The Australian biomethane opportunity

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1.0 The Australian biomethane opportunity

1.1 What is biomethane?

1.1.1 Biomethane vs biogas

Biogas is a combustible gas produced through the natural breakdown of organic waste materials in the absence of oxygen. This biological process occurs both in landfills and in engineered anaerobic digestion systems. The resulting biogas is primarily composed of methane (CH_4) and carbon dioxide (CO_2), along with trace gases such as hydrogen sulphide (H_2S). Biomethane is the renewable fuel derived from biogas through an upgrading process that removes carbon dioxide and other contaminants, resulting in a methane-rich gas, referred to as a renewable natural gas, suitable for injection into the existing natural gas infrastructure.

1.1.2 Fit within Australian gas markets

Biomethane is well placed within the Australian gas market to be applied as a renewable "drop-in" substitute for fossil natural gas. Once it is upgraded to meet the Australian gas quality standard (AS 4564:2025), it can be injected into the existing gas network, transported, and used without modification requirements to existing industrial equipment and appliances.

Compared to international markets such as within Denmark and the UK, the biomethane sector in Australia is still immature but rapidly developing especially in states including New South Wales and Victoria. Jemena's Malabar biomethane facility, located in the eastern suburbs of Sydney (New South Wales), is Australia's first operating biomethane facility injecting renewable natural gas into the gas grid. The Malabar facility commenced operation in May 2023 has the capacity to produce 95 terajoules (TJ) of renewable gas per year, which is the average annual gas consumption of 6,300 homes .[1]

Looking further south, Victoria has historically had very cheap gas and uses more gas than any other Australian state or territory. However in recent years, Victorians have been experiencing a rising cost in gas. Alongside this, the world is experiencing the impacts of climate change with shifting seasons and higher frequencies of extreme weather events. Responding to this the Victorian Government introduced emissions reduction targets including to halve emissions by 2030, and to be net zero by 2045. To support this, the Victorian Government released their Gas Substitution Roadmap and Renewable Gas Directions Paper which outlines Victoria's transition to net zero. This includes actions and support for households and businesses to increase their energy efficiency and to electrify appliances e.g. gas oven and gas stoves (where possible). However, for industrial gas users (which require high heat outputs) this means finding alternative path for industry to pivot from using fossil gas to renewable gas sources such as biomethane.

Biomethane achieves the following:

- ✓ Enables decarbonisation in challenging-to-abate sectors;
- ✓ Supports meeting emissions reduction targets;
- ✓ Captures energy value of residual waste material (e.g. organic waste and wastewater) for beneficial reuse instead of being lost to low value outcomes;
- ✓ Diversifies and enhances fuel security through a renewable and reliable supply;
- ✓ Facilitates the creation of jobs in the renewable energy sector.

[1] https://www.jemena.com.au/future-energy/future-gas/Malabar-Biomethane-Injection-Plant/

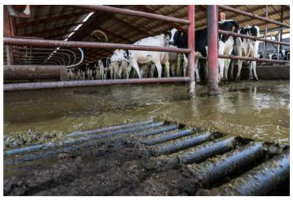
1.2 Benefits of Biomethane

Table 1: Overview of biomethane benefits

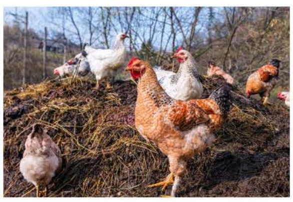
Benefits	Description
Enables rapid emissions reduction efforts	• Can be applied as a drop-in replacement for fossil gas in existing equipment and infrastructure without any changes needed • Utilises the methane potential of landfills, wastewater treatment plants and agricultural sectors which would otherwise be emitted and lost • Allows hard-to-abate industries (that can't electrify) to decarbonise • Lower transition costs when compared to development of hydrogen and electrification
Compatibility with existing gas infrastructure	• Can be used in existing gas pipelines and equipment • Enable more rapid energy transition compared to other renewable gases e.g. hydrogen • Technology has been demonstrated in Australian setting (e.g. Jemena Malabar Biomethane Injection Facility in NSW) • Technology for generation, upgrade, transport and usage has been widely used worldwide with sufficient knowledge available
Supports transition to a circular economy	• Converts organic waste streams, which may have limited alternative management options, into a renewable energy • Process of biogas production results in the creation of useful co-products such as digestate (applied as fertiliser) and biogenic CO_2
Increases national energy security	• Creates diversity in the energy market by supplying a domestic, renewable gas source which isn't exposed to LNG • Creates diversity in the generation points of this renewable gas source which can be produced all around the country.
Regional opportunities and economic growth	• Biomethane facilities likely located close to feedstock sources (i.e. near agricultural farms, landfills, and wastewater treatment plants) creating regional jobs in the renewable sector
Strategic alignment with policy and targets	• Supports Australia to meet circular economy and net zero policy targets (discussed in Section 2)

1.3 What feedstocks can be applied for biomethane generation?

Input materials (known as feedstocks) suitable for anaerobic digestion include materials such as food and garden scraps, livestock and animal processing wastes, agricultural and horticultural residues, forestry waste, and wastewater sludge.





2.0 Policy and regulatory landscape

2.1 National policy signals

Australia has a number of policies in place to support biogas and biomethane development.

Table 2: Overview of national policy

Federal policy	Description
National Renewable Gas Policy (Consultation Paper, August 2026) ***Proposed national policy framework to support renewable gas development***	The Energy and Climate Change Ministerial Council (ECMC) is consulting on the development of a National Renewable Gas Policy to accelerate deployment of biomethane and other renewable gases in Australia. The policy aims to support decarbonisation of hard-to-abate industries, improve energy security, encourage regional economic development, and facilitate investment in renewable gas production. Key areas under consideration include addressing the cost gap between renewable gases and natural gas, expanding certification and guarantee-of-origin frameworks, improving access to gas infrastructure, supporting feedstock supply chains, enabling markets for biomethane co-products (such as digestate and biogenic CO_2), and streamlining regulatory approvals. The consultation paper reflects growing government recognition of biomethane as a practical near-term renewable gas that can utilise existing gas infrastructure and contribute to Australia's net zero objectives.
National Gas Law & Regulatory Framework *extended to include biomethane and other renewable gases*	Australia's national gas regulations have been updated to formally include biomethane and other renewable gases, providing greater certainty for project developers. Amendments implemented through the Statutes Amendment (National Energy Laws) (Other Gases) Act 2023 now classify biomethane as a "covered gas," enabling it to be injected into gas networks and supplied to consumers under the same regulatory protections as natural gas. These changes are supported by Australian Energy Market Commission (AEMC) updates that enhance market transparency, strengthen economic regulation for renewable gas pipelines, and allow new retail market services, helping integrate biomethane into Australia's gas markets.
Guarantee of Origin (GO) Scheme *expanded to include biomethane*	The Guarantee of Origin (GO) scheme, launched in 2025 under the Future Made in Australia (Guarantee of Origin) Act 2024, is being expanded to include biomethane, with consultations underway in 2026. The scheme will certify the emissions profile and origin of biomethane, enabling producers to access domestic and international low-emission markets and make verified environmental claims. With biomethane listed as a priority product for inclusion, the GO expansion is expected to play a key role in creating market confidence and incentivising renewable gas production.
National Greenhouse & Energy Reporting Scheme	Under the National Greenhouse and Energy Reporting (NGER) Scheme a company that falls under the established threshold must report on greenhouse gas emissions, energy production and energy consumption each year. In 2022 the National Greenhouse and Energy Reporting (NGER) Scheme was updated to include biomethane fuel type and to allow reporting of combustion of blended gaseous fuels. This strengthened the commercial value of biomethane and allows organisations to use Renewable Gas Guarantee of Origin (RGGO) certificates to reduce their Scope 1 emissions. It provides a standardised methodology for accounting for avoided emissions, so companies can accurately report reductions. As a result, companies seeking to reduce their emission under the NGER scheme can push biomethane production and drive incentive policies.

Australian Gas Quality Standards AS 4564:2025	The 2025 update of Australia's gas quality standard, AS 4564:2025, marks an important regulatory milestone by formally recognising biomethane as a natural gas equivalent. The revised standard increases allowable oxygen content and introduces biomethane-specific contaminant thresholds, reducing the level of gas upgrading required and enabling more cost-effective injection into existing networks. This technical alignment accelerates project deployment by lowering compliance and operational barriers.
GreenPower Renewable Gas Certification	Australia's voluntary GreenPower Renewable Gas Certification scheme allows biomethane producers to generate certified renewable gas certificates, supporting voluntary market transactions. Forthcoming NGER amendments will allow purchasers of GreenPower-certified biomethane to reduce their reported Scope 1 emissions, elevating the scheme's significance and improving market confidence in renewable gas procurement.

2.2 State and territory comparison

NSW and Victoria are leading state-level biomethane policy development. NSW, home to Australia's first operational biomethane plant, is developing a Renewable Fuel Strategy and a Gas Roadmap and is exploring the inclusion of biomethane in its Renewable Fuel Scheme. Victoria, through its Gas Substitution Roadmap and Renewable Gas Directions Paper, is assessing mechanisms such as renewable gas obligations to stimulate biomethane production and support its transition away from fossil gas.

Table 3: Overview of state-by-state policies, strategies, and regulatory authorities

State or Territory	Supporting strategies for biomethane	Relevant authorities
VIC	• *Victoria's Gas Substitution Roadmap* • *Victoria's Renewable Gas Directions Paper* • *Victoria's Biogas Potential Assessment* • *Victorian Recycling Infrastructure Plan*	• Local Government • Victorian Government — Environment Protection Authority — Department of Transport and Planning • Network operators (gas connection) — Distribution: AGIG, Ausnet — Transmission: APA Group
NSW	• *Renewable Fuel Strategy (November 2025)* • *Renewable Fuel Scheme*	• NSW Government: Department of Planning Housing and Infrastructure, • Local Planning Authority • NSWEPA • Network operators — Distribution: AGIG, Jemena — Transmission: APA Group
QLD	• *Sustainable Liquid Fuels Strategy* • Queensland Biofutures / biofuels industry programs; • Queensland Energy and Jobs Plan. • End of Waste Code, EOW Code reference: EOWC010001054 – Digestate	• QLD Government • Department of State Development, Infrastructure and Planning • DESI / environmental regulator • Gas network operators

ACT	• Integrated Energy Plan 2024–2030; ACT pathway to electrify and transition off fossil gas. Biomethane appears less central because ACT policy prioritises full electrification.	• ACT Government • Environment, Planning and Sustainable Development Directorate • Icon Water • Evoenergy
SA	• No dedicated biomethane strategy, but SA supports renewable gas through project-level activity, including grid-injection biomethane projects and Renewable Gas Guarantees of Origin	• SA Government • EPA SA • Department for Energy and Mining • Australian Gas Networks • APA
WA	• WA Energy Strategies; renewable hydrogen / clean energy frameworks; biogas-to-hydrogen activity such as the Hazer demonstration using WA wastewater biogas.	• WA Government • Energy Policy WA • DWER • Water Corporation • ATCO Gas Australia • APA / DBP
TAS	• Tasmanian Future Gas Strategy • Draft Future Clean Fuels Strategy. • Tasmania's gas strategy supports renewable gases including biomethane and hydrogen.	• Tasmanian Government • ReCFIT • EPA Tasmania • Tas Gas Networks
NT	• Northern Territory Circular Economy Strategy 2022–2027; waste and methane-reduction opportunities. No dedicated biomethane strategy identified.	• NT Government • NT EPA • Department of Lands, Planning and Environment • Power and Water Corporation

3.0 Feasibility of biomethane development

3.1 Technical considerations

3.1.1. Feedstock availability and security

Feedstock availability and security is a critical step to the technical, economic, and financial feasibility of biomethane plant development as it directly determines how reliably and efficiently the plant can operate over its lifetime.

Biomethane facilities require significant capital expenditure and are designed to operate continuously. Without a secure, long-term supply of suitable organic feedstocks as inputs, the facility may not be able to achieve sufficient production and utilisation to cover costs or meet revenue expectations. Any unexpected inconsistencies with feedstock supply may lead to under-loading of anaerobic digesters, reduced gas production, and ultimately higher unit production costs, which may quickly undermine project financials.

Beyond the volume of feedstock supplied to the plant, the quality and composition of feedstock are equally critical. Different feedstocks vary widely in biomethane yield, moisture content, contamination levels, and process stability. Therefore, facilities which have been designed for specific feedstock/s may require costly pre-treatment if alternative feedstocks are later used, increasing both capital and operating costs. Reliable access to well-characterised feedstocks therefore reduces technical risk, simplifies plant design, and improves performance predictability.

Transport costs for organic feedstocks can be significant, and projects dependent on distant or highly fragmented feedstock sources face higher potential operating costs and greater supply risk. As a result, biomethane projects are most viable where large, consistent feedstock streams (e.g. wastewater sludge from a wastewater treatment plant, commercial food waste from manufacturing, agricultural residues) are co-located with biomethane plant infrastructure and supported by long-term supply agreements. Securing feedstock for a biomethane project is a critical step in transitioning from concept to financial close.

3.1.2 Anaerobic digestion (AD) and upgrading technologies

Anaerobic digestion and biogas upgrading technologies are central to the technical and commercial feasibility of biomethane plant development because they determine how efficiently organic feedstocks are converted into a saleable, grid-quality gas. The design, performance, and reliability of the anaerobic digestion system directly influence biogas yield and operational stability. Poor design or inadequate process control can lead to low methane production, process upset, or increased maintenance requirements, all of which reduce energy output and increase costs. Proven AD technology, appropriately sized and matched to the feedstock characteristics, is therefore essential to achieving consistent baseload biogas production.

Upgrading technology is equally critical, as raw biogas must be upgraded to meet the Australian standard for gas (AS 4564) in order to meet the quality requirements for injection into the gas network. The choice of upgrading technology (e.g. membrane separation, pressure swing adsorption, or scrubbing) affects capital cost, energy consumption, methane losses, and operational complexity. Inefficient upgrading can negatively impact project financials through higher power demand, increased maintenance, or excessive methane slip, while reliable, well-proven systems improve gas recovery rates and reduce operational risk.

Together, anaerobic digestion and upgrading technologies determine whether a biomethane plant can operate continuously at high utilisation, deliver compliant gas, and meet contractual and financial commitments. Investors and lenders place significant weight on the maturity, track record, and integration of these technologies because they underpin predictable output and revenue. As a result, the selection and integration of suitable AD and upgrading technologies are often as critical to project feasibility as feedstock supply and market access, and they play a decisive role in moving biomethane projects from concept to bankable development.

3.1.3 Behind the meter use versus grid injection

Table 4: Comparison of behind the meter use versus upgrade and injection to the grid

	Pros	Cons
Behind the meter (biogas used on site)	• Lower capital cost required (no need for upgrade, compression and injection infrastructure) • Simpler regulatory pathway and associated planning/project development timeline • Faster project delivery (due to lower complexity) • Direct savings with displacement of electricity and/or heat purchase	• Limited opportunity for energy utilisation where energy must be used on site (excess gas flared) • Lower overall decarbonisation impact (benefits are confined to the site producing gas)
Upgrade and grid injection (biogas upgraded to biomethane and injected to gas net-work)	• Maximises gas recovery with all biomethane captured and injected to grid (none flared) • Supports system wide decarbonisation with biomethane produces at one site being used anywhere within the gas network • Multiple value streams (sale of biomethane, renewable gas/GO certificates, offtake agreements) • Compatible with existing natural gas infrastructure and appliances • Supports industries (requiring high heat) which are unable to electrify	• Higher capital cost required (need for upgrade, compression and injection infrastructure) • More complexity in technical requirements • More complex regulatory approvals resulting in longer planning/development timelines • Scale dependent (small agricultural sites may find it challenging to justify upgrade costs)

3.1.4 Gas network injection

A proposed biomethane facility must assess whether injection will occur into the gas distribution or transmission network. While both pathways are technically feasible, each presents different advantages and risks.

Injection into the gas distribution network generally involves lower upfront costs and shorter connection timeframes due to reduced pressure and simpler infrastructure requirements and can be well suited where biomethane supply closely matches nearby industrial demand. However producers are required to comply with strict gas quality and odorisation standards and install monitoring equipment at the injection point. Where local demand is limited, reverse flow into the transmission system may be necessary. While technically achievable, this depends on the configuration of the distribution network and may require additional infrastructure, approvals, and compliance with both local network operator and AEMO gas quality requirements.

Injection into the gas transmission network provides access to a broader, statewide market of industrial and power generation customers and offers greater capacity to accommodate large, continuous biomethane volumes. However it involves higher technical and commercial requirements, including compression to transmission pressures, more expensive custody transfer metering, longer approval timeframes, and strict gas quality compliance with both AEMO and the transmission network operator. As a result transmission injection is generally best suited to largescale projects.

3.2 Financial considerations

Table 5: Summary of financial requirements

Capital Expenditure (CapEx)	Operating Expenditure (OpEx)	Revenue streams / offset
• Feedstock storage • Feedstock receival and pretreatment • Anaerobic digestion tanks • Biogas upgrading (CO2, H2S) • Digestate treatment and storage • Biomethane compression and grid injection • Grid connection and metering	• Feedstock Supply • Feedstock transport • Labour • Utilities (electricity, water) • Maintenance and parts • Management and/or disposal costs (contamination, digestate) • Monitoring and compliance	• Gate fee for waste streams (feedstocks) • Sale of biomethane gas • Renewable gas certificates • Carbon credits (ACCUs / GO) • CO2/green chemical recovery (food grade, industrial) • Sale of digestate as fertiliser

3.3 Planning & Environmental considerations (Victorian context)

3.3.1 Planning requirements

The land use term that best describes a proposed biomethane facility is 'Waste to Energy Facility' defined in Clause 73.03 of the Victorian Planning Provisions as 'land used for the combustion, treatment or bio-reaction of waste to produce energy for use off site. It includes activities to collect, temporarily store, process or transfer waste materials for energy production.

Typical land use zoning of existing anaerobic digestion facilities (producing biogas) in Victoria include Farming Zone (FZ) Industrial 1 Zone (INZ) Public Use Zone (PUZ). When identifying a suitable location for a biomethane facility, areas designated for sensitive land uses (e.g. residential zones, schools, hospitals, childcare centres, public parks and conservation land) should be avoided. Appropriate separation distances should be established to mitigate potential land use conflicts, Clause 53.10 of the Victorian Planning Provisions and the EPA Victoria Separation Distance Guideline specify do not indicate separation distances for waste-to-energy facilities, and therefore separation distance requirements must be determined on a case-by-case basis. Biomethane injection facilities may encounter additional complexities if they are a distance away from the gas injection point where connection pipeline is passing through multiple properties with differing planning/zoning requirements.

3.3.2 EPA permissions

Environmental management and responsibility in Victoria is guided by the General Environmental Duty (GED) which is a core obligation under the Environment Protection Act 2017. It requires any person who is engaging in an activity that may give rise to risks of harm to human health or the environment must eliminate or minimise those risks, so far as reasonably practicable. The GED applies to everyone, not just licensed operators.

As per section 44 of the *Environment Protection Act 2017* and Schedule 1 of the *Environment Protection Regulations 2021,* a proponent of a biomethane plant may be required to submit a development licence application (DLA) to obtain a development licence to conduct prescribed development activities which include:

- Construction or installation of plant or equipment;
- Development of processes or systems;
- Modification of plant, equipment, processes or systems (outside of general maintenance).

The DLA is to be submitted to and assessed by the Environment Protection Authority Victoria (EPA), Victoria's environmental regulator, responsible for preventing the harmful effects of pollution and waste on human health and environment.

Once a facility is constructed, proponents will then be required to submit an Operating Licence Application (OLA). The OL is required after construction and before commissioning and operation of the facility in accordance with any EPA DL conditions. EPA will not issue an OL unless it is satisfied that the facility has been built as approved and minimises environmental risk to human, health, and environment, complying with the GED.

3.4 Potential risks

3.4.1 Feedstock variability and security

Feedstock variability is a key feasibility risk because it simultaneously undermines technical performance, regulatory compliance, revenue certainty, cost control, and bankability, as explained below:

3.4.1.1 Process stability and reliability

Feedstock variability is a key risk for a biomethane project feasibility because it sits at the intersection of process performance, regulatory compliance, and financial bankability. The quantity and quality of the biomethane produced from a biomethane facility is entirely dependent on the quantity, composition, and quality of incoming feedstock material, all of which can vary significantly. Changes in volatile solids, moisture, or biochemical methane potential of feedstocks can cause disproportionately large swings in biomethane output, potential resulting in lower production and revenue, while capital and operating costs remain unchanged.

3.4.1.2 Supply Security

Consistent and reliable feedstock supply is critical to the efficient operation of a biomethane plant. Feedstock is sourced from key suppliers, and the facility is optimally designed to accommodate seasonal fluctuations, potential supply interruptions, and competing uses. To manage supply risk, contingency arrangements are incorporated including access to secondary or alternative feedstock sources to address short- or long-term supply constraints. From a bankability perspective, feedstock is secured through long-term offtake agreements with clearly defined technical and commercial terms. This ensures sufficient supply of feedstock to support full operational capacity.

3.4.1.3 Regulatory approvals

Environmental approvals for a biomethane facility are assessed against the feedstock types and volumes nominated during the planning and feasibility stage, with odour, emissions, waste classification, and risk profiles assessed against the nominated feedstock/s. If actual feedstocks differ materially from what has been approved as part of the facility's licence, operators may face compliance notices and fines, resulting in technical, regulatory, and financial risk.

3.4.1.4 Impact on capital and operating cost

Feedstock variability requires additional capital investment towards infrastructure for material receival, blending, pre-treatment, buffering capacity, and gas cleaning systems. In addition to this there is potential increase to operating costs due to higher maintenance, consumables, and operator intervention, and these costs are incurred regardless of biomethane output.

Projects become difficult to finance when feedstock quality depends on optimistic assumptions or informal operational controls rather than enforceable contracts and conservative design. As a result, feedstock uncertainty can prevent projects from reaching financial close even when offtake demand is strong.

3.4.2 Social licence and community opposition

A facility's social licence to operate (SLO) refers to the level of acceptance and support given by the community to a company's or facility's activities. While formal regulatory approvals (e.g. EPA Victoria environmental permissions and local council planning permits) are legally required, SLO is an informal approval that is earned through trust, transparency and confidence rather than regulation. These risks can be mitigated through clear, early engagement.

Additional engagement may also be required where facilities are located away from existing gas infrastructure, as new pipeline works and connection points can affect a wider group of stakeholders. Early and targeted community engagement during the planning phase is often critical to supporting approvals and enabling development to proceed.

3.4.3 Policy instability

Policy instability poses a material risk to the development of a biomethane facility because these projects are capital-intensive, long-lived, and highly dependent on stable regulatory and market frameworks. Changes or uncertainty in policy settings can undermine project feasibility across investment, approvals, and operations.

Biomethane projects rely on long investment horizons to recover high upfront capital costs for anaerobic digestion, gas upgrading, and grid connection infrastructure. If government policies relating to renewable gas targets, certificates, carbon pricing, or eligibility criteria are unclear or subject to frequent change, financiers and equity investors may perceive a greater risk. This can lead to increased cost of capital, reduced access to finance, or projects failing to reach financial close altogether.

Policy instability can also impact the marketability and/or revenue potential from renewable gas as well as co-products such as digestate. Biomethane business cases often depend on policy-enabled value streams such as renewable gas guarantees of origin, industrial decarbonisation incentives, or carbon abatement credits. If these mechanisms are delayed, amended, or withdrawn, expected revenues may not materialise, weakening long-term offtake agreements and increasing exposure to wholesale gas price volatility.

3.4.4 Other challenges impacting the development of AD in Australia

- **Lack of organics diversion mandates:** Australia's inconsistent state-based organics policies create uncertainty for AD investment. Without stronger landfill bans for suitable organic waste and mandatory source separation, developers face difficulty securing long-term feedstock certainty.

- **FOGO is not optimal for AD and carries high contamination risks:** Household organics streams often contain plastics, batteries, and packaging, which reduce feedstock quality and create operational and compliance risks for AD facilities. Cleaner food waste streams are generally more suitable, as higher diversion of wet organic material is typically needed to achieve a viable return on investment.

- **Complex planning and EPA approvals:** AD facilities often face lengthy approval pathways which can increase development costs and delay project delivery.

- **Digestate regulatory uncertainty:** Unclear end-of-waste frameworks for digestate create challenges for beneficial reuse in agriculture. If digestate cannot be reliably sold or reused, it becomes a disposal cost rather than a revenue stream. Australia also lacks harmonised national standards for feedstock inputs, digestate quality, compostable packaging, and renewable gas certification, increasing compliance complexity across jurisdictions.

- **Immature biomethane policy:** Australia lacks strong renewable gas incentives, biomethane certification frameworks, and clear gas-grid injection pathways, limiting higher-value energy recovery opportunities from AD.

- **Carbon market complexity:** While AD can generate carbon abatement benefits, participation in the ACCU scheme can be technically complex and administratively costly, particularly for smaller or council-led projects.

- **Competition from cheaper alternatives:** Traditional composting and landfill disposal can remain more commercially attractive due to lower capital costs and inconsistent policy drivers supporting AD infrastructure.

- **Community and social licence challenges:** Public concern about waste infrastructure can create resistance to AD developments, particularly in relation to odour and truck movements, despite modern enclosed systems offering strong environmental performance.

4.0 Conclusion

Biomethane presents a credible and increasingly strategic opportunity for Australia to decarbonise gas use, strengthen energy security and create value from organic waste streams.

While the sector remains early stage compared with more mature international markets, the combination of improving policy settings, growing industrial demand for low emissions gas and expanding recognition of biomethane within regulatory frameworks is building momentum. Realising this opportunity will depend on more than technical viability alone.

Success will require secure feedstock supply, bankable revenue models, supportive and stable policy, and careful navigation of planning, environmental and community considerations.

For developers, utilities, governments and industrial users, the path forward is clear: targeted investment, coordinated policy and practical project delivery can help unlock biomethane's role in Australia's broader energy transition.

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