Harvesting low-hanging fruit: Anaerobic Digestion

WasteMINZ Conference 2025

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GASNZ

Waste-to-renewable gas:
NZ's low-hanging, low-carbon fruit

NEW ZEALAND NEEDS

- Secure energy supply
  - Natural gas supply is a critical concern.
- Low-carbon, affordable renewable energy
- Decarbonise, not deindustrialise
- Reduce emissions, reduce waste, increase energy sovereignty

OUR WASTE MANAGEMENT OPPORTUNITY

Using **anaerobic digestion:**

- deliver **significant waste and emissions reductions**,
- converting existing waste streams into
- **valuable renewable gas** and co-products

A win-win-win-win-win opportunity

Renewable gas today and tomorrow

- Who is GasNZ?
- Anaerobic digestion as waste management
- Biogas: the state of play
- Momentum
- Next steps

Who is GASNZ?

Our vision

A sustainable, net-zero emissions New Zealand, where Kiwi households and businesses can enjoy gas as a reliable, affordable energy source.

We are the voice of gas

Inspire and educate Kiwi households and businesses about a safe, sustainable, net-zero emissions future for gas energy in New Zealand.

Shape policy and action to ensure gas is recognised as critical in New Zealand, both today and for the future.

Catalyse collaboration between industry, innovators, and policymakers to make that future a reality.

Our key activities – 2024–2026

Grow GasNZ as the voice of gas

Lead sector collaboration, thinking and advocacy.

Gas Roadmap to net-zero emissions by 2050

Establish a clear focus for GasNZ advocacy.

Anaerobic Digestion: Waste management and much more

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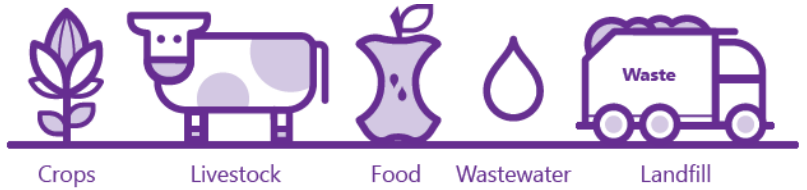
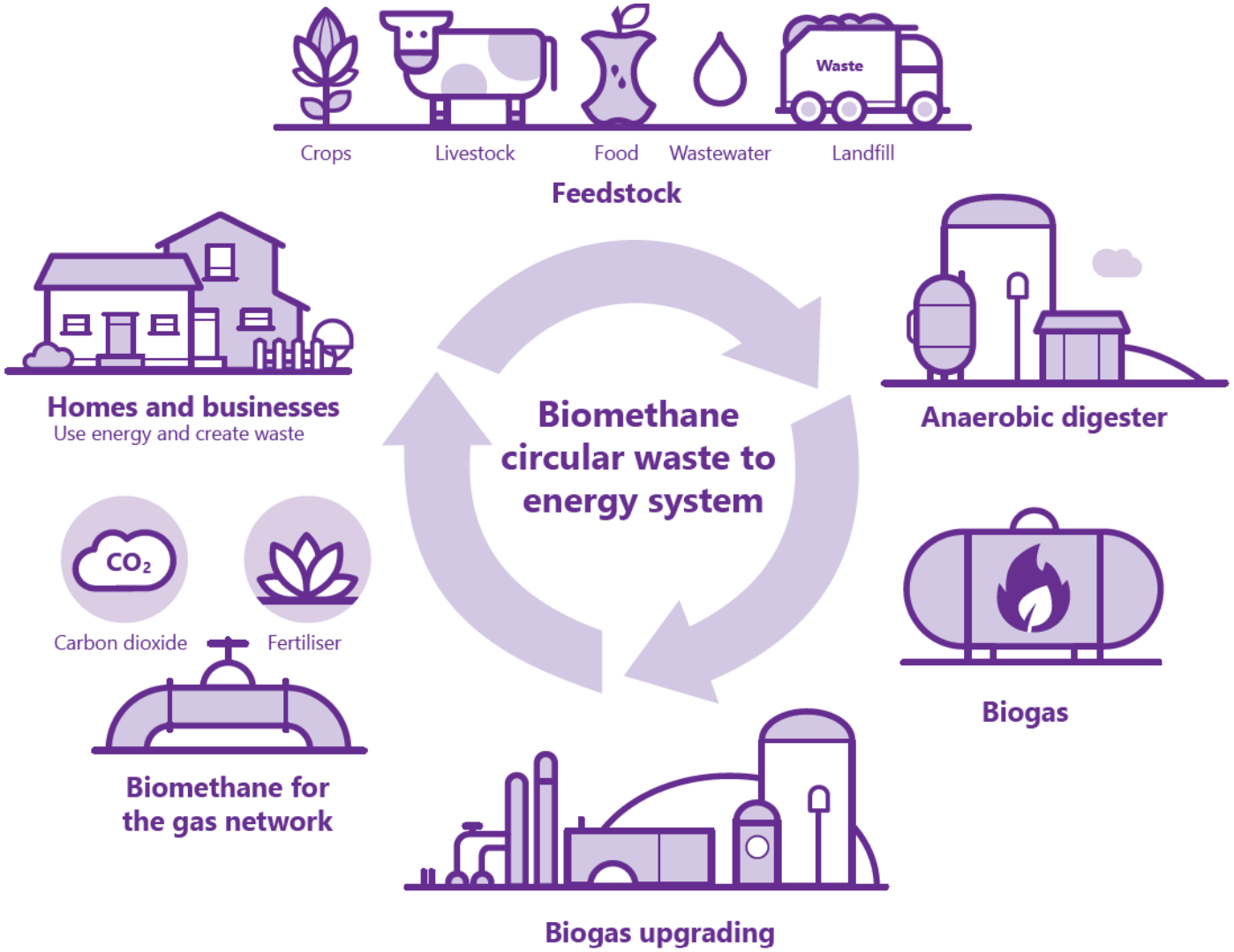
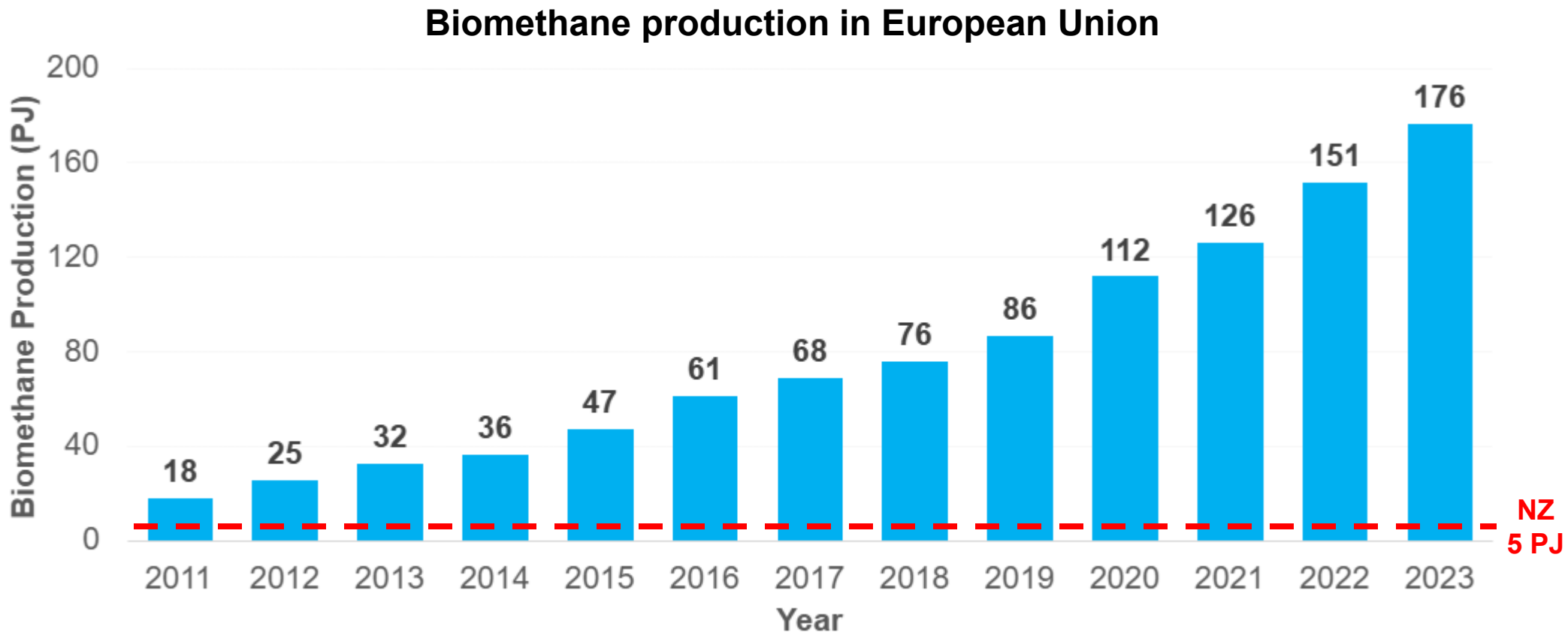


Anaerobic Digestion: Waste management and much more



Biogas State of Play

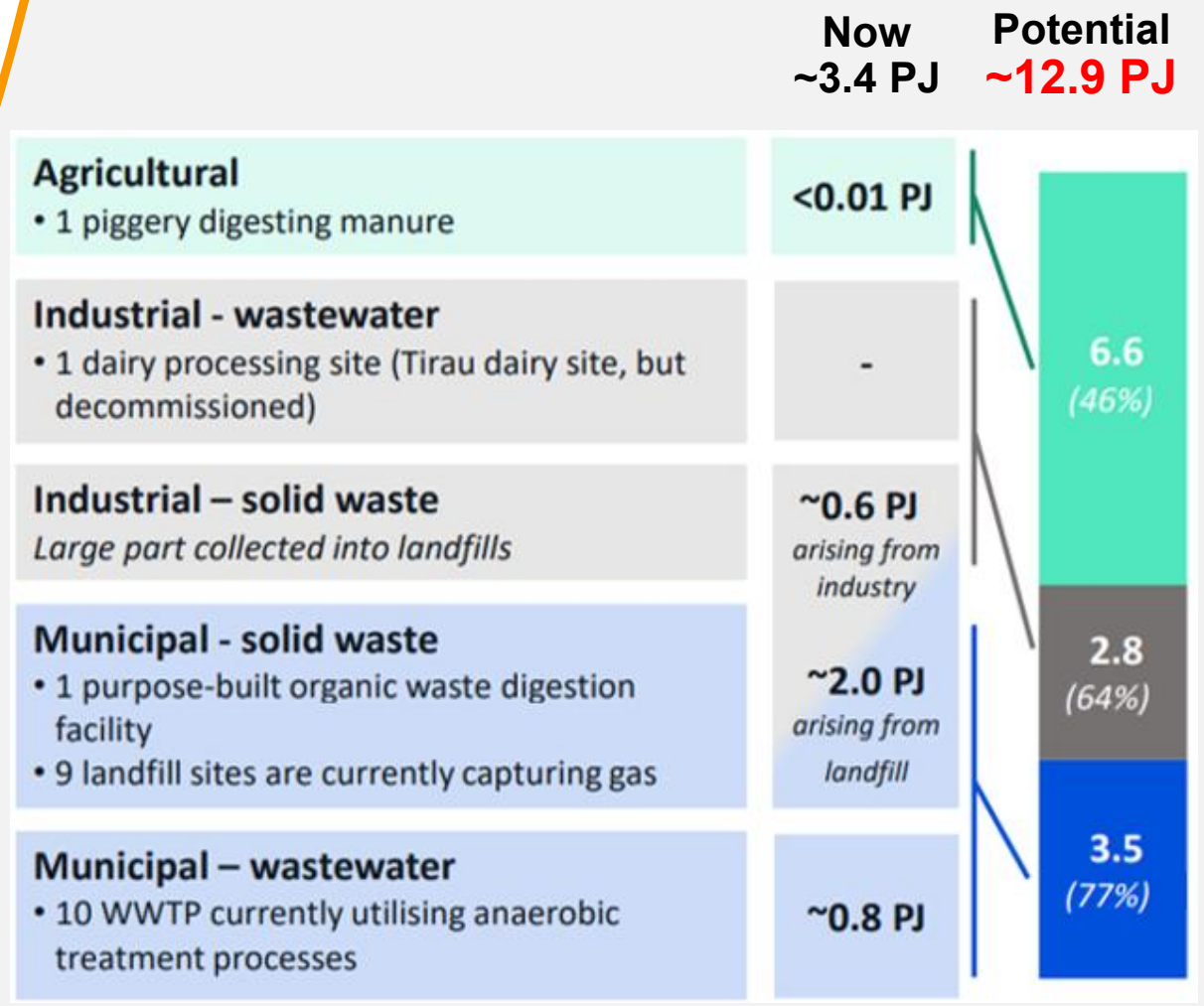
- Globally, waste-to-gas via AD is proven, and growing strongly.
- NZ is a latecomer, with no policy measures to kickstart. Do we want it?



Biogas State of Play: NZ

- In NZ, most biogas (≈5 PJ) comes from existing waste management and is largely **flared**, or used for **heat**
- Significant existing untapped organic waste streams
- Ag sector offers further opportunity

North Island biogas production



Source: Blunomy: Vision for Biogas in Aotearoa New Zealand

What's the potential?

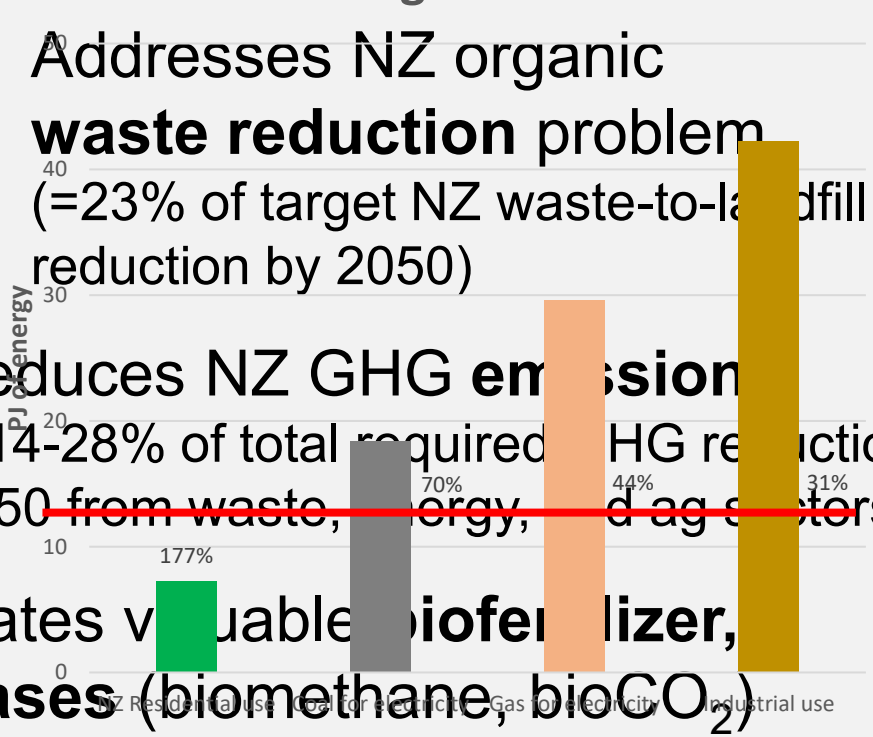
~23.5 PJ of biomethane available in NZ from municipal & industrial waste, wastewater treatment, agriculture manure

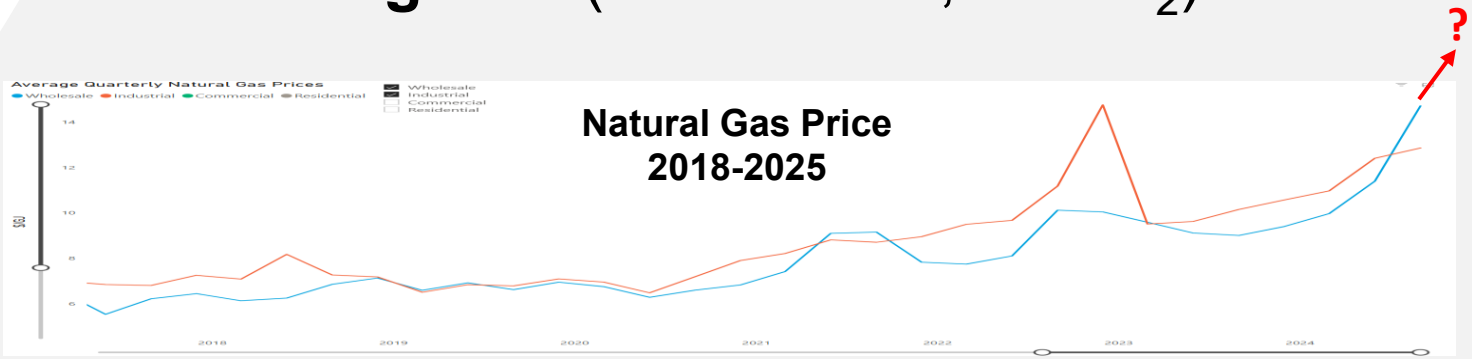
~12.9 PJ in North Island

In 2024, 12.9PJ = 11% of NZ's natural gas supply…

What's the benefit?

- Addresses NZ organic **waste reduction** problem (=23% of target NZ waste-to-landfill reduction by 2050)
- Reduces NZ GHG **emissions** (=14-28% of total required GHG reduction by 2050 from waste, energy, and ag sectors)
- Generates valuable **biofertilizer, and gases** (biomethane, bioCO$_2$)





Sources: Blunomy: Vision for Biogas in Aotearoa New Zealand; MBIE

Biogas State of Play: Established Projects

- Ecogas organics recycling facility at Reporoa opened 2023
- Uses municipal solid waste & industrial waste, processing 75,000 tonnes per annum
- Biogas upgrading facility commissioned for successful pipeline injection
- Heat and CO_2 provided to commercial greenhouse operation
- Biofertiliser provided to agricultural applications

ecogas

Biogas State of Play: Emerging Projects

- Existing sources of biogas (landfills, WWTPs) are looking to capture value from renewable gas
- In March 2024, Powerco announced two projects it is progressing on its network
- Others under development (still in commercial-in-confidence phase)
    - commercial/residential organics and
    - agricultural sectors

Momentum is building

- Growing interest; growing demand; gas price
- Proven technology. AD seen internationally as preferred waste management option.
- Waste management businesses positioned to exploit
- Revenue: gate fees, biomethane, CO_2, biofertiliser, heat
- Reduce long-term environmental and financial risks
- Aligning with Government priorities:
  - Increase gas supply
  - Reduce waste & move up the hierarchy
  - Support investment
  - Support climate change and other goals

What's next?

- Government & Regulators
  - More support
- Users
  - Growing demand
  - Willingness to pay
- Industries (waste, gas, agriculture)
  - More projects, more interest
  - GasNZ *Gas Roadmap to Net Zero by 2050*
  - Biogas Bridge – 17 & 18 July – **BiogasBridge.nz**

Photo: Auckland Council


NGĀ MIHI THANK YOU
GASNZ