



# Innovation X-Change on Energy Productivity

*Monday 8<sup>th</sup> April 2019 Sydney – Innovation in Finance Session*

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**Utilitas Group Biogas Developer**



# The Opportunity

*Deploying innovation and private capital to augment aging, stressed and redundant, energy, water and waste infrastructure*



**Any product from fossil organics (coal, oil, gas) can be refined from modern organics like sewage, food waste, manures and wastewater**

Utilitas is responding to market demand for affordable, reliable and integrated, energy, water and waste solutions by building, owning and operating a portfolio of biogas infrastructure that turns organic waste into energy and creates a platform for manufacturing and biorefining.





# Utility Scale bioHub Developments

*Co-Located with Industrial & Municipal “Anchor Tenants”*

## Gaps



- Policy certainty to provide market confidence
- Regulatory standards that support innovation
- Modern network arrangements
- Incentives to join dots – energy, water, waste

## Land Agreement

Augment aging, stressed or redundant infrastructure; precinct opportunities

## Energy Purchase Agreements

Long-term, “green” electricity, gas or fuel contracts, at a discount, capped at CPI

## Risk Reduction

Emissions and landfill reduction, amenity benefits, social licence



## Build, Own, Operate (BOO)

Deploying private capital so you can focus yours on core business

## Gate Fees & Treatment Fees

Alternative, local, sustainable disposal options for solid and liquid organic wastes

## Extended Asset Life

Reduce your plant load, expand capacity, reduce OPEX, extend useful life

## Proven Technology & Suppliers

Commercially available “off-the-shelf”, widely deployed around the world

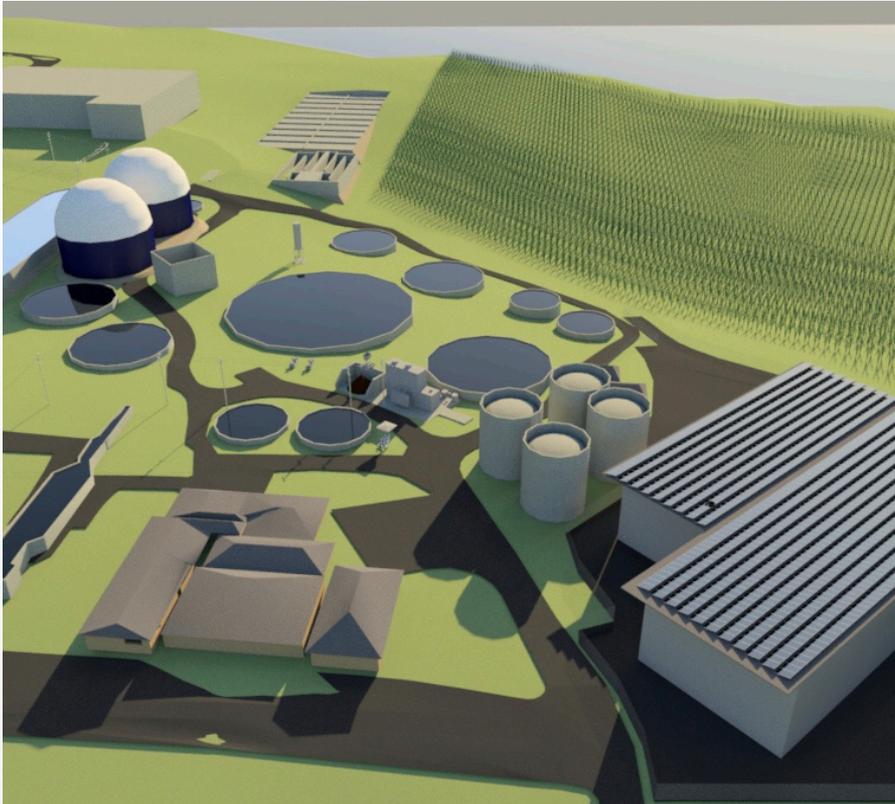
## Infrastructure Asset Class

Institutional investors seeking “annuity” type income streams



# Bundaberg bioHub

*Energy & Resource Recovery Precinct*



## Repurposing a retired 60,000 EP Wastewater Treatment Plant

The Stage 1 Biogas Facility offers diversified income streams from electricity, gate fees, wastewater treatment and organic fertiliser sales

“Blue chip” counterparties and opportunity for future upside

Biogas facilities typically have a useful life in excess of 30 years with a yield of 12-14% IRR

The bioHub precinct masterplan includes food waste to bioplastics, solar, a new state of the art biorefining laboratory and additional Biofutures tenancies



# Proprietary Platform Technology

*Rapid Assessment of Project Opportunities*



**350 site assessments from Cairns to Sale to Adelaide to discover local bioHubs**



Mapping



Design



Scoping



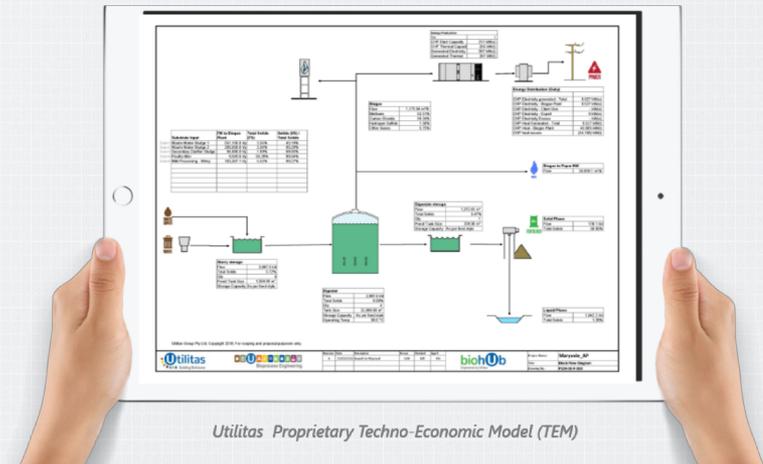
Operation



Feasibility



Maintenance





# Background

## *Additional Information*

### **About Utilitas Group**

Brisbane based Utilitas Group is developing a portfolio of bioHub infrastructure that turns organic waste into energy and resources. A biogas facility sits at the core of bioHub infrastructure, providing a platform for additional upstream and downstream processes, extending the types of materials that can be treated and the range of energy and resources that can be recovered. From treating industrial, municipal, agricultural and horticultural wastes through to recovering biogas, bio-CNG, soil conditioner, fertilisers, bio-crude and bio-plastics; bioHub infrastructure seeks to service regional communities with valuable, local, organic alternatives.

### **About Biogas**

Biogas, mostly methane, is produced via a natural process called anaerobic digestion (AD) of organic material in the absence of oxygen. The world's most flexible fuel, biogas can directly displace fossil sources of dispatchable electricity, gas and transport fuel and is generated from feedstock that reduces trade waste costs and risks for producers. The commercially proven AD process also produces a nutrient rich digestate which can be processed to displace chemical fertilisers.

### **The Global Biogas Industry**

The biogas industry is supported by a global supply chain of mature equipment suppliers. Germany is the world leader with 12,500 biogas plants (av. 300kWe) connected to its national electricity network and 180 plants supplying biomethane (upgraded biogas) into its national gas grid.

### **The Australian Biogas Industry**

Previously low electricity and gas prices in Australia have meant the local biogas industry has been slow to emerge, but this is changing with local issues around grid stability, high costs of electricity and gas, and gas shortages. In 2017 the World Biogas Association claimed the Australian biogas industry, from waste-based production (livestock manure, biosolids, food, and water) has the potential to generate \$4.3 billion per year\*.

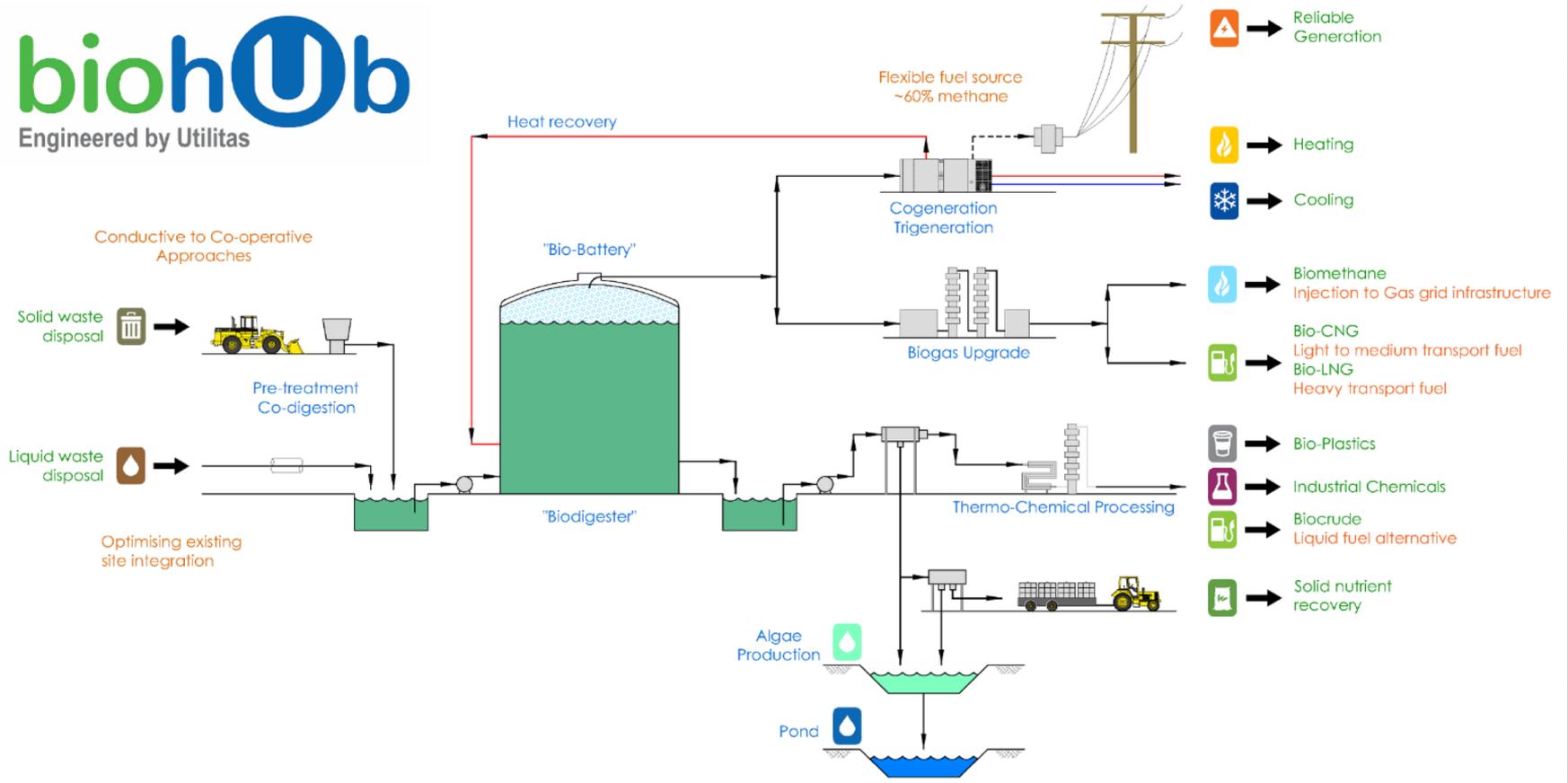
\*[https://www.circularfood.com/wp1604/wp-content/uploads/2018/01/WBA-australia-4ppa4\\_v1.pdf](https://www.circularfood.com/wp1604/wp-content/uploads/2018/01/WBA-australia-4ppa4_v1.pdf)





# Biogas Facilities as a Platform

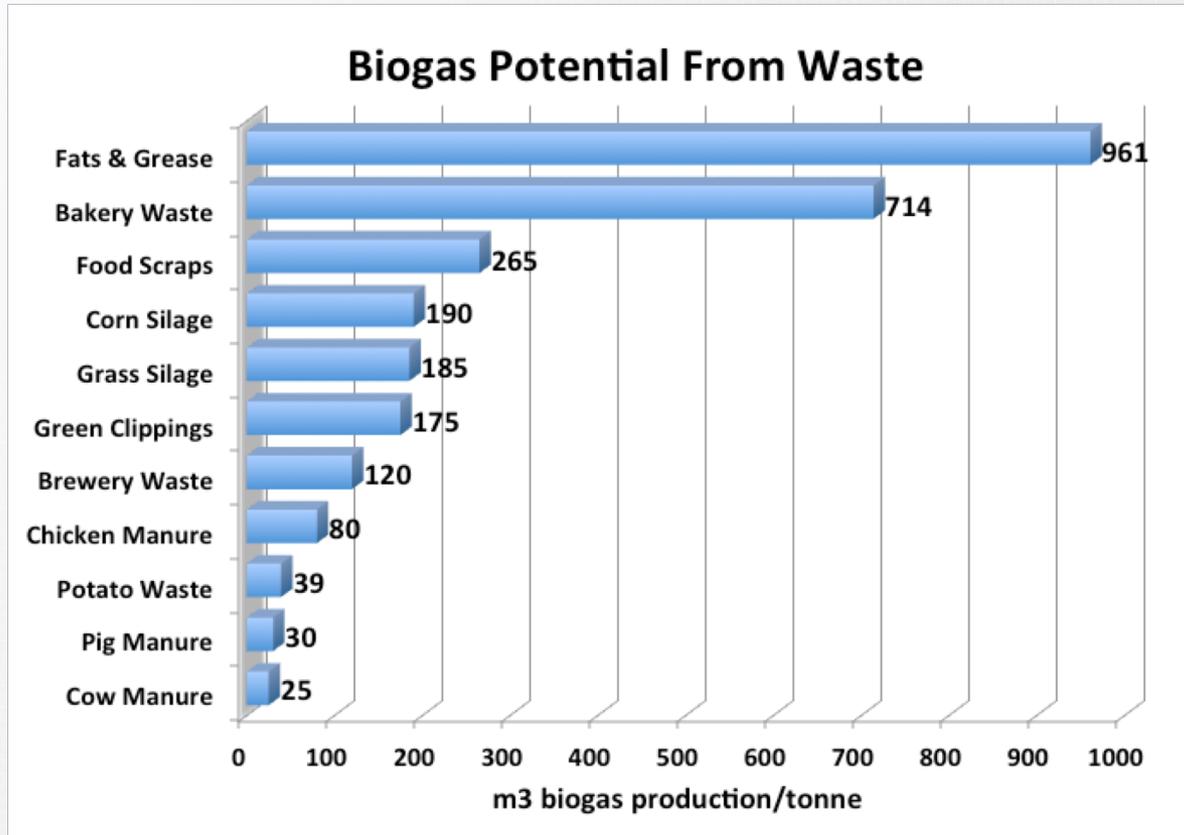
For Upstream & Downstream Processing





# Biomethane Potential of Organic Wastes

*Pilot & Lab Scale Testing – Brisbane & Bundaberg, QLD and Latrobe Valley, VIC*



# Utility Scale Biogas Developer UK

## Global M&A Activity

### Facts about Agrivert UK:

- ① Agrivert has been at the forefront of the organic waste recycling market for 20 years.
- ① They have long term strategic contracts with local councils and 20-year renewable energy subsidies backed by HM Government.
- ① They specialise in operating facilities to process and recycle organic matter, processing over 310,000 tonnes of solid organic waste in 2017.

### Facts about Severn Trent Green Power:

- ① Severn Trent Green Power was established in 2009 to utilise the experience gained in anaerobic digestion across a broader portfolio of assets.
- ① It has grown successfully to include two food waste anaerobic digestion plants, a crop anaerobic digestion plant, six wind turbines and 33 solar sites.
- ① In the last full financial year ended 31/03/18 Severn Trent's Food Waste business recorded revenue of £13 million and EBITDA of £3 million.
- ① Severn Trent Green Power is part of the Business Services segment of Severn Trent Plc, separate from the Water and Waste Water business regulated by OFWAT

Source: [https://otp.tools.investis.com/clients/uk/severn\\_trent\\_plc/rns/regulatory-story.aspx?cid=1487&newsid=1161195](https://otp.tools.investis.com/clients/uk/severn_trent_plc/rns/regulatory-story.aspx?cid=1487&newsid=1161195)

Source:

<https://www.reuters.com/article/us-agrivert-m-a-severn-trent/severn-trent-to-buy-waste-recycler-to-expand-renewable-energy-business-idUSKCN1LF136>

The screenshot shows a Reuters news article. At the top, the Reuters logo is on the left, and navigation links for 'World', 'Business', 'Markets', 'Politics', and 'TV' are on the right. Below these are several topic tags: 'Imprisoned in Myanmar', 'Energy & Environment', 'Brexit', 'North Korea', 'Charged: The Future of Autos', and 'Future of Money'. The article is categorized under 'ENVIRONMENT' and is dated 'AUGUST 30, 2018 / 8:36 PM / A MONTH AGO'. The main headline is 'Severn Trent to buy waste recycler to expand renewable energy business', with a sub-headline '2 MIN READ' and social media icons for Twitter and Facebook. The article text begins with '(Reuters) - British water utility Severn Trent said on Thursday it would buy organic waste recycler Agrivert Holdings for 120 million pounds (\$156 million), as it beefs up its renewables business that is largely shielded from rising energy costs.' It then states 'Agrivert generates renewable energy from food waste and operates food-waste processing plants and waste composting sites in Britain, Severn Trent said.' A 'SPONSORED' section follows, containing a quote from Severn Trent Chief Executive Officer Liv Garfield: 'Renewable energy is strategically important to Seven Trent and the UK as a whole as we work towards achieving our decarbonization targets.' The article concludes with 'The deal will add 106 Gigawatt hours (GWh) per annum of energy generation to the 354 GWh currently produced by Severn Trent's renewable energy portfolio, the company said.' and 'Severn Trent, which supplies water across the Midlands region, generated 38 percent of its energy needs from renewable energy, it had said in May.'