

# Kilcoy Biomass Boiler Project

A2EP Renewable Heat Awards Submission –  
Outstanding Biomass Project

Aug 2025





# Decarbonising Kilcoy Global Foods with a fully integrated, renewable energy solution



# Australian Red Meat Processing



Australia exports red meat to >100 countries



140+ processing plants → 3M+ tonnes edible meat yearly



\$25B in sales → \$5.43B value added → 0.22% GDP



Employs 40,000+ FTE



Committed to sustainability leadership

# Kilcoy: Decarbonising Steam Generation

**Kilcoy Global Foods** is one of Australia's leading meat exporters and is **committed to decarbonisation** targets

- 15MW biomass boiler installed, replacing coal-fired system
- 70% of plant's heat from locally sourced, wood chip biomass
- 30% of plant's heat from biomethane co-generation
- +35% efficiency per tonne of HSCW



# Why Biomass Matters

## The Problem:

Steam = 60% total energy consumption

Coal = Unsustainable

- GHG emissions
- Particulate pollution
- Volatile pricing / availability

## A Solution:

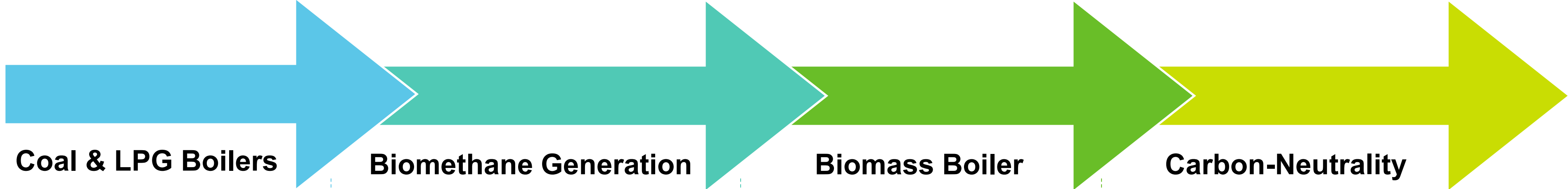
Modern biomass systems = high thermal efficiencies + flexible

Multiple biomass sources

- Wood chips
- Agricultural residues
- Organic waste



# Kilcoy's Decarbonisation Journey



**Coal & LPG Boilers**

**Biomethane Generation**

**Biomass Boiler**

**Carbon-Neutrality**



**Scope 1 & 2 Emissions**

- Coal Fired Boiler = 70%
- Balance of Plant = 20%
- Offices & Other Activities = 10%

**20% Decarbonisation**

- Waste → Biomethane
- Co-generator
- 100 GJ & 40MWh daily

**Replacement of Coal Boiler**



Kilcoy are now a **Carbon Neutral Organisation** under the **Climate Active Framework**

Offsetting 32,000t CO2-e annually

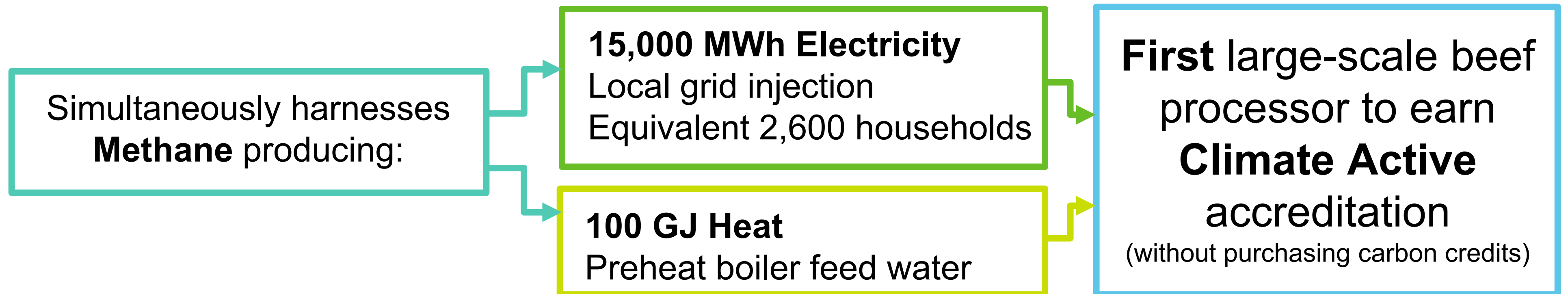
# Cogeneration Using Biomethane

- Three Combined Heat & Power (CHP) units → 4MW electricity

Organic Waste + Wastewater + Anaerobic Digestion = Biomethane

- Evo Energy Technologies and 2G complete turnkey systems

Clean and condition methane prior to power generation via: biological desulphurisation scrubbers, biogas blowers, activated carbon filters, heat pumps and gas dehumidification



# Automated Biomass Boiler System

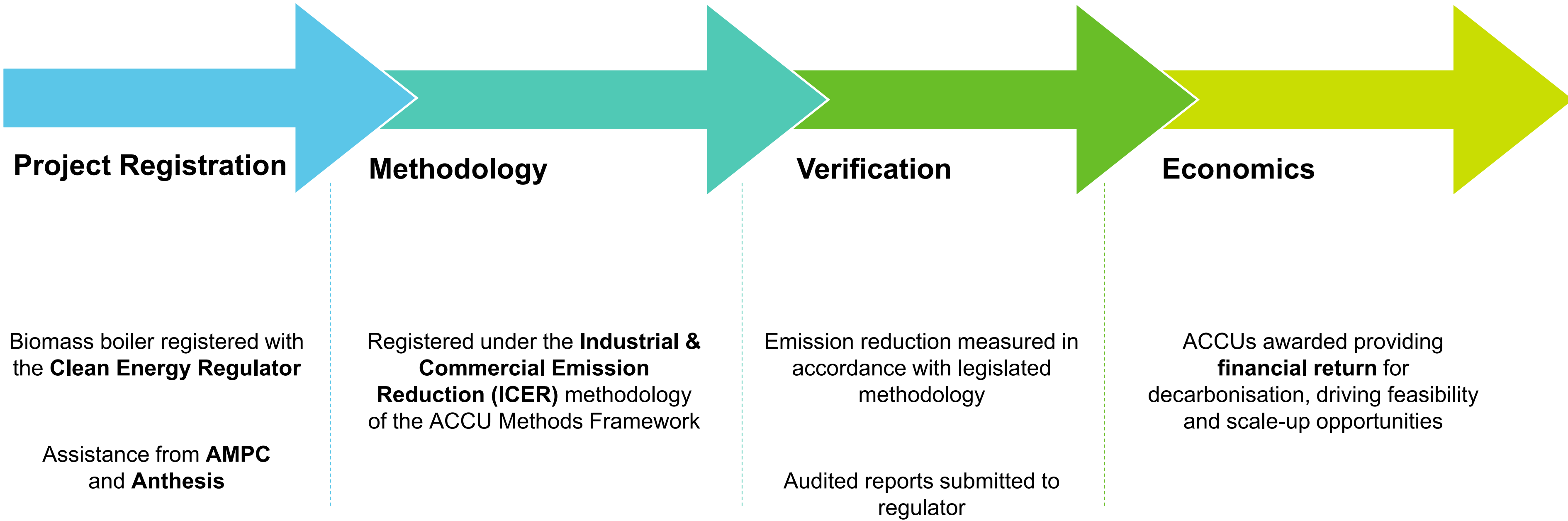
Justsen Energitechnik biomass boiler – 15MW capacity

Smart Automation:

- Auto-firing ensuring consistent ignition & sustained combustion
- Auto-fuel feeding, regulates biomass input to match demand
- Auto-ash extraction and cleaning systems



# Generating Australian Carbon Credit Units (ACCU)s



# Impact of Kilcoy's Renewable Heat Transition

**+35% Efficiency / tHSCW**

**+80% Uptime**



**90% Boiler Scope 1 Emissions**  
~25,000 tCO<sub>2</sub>-e reduction



**90% Waste-to-landfill**  
Utilising anaerobic lagoons for biomethane

**Reliably available sustainable biofuel**

**15GWh green electricity → grid**

# Thank You



# Thank You

