

Ash is the 21st century's next big thing

With a little innovation and a sound business plan any South African stands to make a fortune out of the millions of tons of coal ash produced by our generators annually.

With mountains of ash available at all of South Africa's coal-fired power stations, Eskom, Sasol and other smaller producers, there is no shortage of supply and anyone wishing to make use of the "Grey Gold" is likely to get it at low or no cost provided they can prove that they have a viable usage and that the operation will generate revenue and jobs.

Already 10% of the total 50 million tons of ash produced per year is used in the manufacture of cement products and concrete bricks for the building industry, as well as being used to treat acid mine drainage and to remediate soil for agriculture and other land uses. However, this is just the "tip-of-the-iceberg" and experts have already identified a host of other uses including alternative building products, volumisers for plastics manufacture, contouring for road, rail and landscaping infrastructure, as well as thousands of other uses.

ENTREPRENEURS WANTED

Now, with Government's assistance, the South African Coal Ash Association (SACAA) has been given a target to increase ash usage to 20% of offtake and to create 26 000 new jobs in the process within the next 5 years. In addition, start-up ash operations can expect some kind of assistance from Government, generators, SACAA and academics to extract the maximum potential out of ideas that are deemed to be viable.

SACAA general manager, Mark Hunter, says the association is looking for industrial entrepreneurs to assist in identifying and developing viable business opportunities for the use of waste ash generated by our producers via their boilers. As the second biggest waste stream (after organic waste that is sent to landfill), coal ash is becoming a headache as the country is running out of space to dump the ash.

He proclaims that reaching the 20% target is not only possible, but probable if some viable alternatives can be found to dumping. This will require close cooperation between role players and speedy facilitation between Government and other role-players who also fully understand the urgency of the matter and will likely pull-together to make it happen.

Team effort

"First and foremost, we need ash to be excluded from the classification of hazardous waste. There is a plethora of research which has been completed which shows that there are many applications of ash which are not harmful to the environment or health. It is only when ash is stored for extended periods that it may have an impact on the environment. Next, we will need to continue working with formal industries, such as mining, construction and the cement industries to find all possible avenues to utilise ash.

"Simultaneously, we will also engage with scientists and entrepreneurs to identify areas where ash can be used as additives in manufacturing processes and as an end product in other instances. Then the race will be on to industrialise these, and we will facilitate and assist in every way to make sure it is successful.

"As a part of the Department of Environmental Affairs' Phakisa program to reduce waste to landfill/ash dump/dam, as well as create



Mark Hunter of SACAA.

sustainable employment in the process, we are confident that we have the full backing of Government and that we will make a success of the project. We therefore call on creative and technical people, as well as business people and entrepreneurs, to come forward and be a part of the solution," says Mark.

DIFFERENT TYPES

Coal ash ranges in consistency from ultra-fine fly ash, through courser grades to hard stone-like granules. Its unique properties include round molecules that make fine particles flow into microscopic spaces when combined with liquids, different sized molecules also provide good adhesion in cement pastes and plastics, while course materials are used elsewhere in the world for landfilling applications etc. It is fireproof and provides high levels of insulation. Environmentally, the material is considered carbon neutral, is inert and can be vegetated over.

SACAA is the official industry representative association for ash producers, marketers, users and individuals involved throughout the entire ash supply chain. Producer members include Eskom, Sasol and Kelvin Power station. Associate members include Ash Resources, Ulula Ash, Afrimat, AfriSam Cement, Kwikbuild Cement, PPC Cement, Sephaku Cement, NPC Cement and is supported by research organisations including the Council for Scientific and Industrial Research (CSIR), consultants and academics. ▲

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