

# Gekko Systems Bio-Digester

11<sup>th</sup> September 2017

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# Gekko - Global Presence



- Total 120 staff
- Global team of 45 in Engineering and Technical roles
- Offices: Ballarat, Jo-Burg, Vancouver, Perth, Moscow
- Agents: South America, Ghana, Mexico



# Manufacturing in Ballarat



4Ha site in Wendouree  
Production/Electrical  
Warehousing  
Laboratories  
Offices



*“it’s all about people”*



Culture is important  
Innovation and collaboration



Gekko Team 2016

Smarter together

# Funding Biodigester Cell



- Victoria Government funding
  - \$ for \$ grant \$1Million
- Consortium members
  - A.J. Trigg Farm (Dairy industry and site)
  - Jock Charles (Biodigester Advisor)
  - PowerCor (Power grid connection)
  - Gekko Systems (Product Development)
- Using consulting experts
- Development programme
  - Alpha Unit
  - Farm system testing
  - Optimisation



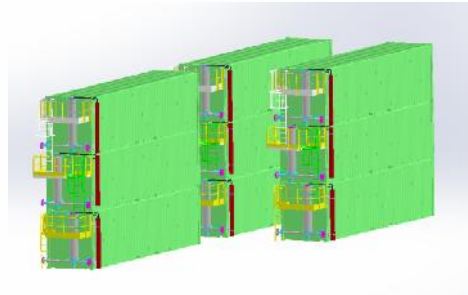
Government funding announcement: Minster Wade



# Biodigester Value Generation



**Eliminates  
Odour Pollution**



**Carbon Credits (\$)**



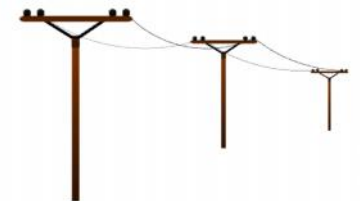
**By-product Sales (\$)**



**Renewable Energy  
Credits (\$)**



**Reduced Operating  
Costs (\$)**



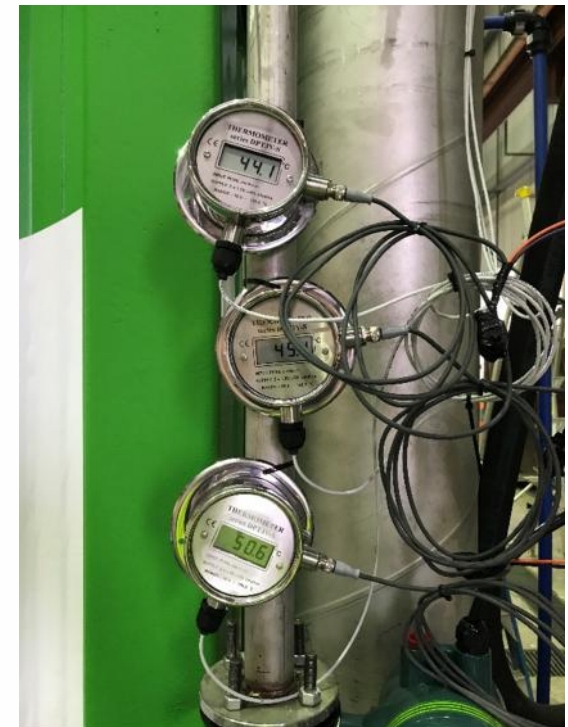
**On-demand Renewable  
Energy to Grid (\$)**

# Test Phase



## Factory Acceptance Testing

- Mechanical stress validation (FEA)
- Fluid transfer system test
- Thermal heat loss verification
- Production cost review



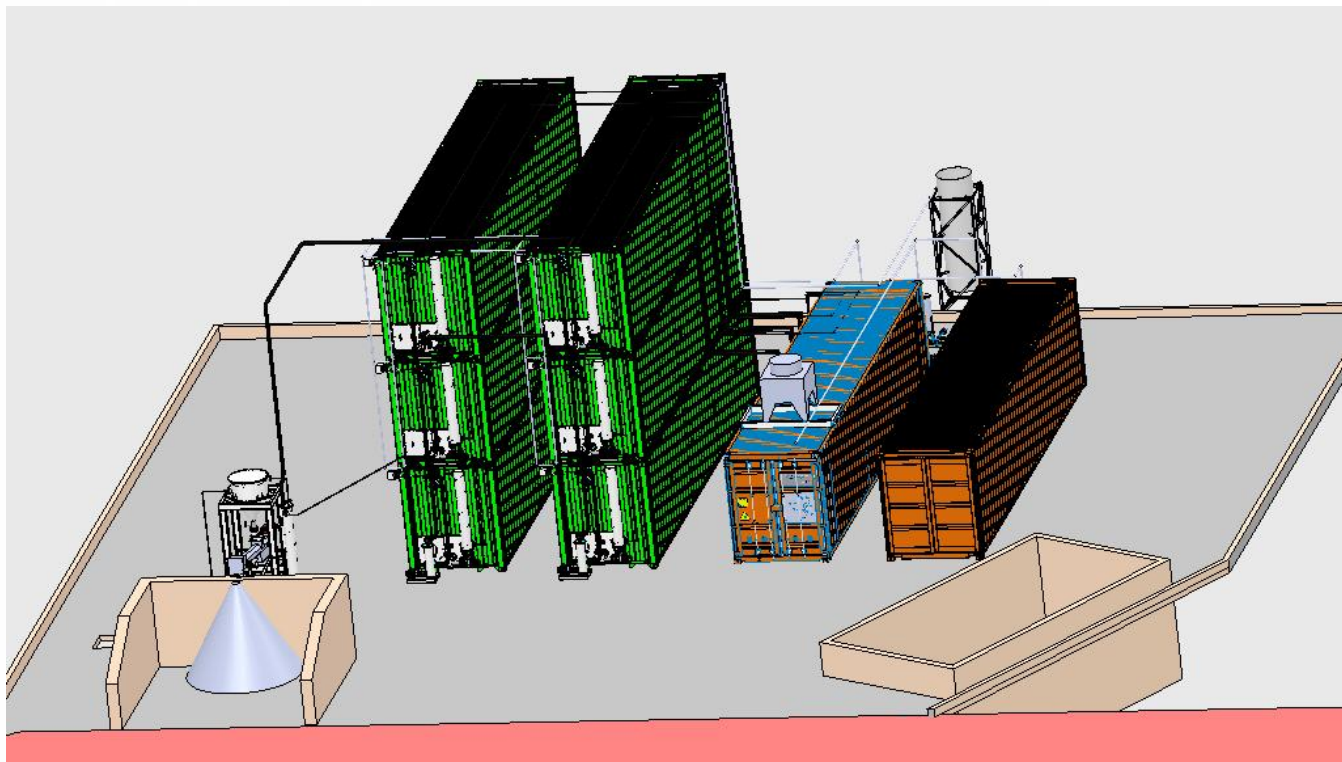
# First Project A. J. Trigg Farm



- Modular design configured to farm requirements
- Generated power consumed on farm
- Manure smell addressed
- Nutrient rich solid and liquid fertiliser produced
- Herd expansion enabled

## Design Criteria (per day)

- 30000L manure
- >20 m<sup>3</sup> methane
- Up to 25 kWh power





# Portable Laboratory



- Move to site for commissioning period
- Real time analysis of the biodigester performance
- Support successful start up



# Gekko Biodigester options



- Potential Markets

- Animal waste
- Municipal green waste
- Single industrial waste
- Municipal mixed waste

- Market options

- Gekko Biodigester
- Community biodigester
- Toll treating
- Exchange manure for fertiliser
- Methane Collection



- Benefits

- Waste treatment (smell)
- Store Bio gas
- Electricity use onsite
- Electricity sell to Grid
- Leachate fertiliser
- Solid fertiliser
- Carbon Credits
- Renewable Energy Credits





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