

SAIREC 2015

South African International Renewable Energy Conference



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Cape Town International Convention Centre
South Africa

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A first for Africa

Fact Sheet on a site visit to Elgin Fruit Juices Anaerobic Digester Scheduled on 7 October 2015 at 8:30 at CTICC



energy

Department:
Energy
REPUBLIC OF SOUTH AFRICA



sonedi
South African National Energy
Development Institute





Elgin Fruit Juices Anaerobic Digester

1. Background

Elgin Fruit Juices has an Anaerobic Digester that converts wastes into methane gas through the combined heat and power (CHP), and generates heat and electricity. The generated heat is converted into 10 bar steam. This project's construction phase started in June 2013. This project was completed in December 2013. In December 2013, Elgin Fruit Juices Anaerobic Digester was commissioned. The electricity and the heat being produced are currently used on-site to offset of electricity and coal consumption.

2. Objectives

The objective of this project are to:

- a) Reduce the company's dependency on grid supplied electricity which is predominantly generated from fossil fuels
- b) mitigate the company's impact on the environment by burning less fossil fuels for steam generation,
- c) reduce environmental impact by significantly reducing Elgin Fruit Juices's waste to landfill and
- d) create work opportunities throughout the year, specifically over the post-harvest period.

3. Employment creation and local content procurement

The digester was designed and constructed locally with specialised equipment imported from Europe. There is one skilled employee working on this project, four semi-skilled employed full time, while between two and four unskilled workers are working on a part-time basis.

4. Corporate social responsibility programme

Elgin Fruit Juices Pty Ltd has a programme that integrates with a drive to become a Broad Based Black Economic Empowerment (BB-BEE) level 4 contributor, which they have just achieved.

5. Outputs

Elgin Fruit Juices Anaerobic Digester generates 526 kilowatts (kW) electricity and ½ (ton per hour (t/hr) steam, 10bar_g .

6. Location of the projection

This project is situated at Overberg district municipality, 70 kilometres (km) away from the Cape Town International Convention Centre (CTICC).

7. Partners

Elgin Fruit Juices Anaerobic Digester is owned by Elgin Fruit Juices Pty Ltd.

8. Description of the technology being used

The technology involved in this project is the anaerobic digester of agri-processing waste for production of methane gas used for the generation of electricity and steam

9. The successes, including milestones as per project plan

The successes of these project include:

- a) Commissioning the anaerobic digester December 2013 with a local spend greater than 50%
- b) Generating flare biogas with a methane content greater than 50% end of 2013
- c) Generating electricity upto 526kW for own consumption on site since May 2014
- d) Generating 10 bar steam since June 2015

10.Challenges and remedial actions

Challenges with this projects are:

- a) Complicated and onerous grid connection to wheel electricity
- b) Digesting of agri-processing waste which is complex

Despite having applied for government funding through the Department of Trade and Industry (the DTI)'s Manufacturing Competitiveness Enhancement Programme (MCEP) scheme, Elgin Fruit Juices Pty Ltd still have not received any government assistance. So this project has been funded exclusively on private equity, and it requires some government's support.

11. Replicability

This technology is widely replicable in the agricultural and agri-processing sectors where activities in result in high volumes of waste material with significant calorific value.

12. Bankability

Project holds strategic value with regards to meeting our purpose to operate a manufacturing facility that is sustainable with regards to the reduction of waste to landfill, reduction in grid electricity dependence, reduced use of coal for steam generation, manufacturing of a natural composting material for our shareholders.

13. Additional information

Please provide additional information, including school excursions that take place at your site (Include supporting material, such as graphics, pictures etc.).

Contact details

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