



Address: 11 Setchell Road, Leondale, Germiston

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FEWCOOP SA'S RESPONSE TO INFORMATION NOTE

Dear Supervisory Board:

FEWCOOP SA is grateful for the opportunity to provide feedback on the Article 6.4 Supervisory Body's Information note on Removal activities under the Article 6.4 mechanism Version 04.0.

1. COMPANY DETAILS:

The Food Energy Water South Africa Tertiary Co-Operative Limited [FEWCOOP SA] is a tertiary co-operative comprised of eight Secondary Co-ops in eight provinces [KZN, MP, EC, GP, WC, NC, LP & FS], and has about 221 Primary Co-operative in all provinces aggregated to secondary co-ops at provincial level. FEWCOOP SA at the tertiary level facilitate funding / investments, partnerships, markets for the secondary co-ops which are comprised of primary co-ops in the provinces where we exist Our intention is to involve rural communities in the knowledge economy by building their capability for their economic inclusion as envisaged by the National Development Plan.

2. FEWCOOP SA CARBON SEQUESTRATION APPROACHES AND METHODOLOGIES:

FEWCOOP SA has partnered with SASOL South Africa and ESKOM to capture carbon and upcycle their fly-ash emitted from their coal power plants. Upcycling of carbon into other usable products is an existing technology but less used in South Africa. Afro-Fund a member of FEWCOOPSA has been in possession of a Scio Diamond Technology patent to upcycle carbon since 2013. The patent couldn't be implemented because South Africa was not part of the Paris Agreement.

The recent global developments climate change amongst other i.e. COP 26 agreement, the commitments under the UN Energy Compact to meet the targets for clean, affordable energy for all as set out in Sustainable Development Goal 7 & 13 and towards net-zero emissions by 2050 in line



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with the Paris Agreement on Climate Change are advancing South Africa's response to climate change. Furthermore, FEWCOOP SA managed to mobilise our member co-ops and rural communities for Hemp propagation in 3000 Ha. The domestic carbon market in South Africa has huge prospects for growth, it is dynamic and globally the carbon industry has experienced a rapid growth amidst concerted effort towards green economies by 2050.

2.1 Micro Algae Farm & Graphene Production

In the State of the Nation Address, the South African Government articulated has interest in Green Hydrogen investments. Consideration of the cost of these technologies requires a critical re-look, this technology is heavily reliant on PGM's and REE's. As such it is very costly, furthermore our mineral reserves are not infinite while our energy demand continues to grow and currently remains unmet. FEWCOOP SA is advocating for the usage of Graphene based Electrolyte Membrane that can be used to replace the expensive Polymer Electrolyte Membrane made out of platinum in renewable energy generation. Our material is from upcycled carbon. The transmission of power using copper and REE can be easily replaced with Graphene nanotubes, in houses and cars and the material is made from graphene. Graphene or Man-made diamonds are very good in the storing and the distribution of renewable energy and as such FEWCOOP SA intend taking advantage of the properties of this futuristic material.

Graphene Oxide (GO), is made up of 71 carbon and 27 oxygens atoms and can easily be mined from the air or from heavy polluting industries. The GO atomic layers of Carbon Dioxide can be grouped into 10 layers, and such layers can then be in the form of:

- i) Powder (which can be used to strengthen Fly-Ash),
- ii) Paste (Can be used in Upcycling used Concrete),
- iii) Soluble Solution (for strengthening of both Fly-Ash and to Upcycle Concrete).

Graphene Oxide is thus the fastest way of significantly reduce concrete or cement related Carbon Dioxide emissions. Carbon Dioxide will also be injected into our Fly-Ash Ready-mix so that we continue strengthening and sequestering Carbon Dioxide on the fly ash across all our activities, this is also going to help a great deal in Water Conservation.



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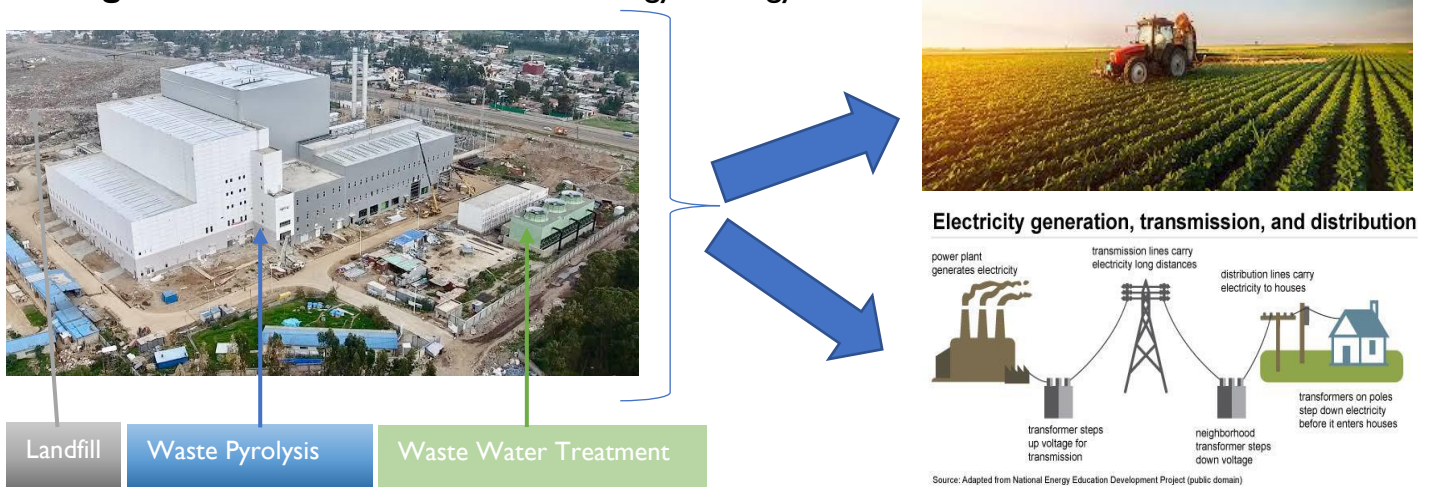
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2.2 Waste 2 Energy Plant

FEWCOOP SA through our circularity division will implement the Waste2Energy Upcycling using the pyrolysis technology to power our Secunda Industrial Park. Waste will be collated from the surrounding areas and our strategy is to have provincial buy-back centres across all Provinces and Metropolitans. These Buy-Back centres will be having a target to source of 1 000 tons of waste daily required to run a profitable pyrolysis plant. FEWCOOP SA will initiate a Landfill Mining programme, the MINING of our LANDFILL can be equated to a Rehabilitation process. The world has agreed that LANDFILLS are man-made and are not natural, and as such the waste from such facilities is not healthy to the environment for it is not NATURAL. Our strategy is to mine METHANE from our Landfills and turn such landfills into food producing hubs and other products, i.e. fertiliser, natural gas, electricity etc.

Thus, partnerships with CSIR, PCC, and the NCPC-SA in fighting Climate Change with indigenous communities. South African Methane levels are too high if we have to look into FEEDLOTS, waste from feedlots will be turned into Vermicompost for WORMTEA, waste from gardens and Fruit and Vegetables shops will be added to such vermicompost to remove Heavy Chemicals from our Food producing industry. The following diagram illustrate our Waste2Energy strategy:

Figure 1: FEWCOOP SA Waste 2 Energy strategy





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2.3 Fly Ash Up-Cycling Plant

FEWCOOP SA has an agreement with SASOL to Upcycle their Fly Ash, the Hemp that we are propagating nationally will be used to come up with a Eco-Friendly Carbon negative concrete. This concrete will continue to sequester carbon and strengthen over time, furthermore various technologies will be deployed in using Carbon to cure concrete / panels. The production of Green Cement is reliant on Graphene pastes or powders for their nanomaterials blends very well with Portland cement and can be used in upcycling aggregate from demolished buildings saving millions on new cement.

Concrete is the most used material in construction secondary to water and has been one of the biggest drivers of GHG emissions. Coal has also been one of the biggest emitters, FEWCOOP SA is thus coming with novel ways of Sequestering both Carbon Dioxide from Coal flue gases and removing the resultant Fly-Ash from the environment through upcycling using the trapped carbon. We are therefore sequestering carbon through Electricity Generation, Concrete Manufacturing in one step [using carbon instead of storing it]. Graphene will be incorporated to the spekboom plant electrolysis to produce binding material for our concrete for green construction.

3. CONCLUSION

We trust that our response can be of use to the Supervisory Body as it moves forward with its work.

Yours Sincerely,

Mr. B. Bosaletse

Chief Investment Officer:

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