IMPLEMENTING A BIOGAS PROJECT IN SOUTH AFRICA
Lessons Learned

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• Bio2Watt, a Renewable Energy Project development Company, is finalising one of the 1\textsuperscript{st} commercially viable biogas project wheeled in South Africa – Bronkhorstspruit Biogas Project (Pty) Ltd (“BBP”), approximately 40kms east of Pretoria on a 20,000 cattle feedlot.

• BBP will operate for 10 years, with the opportunity to renew agreements for an additional 10 years.

• The 3,3MW of electrical power generated will be sold to an industrial off-taker via a power purchasing agreement (PPA).

• Total project costs are estimated to amount to R135m. The project is structured as a limited recourse finance transaction, with the IDC providing a commercial loan equal to 70\% of total project costs.

• BBP is at financial close, and should become operational in Q4 2014.
THE BRONKHORSTSPRUIT BIOGAS PROJECT

- Waste Reduction
- Landfill Avoidance
- Job Creation
- Cleaner Environment
- Provide Energy Security

Avoid GHG Emissions
Avoid Water Pollution
Bypass Landfills
Food Producers
Organic Waste
Mixer
Digester
Fertiliser
GAS Engines
3MW
Power Purchasing Agreement
Off-Taker
Biogas
Flare
Avoid Water Pollution
Avoid GHG Emissions
BBP – PROJECT TIMELINE

- Feasibility Study: 01 January 2007
- Environmental Impact Assessment: 01 January 2008
- Supply Agreements: 31 December 2008
- Negotiating and Finalising a PPA: 31 December 2009
- Interconnection Agreements (Eskom & Tshwane): 31 December 2010
- Licenses and Permits: 31 December 2011
- Term sheet to Loan Agreement: 30 December 2012
- EPC Wrap Agreement: 30 December 2013
- O&M Agreement: 30 December 2013
- Approaching Investors to Investment: 30 December 2013

2 years
5 years
SOME INTERESTING FACTOIDS

• Initial quote for EIA R300K final cost R1.5M

• Original WULA submission was lost by DWA in 2011 and as a result BBP had to re-apply in 2012

• Legal fees of R7M, 10 months of protracted negotiations

• Strong support from government senior officials: both local and national. However, bottleneck came from officials on the ground

• Eskom grid connection unit was world class, met every deadline and supported the process. However, not open to discuss sharing of costing for the connection
Environmental escalations

- Full EIA required whereas a Basic Assessment would have sufficed:
  - Triggered by Air Emission License because of the plant being considered as “animal processing facility” because of the presence of abattoir waste
  - Also “” Water Use License: irrigation, storage of dirty water, use of water from Dams

- Biogas is not properly understood by officials as a result it is added to listed activities: further specialist costs and time for assessment

- DWA officials had no set time frame within which to respond unlike other licensing departments

- The digestate from fertiliser is a high grade organic fertiliser in Europe and is used for crops such as Maize. Local regulations requires the project at great cost to get rid of valuable nutrients.
Legal process

• The lender outsourced legal to one of the top attorney firms

• REBID wrongly became the benchmark - which should not apply for a small IPP

• No real incentive to close the deal, the legal process has taken 10 months to date

• Other than investors’ attorneys, all other attorneys were not familiar with typical project finance requirements
LESSONS FOR DEVELOPERS:

FUNDING: Line up as much funding as you can from the start

LEGAL ADVISORS: Sign up project finance lawyers and aim for a fixed fee contract – only use one firm for the transaction

FINANCIAL ADVISORS: Unless you have done this before you need project finance advisors

LONG AGREEMENTS: Your agreement start date should provide you with flexibility.

YOUR BANK: Clarify all terms & conditions before you go out for tender.

YOUR INVESTORS: Seek patient investors with a vision.
LESSONS FOR REGULATORS:

**LICENSES:** Simplify and streamline the processes – one license for land use, water usage, waste management. Application process could seriously be quicker.

**MUNICIPALITIES:** Provide clear directives and a wheeling protocol.

**DOE, NERSA & ESKOM:** Industry is best supported through strong supportive policy frameworks.
THANK YOU

Thank you