



2024 ANNUAL CONVENTION & EXHIBITION

BRIDGING INDUSTRIES FOR SUSTAINABLE ENERGY

Pioneering Biomethane Injection Facilities
through collaborative integration of Gas,
Water, Waste and Agriculture

 **Renewable Gas**
part of the big picture



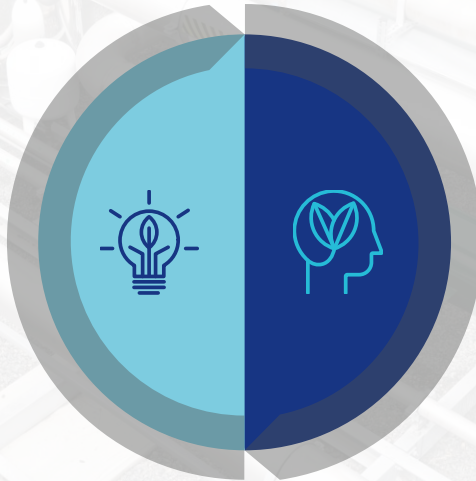
 **Jemena**
bringing energy to life

 **Zinfra**
Your trusted partner
in energy

JARAD MCINNES

Project Manager,
Zinfra - Projects & Infrastructure

- A Brief Malabar Story
- Biomethane Stakeholders & Partnerships
- Design and Delivery Collaboration Opportunities
- The Success in the Delivery



MICHAEL BAKER

Business Operations Manager
Jemena – Gas Markets

- Operational partnerships
- Other stakeholders
- Key take-aways



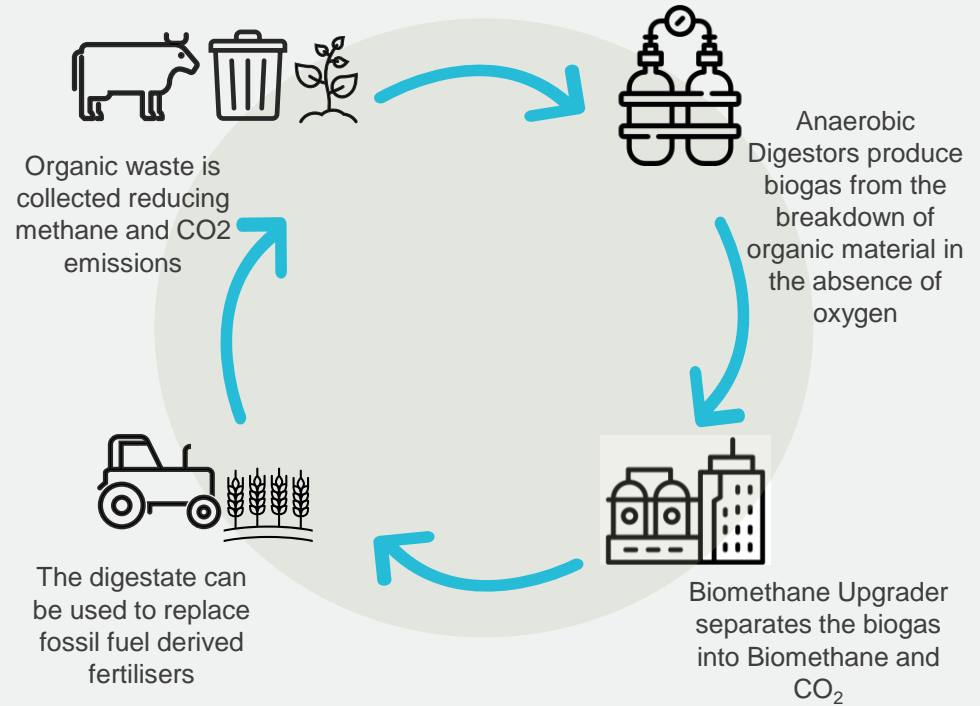
AUSTRALIA'S FIRST BIOMETHANE-TO-GAS NETWORK

What Malabar has shown us

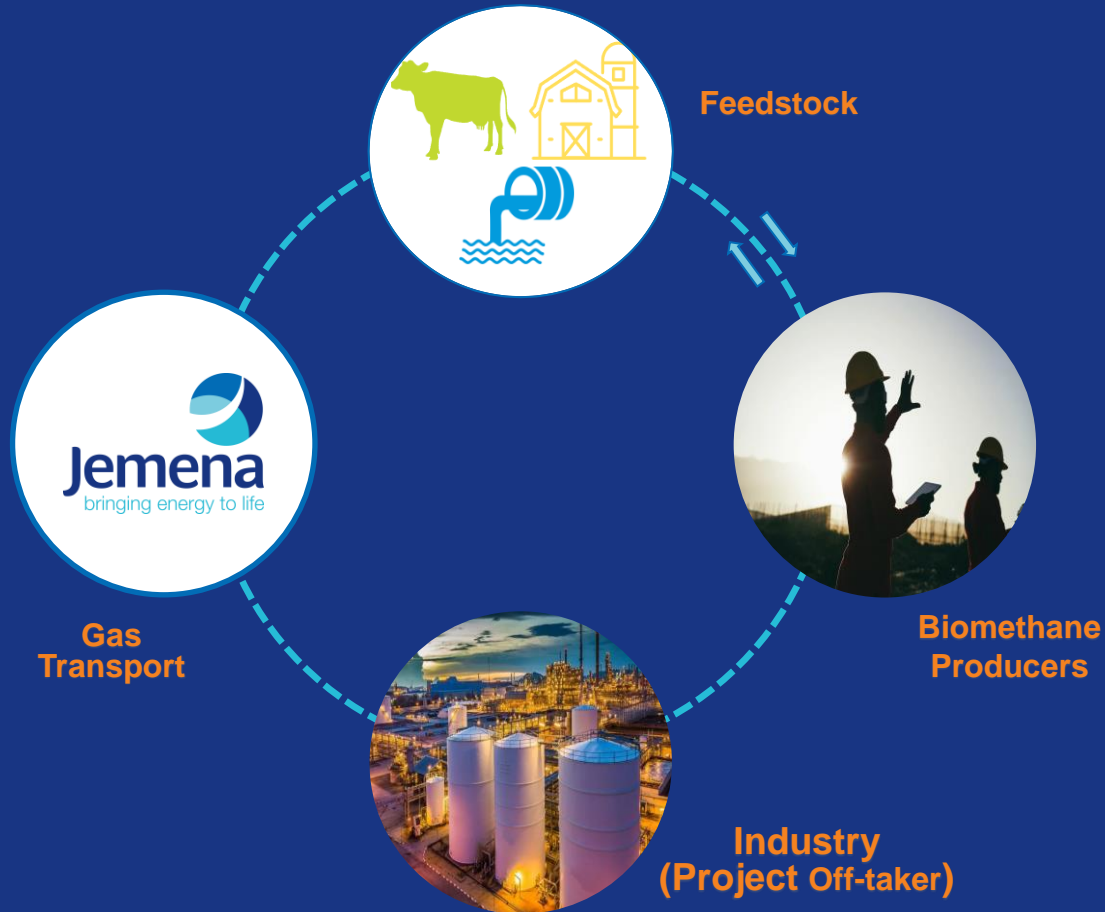
- Demonstrate renewable gas production technically and commercially.
- There is a demand for alternative energy as part of the transition.

Concept of Circular Economy

- Biomethane is one of many products in the Lifecycle.
- This Circular system has many participants each with a partnership.
- Our approach to energy transition is to leverage these partnerships, with more than one product.



WHAT IS REQUIRED TO GET THIS MARKET STARTED?



WHY SHOULD THESE PARTIES COLLABORATE?

Partnerships



Agriculture



Waste Management



Water Infrastructure



Gas Industry

Opportunities

Biosolids/ Digestate
Biogenic Carbon Dioxide
Biomethane

Shared Pre-Treatment
Repurposing Assets
Heat Transfer
Parasitic Electricity

Certified Renewable Energy
Diverse Energy Markets
Energy Storage
Optimizing Gas Networks



Resources



Operational
Efficiency



Energy Transition

DESIGN CONSIDERATIONS

- Optimum location for the **Upgrader** is **centralised** around the Anaerobic Digester Process.
- **Heat Recovery** from **Compressor** to feed **Anaerobic Digestors**.
- **Shared pre-treatment** with Cogen applications supporting **higher-quality fuel gas** at Cogen units and thus **extend their operating life**.
- **Balance is key** when understanding the complexities of the **pressure system**.
- Low pressure **gas storage** solutions **integrated** with Anaerobic Digester.





SUCCESS IN DELIVERY

Identify Synergies

- Examine **strengths**, **gaps** and **overlaps** reviewing technology, processes and expertise **between** industries.

Integrate Sustainable Practices

- Apply sustainable design and construction **practices**.

Optimize Supply Chains

- Streamline **material sourcing** and **logistics** with the **Australian Market**.

Diverse Workforce

- Upskill your **workforces** across various **industries**.

Pilot and Test Innovations

- Ongoing opportunities for **Research** and **Development**.

Monitor and Adjust

- **Establish** performance metrics, **adapting** work practices with consideration of **emerging** technologies and market conditions.

A FUEL IN TRANSITION, A NETWORK IN TRANSITION

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PARTNERS - OPERATIONS

What is a partnership?

- Mutually aligned objectives
- Sharing and learning



- Gas vs Electricity
- Operational protocols



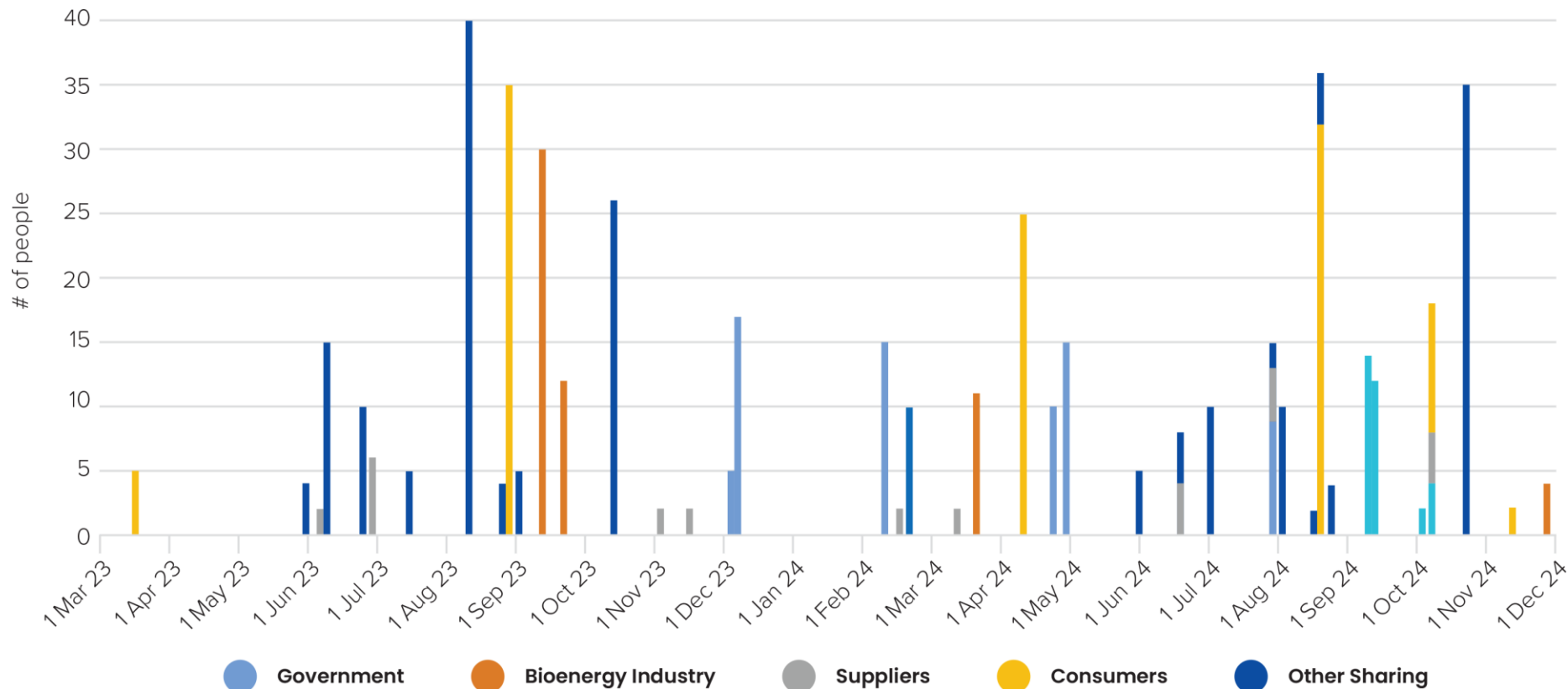
- AEMO nominations
- Renewable Gas Certification



- New O&M risks
- Revised work-processes

Collaborative operational partnerships driving success

MALABAR – SHARING AND LEARNING



PARTNERS – GROWING THE INDUSTRY

Government



Collaborators



Supply & Demand



Increasing awareness of
bioenergy benefits

Recognition of Renewable
Gas Certificates

Actively growing industry

Utilising existing infrastructure

Feedstock identification

Consumer awareness



KEY TAKEAWAYS

Partnerships built on mutual obligations

Partnerships are key to unlocking the industry

More than one industry

NAVIGATING THE FUTURE OF OUR GAS NETWORK

