**Fact sheet on Bio2Watt and biogas production**

**About Bio2Watt (Pty) Ltd**

[Bio2Watt](http://www.bio2watt.com) is a producer of green energy electricity from a variety of natural sources. It has initiated commercial large scale waste-to-energy projects in South Africa with the ability to produce and supply electricity directly into the existing power grid. In its energy generation processes, Bio2Watt uses agricultural and organic waste that typically goes into landfills, thereby assisting in the decrease of water and air pollution.

The Bronkhorstspruit project in Gauteng is now operational and construction is due to commence on a second waste-to-energy project in the Western Cape. There are a number of additional projects in the pipeline.

The Bronkhorstspruit project marks Bio2Watt’s first commercially viable biogas project. The Bronkhorstspruit plant is located on the premises of one of South Africa’s larger feedlots (Beefcor) and an agricultural stronghold in Gauteng. The location provides the project with proximity to key fuel supplies; grid access and sufficient water supplied by Beefcor’s storm water collection dams. The City of Tshwane is also a key supplier of waste to the project.

In the first private deal of its kind, Bio2Watt has concluded an agreement with BMW to supply green power from the Bronkhorstpruit project to its Rosslyn production facility north of Pretoria. The power supply has been available since 10 October 2015.

**Why the need for biogas projects?**

South Africa’s energy supply challenges are well known. With the current above-inflation electricity price increases in South Africa, which will continue for the foreseeable future, electricity from renewable energy technologies is becoming increasingly competitive when compared to traditional forms of fossil fuel derived power.

Electricity from biogas is expected to be cheaper than the national blended tariff within the next few years, creating a situation where biogas independent power producers will be able to compete on price without relying on government subsidies.

Unlike other renewable energy projects, biogas projects are consistently labour intensive beyond the construction phase. Biogas is a well established, proven technology with thousands of plants throughout Asia, Europe and USA. In Germany alone the installed capacity of biogas is higher than solar or wind.

**How do power purchasers get their electricity?**

Bio2Watt supplies power directly into the existing power grid. For this reason, it has established strong partnerships with local municipalities and Eskom.

**Who are typical Bio2Watt clients and partners?**

Clients are typically environmentally conscious industrial power users looking to reduce their carbon footprint by offsetting a percentage of their fossil fuel electricity with green energy; municipalities interested in diversifying their electricity sources by including a renewable energy independent power producer; and large waste management companies looking for alternatives to landfills.

Partners are typically feedstock suppliers, regulatory agencies and construction/engineering groups.

**How does the process work?**

Organic waste is directed into a digester where biogas is produced which will then go to a gas engine, which produces electricity. This is inserted into the power grid for uptake by power purchasers like BMW.

At the Bronkhorstpruit Biogas Plant, about 40 000 tons per annum of cattle manure and a further

20 000 tons of mixed organic waste will be fed into two anaerobic digesters that will produce the biogas feedstock for a combined heat and power application.

**What is biogas?**

Biogas is produced when organic matter breaks down in the absence of oxygen, and can be used as a renewable, clean energy source.

Biogas is produced by the anaerobic digestion or fermentation of biodegradable materials such as biomass, manure, sewage, municipal waste, green waste, plant material and crops. Biogas comprises primarily methane (CH4) and carbon dioxide (CO2) and may have small amounts of hydrogen sulphide (H2S), moisture and siloxanes.

**What are the benefits of biogas?**

Biogas production offers a sustainable solution for the disposal of organic waste while offering large power users the ability to diversify their energy supply and reduce their carbon footprint by purchasing power from a green energy source at increasingly competitive rates.

Biogas is a storable form of renewable energy, capable of being transported and utilised 24 hours a day, 7 days a week. For this reason, biogas is capable of providing energy on a small-scale but can be expanded to large-scale, centralised production.

The technology enables a reduction in the volumes of waste to landfill, thus helping local municipalities to meet their zero-waste commitments. It will create localised employment opportunities for low skilled work force essentially around the waste collection and sorting in both rural and peri-urban areas.

There are about 4 million cattle in South Africa, a significant number of which are held on large farms and the potential for project replication is thus substantial.

Biogas technology is considered carbon neutral because it releases biogenic carbon dioxide emissions. The technology will allow for a reduction of air pollution and acid rain and reduce the need for fossil fuel imports. Biogas contributes to sustainable agriculture and forestry and because biofuels are cleaner than fossil fuels, the technology has a reduced environmental impact.

**Bio of Sean Thomas, Chief Executive Officer: Bio2Watt (Pty) Ltd**

Sean is the founder of Bio2Watt and a pioneer in Africa’s energy sector. His career began at Eskom, where he held an operational position in the Western Cape for a medium size utility. Thereafter he spent a number of years at significant South African corporates before devoting his time to South Africa’s move towards privatised energy. Sean has been instrumental in the development of privatised energy in SA, assisting in initiatives for this new energy market and implementing ground-breaking projects through Bio2Watt.

Sean holds a MSc in Fluid Mechanics, Université Pierre and Marie Curie as well as a post graduate degree in Quality of Energy Services, University of Bordeaux.

www.bio2watt.com

***For further information, interviews or photographs, please contact Despina Harito, Turquoise PR & Marketing Communications T 011 452 1840 / 084 453 1755 / despina@turquoisepr.co.za***