



MUSTAPHA ENERGY

Mustapha Energy is a novel integrated residual waste to energy development using state of the art environmental technology.

Localised heat, power, and secondary resource production from our residual waste.

The project adds constructively to the waste economy by enabling recycling projects such as the New Horizons Waste to Energy project to efficiently utilise residues and produce heat and electricity for recycling and biogas production processes.

PROJECT COVERAGE

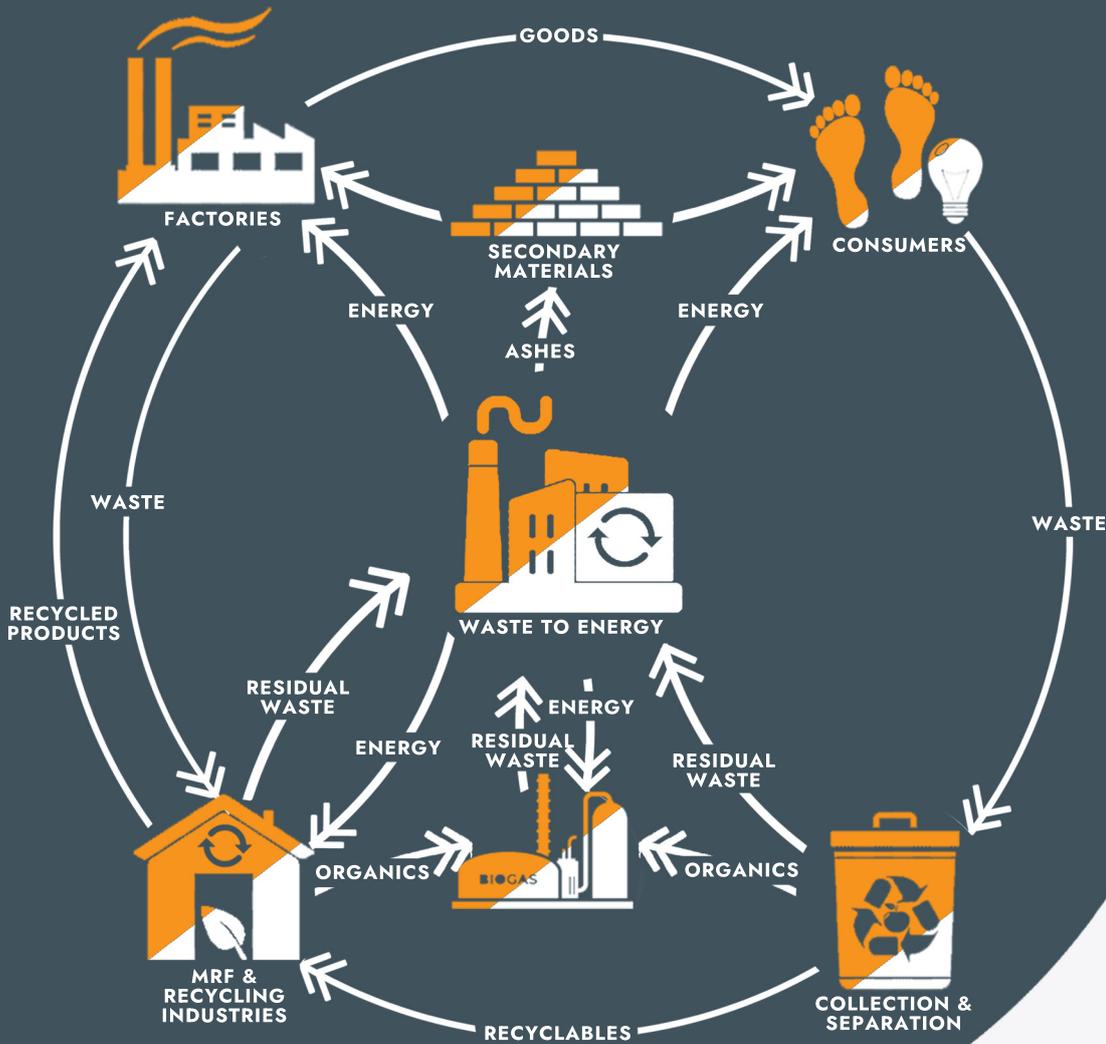
The project aims to bring substantial local and foreign investment into the Western Cape to build a flagship project to process between 15 to 700 tons per day of residual unrecyclable municipal waste to energy. The project will be able to produce between 0.2 MWe and 10 MWe. The project technology will comply with the highest international emission standards to ensure a negligible impact to the environment and a substantial improvement over other forms of local heating and electricity supply. The waste processing hub that this project will be a corner stone of is based in the Athlone area with potential further extensions into Industrial areas in Epping and Bellville.

PROJECT SUMMARY

The Mustapha Energy project development is spearheaded by Witech Africa which has over 20 years combined team experience in the field. The project is funded by The Nordic Development Fund through the Environment & Energy Partnership as well as Moshading Capital and Waste Mart. Waste Mart is the main waste supply partner & the property supplier for the location of the main development. Mustapha Energy has also partnered with the Waste Transformation 4 Energy Association, an industry representative association for the residual waste to energy industry using thermal technologies. The association will be doing studies and information sessions with the local communities & stakeholders in the project. Both WT4E Association and Mustapha Energy are women led organisations.

**BASELOAD
ENERGY**

CONCEPT PROCESS FLOW



DR. MASHADI MOTLANA Founding Director of Moshading Capital and the Mina Foundation

Very early on in my career as a clinician I was frustrated by the fact that I could only make a difference one patient at a time. The treatment offered did not significantly alter the socio-economic determinants of illness that presented in my practice. My passion for impacting the mental health and well being has led me to investments that are focused on social impact and sustainability. At the Mina Foundation we manufacture and distribute menstrual cups to menstruators primarily of school going age. Our goal is to not only to end period poverty in South Africa and beyond our borders, to keep girls in school and to have a positive impact on the environment.



MR. NAZIER MARTHINUS Owner and CEO of Waste Mart

Waste Mart has always been a keen supporter of alternative waste management technologies and techniques to reduce the disposal of waste to landfill, which is both costly and environmentally damaging. When my late father, Mustapha Marthinus started the company over 4 decades ago, South Africa was a very different place, and over the years we have grown and thrived with the positive change in our country. We now see this legacy being handed over to us to drive this change for our children and their children's children. Waste to energy is a key component of this change.



WASTE MANAGEMENT - SNAPSHOT



Historically South Africa has relied heavily of depositing our wastes in the ground, in a process called land filling.

With increased land pressures and shortages for developments around large cities and the increased risk of ground water contamination and methane gas releases, a new way of treating and beneficiating waste is required.



Responsibility for proper waste disposal lies with the generator.

Municipalities need to try their best to enable proper separation of waste and logistics management to the appropriate waste disposal mechanisms, taking into account an ever changing environment and legislation.



Clean Materials Recovery Facility is suitable for co-mingled recyclables that are source separated. A small fraction of material from these sites are also not recoverable and this will end up in a landfill or can be further processed to produce energy.

Dirty Materials Recovery Facility; general waste can be separated in such a facility to produce organics for biogas plants, some dirty recyclables, refuse derived fuels or inputs into a waste to energy plant. **The New Horizons Materials Recovery** plant is such a facility.



Biogas is made from an anaerobic digestion process which occurs in large fermenting vessels.

Only putrescible organic wastes are converted and therefore source or mechanically seperated organic feedstock is required. Many industrial and farming wastes are organic in nature and can be directly utilised by this plant. New Horizons Waste to Energy is capable of this function.



Waste is collected from houses and businesses by municipality or private contractors.

Depending on the waste separation program different vehicles pick up different wastes. It is imperative that these wastes get channelled to the correct processing facilities to prevent excess landfilling. Initiatives are underway to improve this.



Thermal Waste to Energy is the last stop for combustible residual wastes. The outputs form this facility are mainly electricity, heat and ash. Ash can be further reprocessed for aggregate use and metals recovery.

A SOLUTION FOR RESIDUAL WASTE

General Waste



PLASTIC BAGS | FOOD WASTES
CERAMICS | CONTAMINATED PAPER AND CARBORD

TO DIRTY MRF

Co-Mingled



PLASTIC BAGS | FOOD WASTES
CERAMICS | CONTAMINATED PAPER AND CARBORD

TO CLEAN MRF

Organics



CUTTINGS AND GRASS CLIPPINGS | FOOD WASTE
TISSUES AND PAPER TOWELS | TEA BAGS AND COFFEE GROUNDS

TO BIOGAS OR COMPOSTING

Residual



CIGARETTE BUTTS, ASHES | EGGSHELLS AND NUTSHELLS
VACUUM CLEANER BAGS | DRY EMULSION PAINTS
CERAMICS | DISPOSABLE NAPPIES, SANITARY PRODUCTS

TO THERMAL
WASTE TO ENERGY PLANT

PROJECT LOCATION



OUR PARTNERS:

ENQUIRIES

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