure required to enhance the export opportunities while bringing in foreign trade into the fiscus. The next speaker **Naushaad Haripersad** from Eskom shared the methodology and technical options that were utilised in the selection of the Flue Gas Desulphurisation (FGD) plant for the Kusile Power Station, where the by-product is Gypsum that could be commercially beneficiated.



**Ruth Terblanche**

Finally, **Ruth Terblanche** from Sasol shared an enabling ash value chain from a Generator's perspective. In this presentation Ruth shared a detailed one-page requirement schedule that each sector is required to answer during the ash beneficiation value chain. It is recommended that you download this for future use.

## **Day 2**

The conference day 2 commenced with **Sizo Myeni** from Eskom Rotek Industries sharing the Eskom Ash Strategy. Naturally being the National Electricity Utility, this is where the ash volumes are and the biggest beneficiation opportunities could and should be derived, Sizo shared some of pressure in getting allocations awarded.



**Sizo Myeni**



**Ben Gyepi-Garbrah and**

Then it was the turn of our international speakers from Green Coal Solutions, where **Larry Catlin** did the technical talk and **Ben Gyepi-Garbrah** did the financial aspects of an Insulation Material amongst some 9 different products that can be manufactured for ash. They are in advanced discussions to bring this technology to South Africa.



**Mishelle Govender**

Our esteemed next speaker, **Mishelle Govender** from the Department of Environmental, Forestry and Fisheries highlighted what legislation is required for Beneficiation of Ash. Firstly, it is prescribed under the Definition of Waste in terms of NEMWA then the generator must identify what exactly is the waste. She then went on to indicate that Section 74 exemption applications were already in place; however, these had a limited 12-month period and no automatic extensions. Another condition is the waste reporting on the Government Website. Mishelle then to the delight of the delegates, advised that the application for exemption had been signed by the Minister and were now being prepared for submission to the Government Gazette for public participation.

The PHAKISA THEME: **Ash Land & Water** – Chaired by Nico Pienaar from the ASPASA

This session brought to light a number of research projects around the very essential work on mine backfilling by using fly ash and commenced with a presentation by **Prof Jaco Nel** from the University of the Western Cape on the Integrated flow of geochemical modeling of CCP monolith backfilling into opencast coal mines. In the presentation Jaco indicated that this process could drastically reduce the service area of the ash as well as reducing the Acid Mine Drainage (AMD) but not the cause of the AMD. In alignment with the previous presentation **Angelo Johnson** - Phd Student at the University of the Western Cape shared the results of a laboratory case study and feasibility of fly ash in AMD opencast coal mines. In keeping with the theme **Prof Olanrewaju Fatoba** shared the demonstration of AMD Treatment with coal fly ash in a 1000 litre tank.



**Jaco Nel**



**Angelo Johnson**

**Dr Wayne Truter** from the University of Pretoria shared a lively presentation on enhancing the quality of degraded agricultural and mined land with siliceous coal fly ash. There were several field test examples and one of the key ideas is that each decision should be undertaken by analysis of the soil type prior to any applications of fly ash. Wayne then did a presentation of the "SLASH" beneficiating coal ash to produce a soil substrate conditioning product that increases the fertility and productivity of the degraded land. A pilot project is currently under way in South Africa.



**Wayne Truter**



**Tsepo Molotsi**

Closing off the conference was a presentation by SAPPI on the beneficiation of their ash at the Saiccor plant in KZN. Here they developed a programme to upskill brickmakers in a radius of 20 kilometres from the plant. They assisted with site establishment, business acumen and quality aspect to ensure that the local community derives economic benefits from the waste. Constant monitoring is performed by SAPPI.

SACAA would also like to thank all the exhibitors and posters for their involvement.

All the presentations are available on the SACAA website: [www.coalash.co.za](http://www.coalash.co.za)

User ID is your email address

Password: Your unique membership number (Case Sensitive) e.g. A0030a

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## *SACAA Diary - Dates For 2019*

- 13 November 2019 – Council Meeting and Technical Talk
- We are also planning to have a site visit to the Sasol Secunda Plant during October 2019. Dates and details will be communicated in advance.

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Please share any news, activities or articles that you feel will be interesting to the members.

ALL FOR NOW ...

Regards

*SACAA Manco*

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