Driving the renewable gas sector forward with policy

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v1.0

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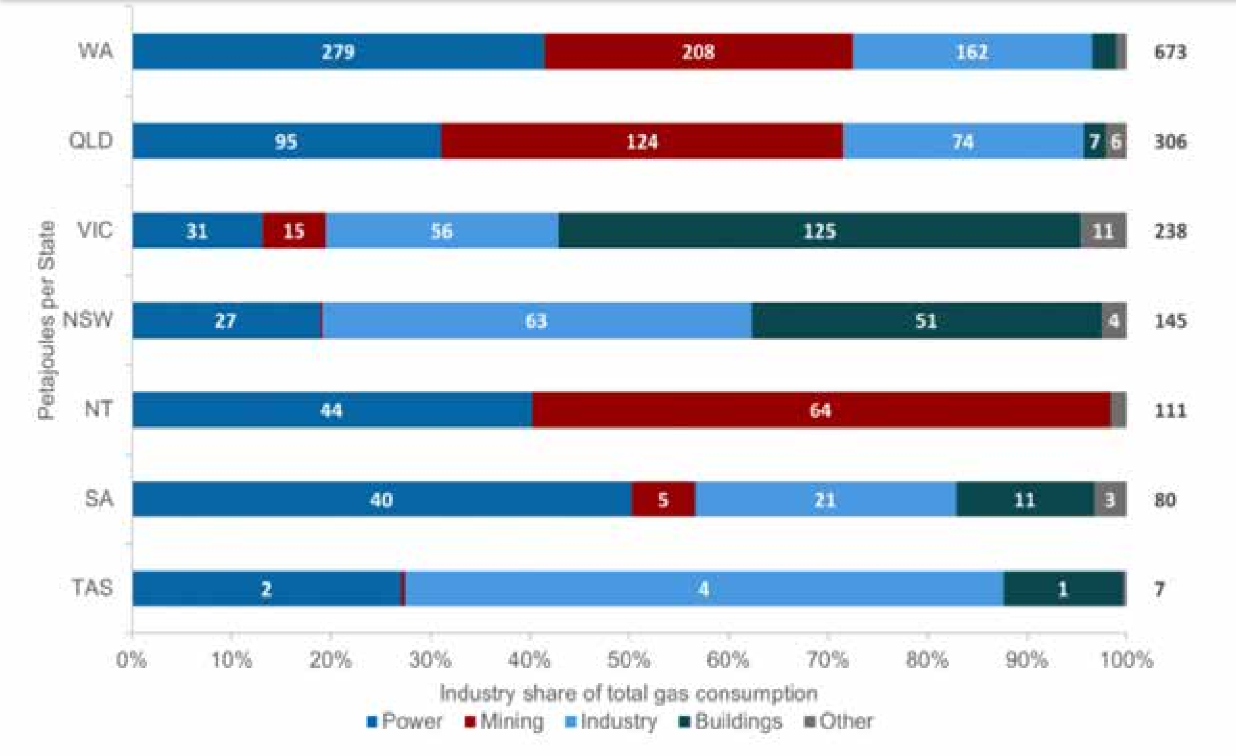
Key Messages

1. **Customer demand for Renewable Gases**
2. **Learnings from international policy settings**
3. **The evolving Australian policy landscape**

The role of gas, and hence the decarbonisation strategy, differs from state to state

Gas consumption by state/territory and sector, 2021-2022[1]



Jemena NSW Gas Distribution customers - 2024[2]

Customer Type	Total Customer	Volume (PJ)
Residential	1,490,490	26.8
Commercial	34,214	13
Industrial	379	44.1
Total	1,527,145	83.9

Decarbonisation of gas will be different across each state

In NSW, large decarbonisation steps are possible with a small number of customers

1. Buildings account for residential and commercial buildings Mining includes gas for LNG liquification Other accounts for transportation, agriculture, construction, water, waste treatment and gas supply. Source: Department of Industry, Science and Resources
2. Jemena 2025 Access Arrangement

Customer groups that can’t readily electrify

Whilst customers need to decarbonise, many can’t electrify

Customer Type	Hard-to-abate	Costly-to-electrify	Desire-for-gas	Coal to gas switching
Customer Portrait	No identified electrification pathway	Theoretic electrification pathway – but renewable gas is cheaper	“Simple” electrification pathway, but preference for gas	Use coal. Can switch to gas
Industry Sector	High heat, feedstock and GPG	Hospitals, food and beverage manufacturers, some residential customers	Restaurants, bakeries commercial buildings, residential customers	Power generation, steel mills, metal processing, cement production
Example	InfraBuild Building futures through sustainable steel Opal.	NSW LION		BlueScope

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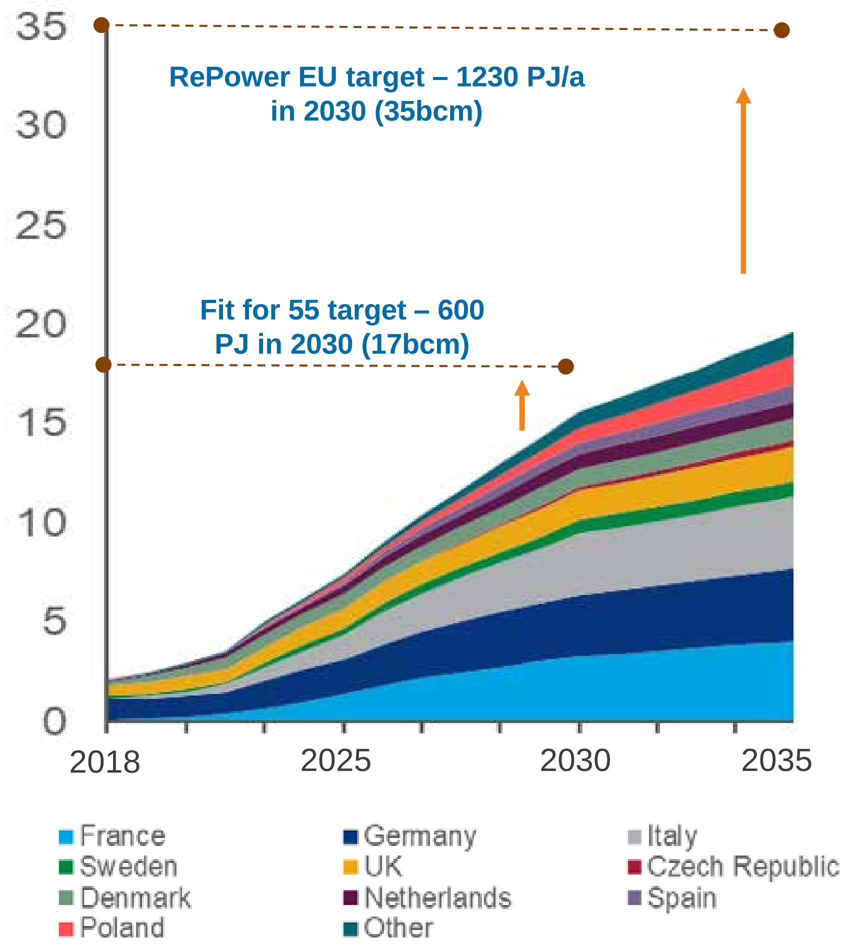
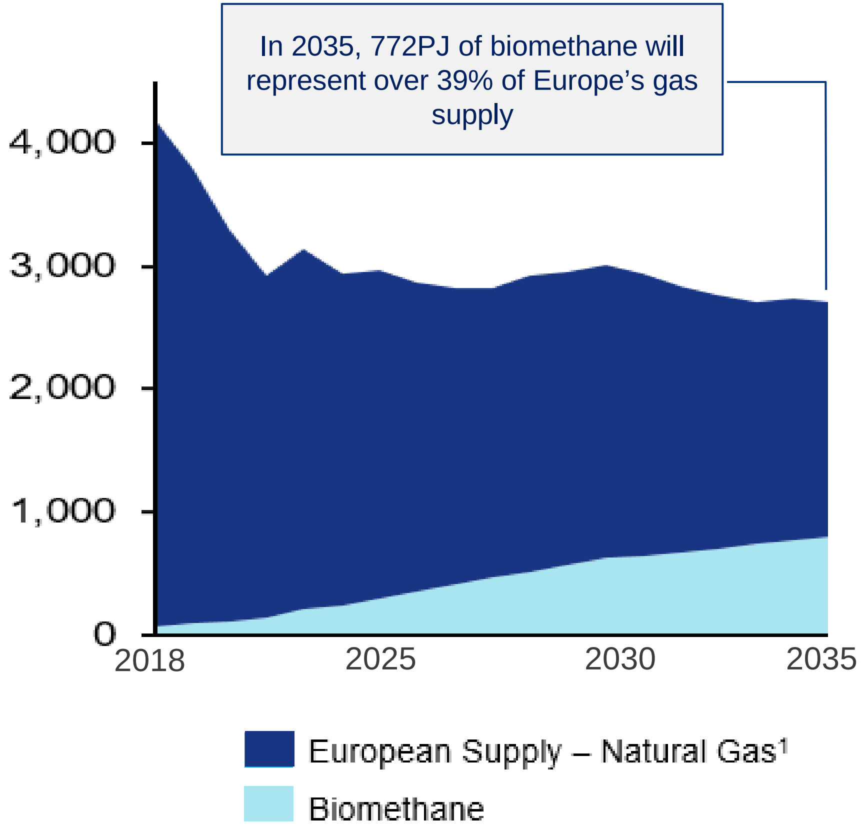
European biomethane markets are evolving rapidly – 21% increase in 2024

Biomethane production by market (Bcm)



Biomethane production by market (PJ/pa)



Clear high-level objectives:

- Security of supply
- Reduce carbon emissions

Financial incentives:

- Feed-in-Tariffs
- Tax offsets

Large corporate investment:

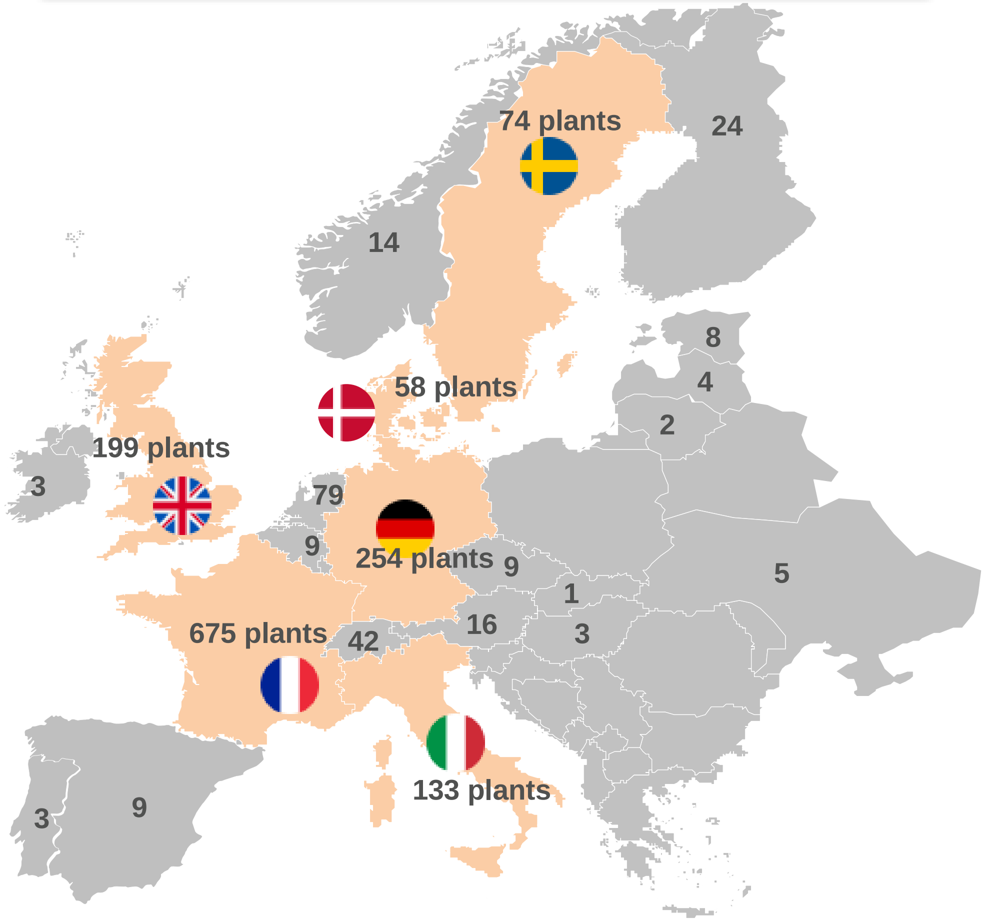
- **Total and Engie** in France
- **ENI** in Italy
- **Shell** in Denmark
- **Goldman Sachs** in Spain

Source: IEA/EBA history, Wood Mackenzie forecast. Other* contains Austria, Belgium, Finland and Switzerland. 1. Excludes indigenous supply from Norway and Cyprus

Clear targets coupled with supply and demand side incentives have expedited Europe’s biomethane markets

Key Markets	Target	Supply side incentives	Demand side incentives
Sweden	54PJ by 2030	Ø Production tariff	Ø Long-term tax exemptions Ø Rebates on vehicles Ø Zone exemptions
Denmark	Share of biomethane reach 70% by 2030	Ø Production subsidy	
UK	144PJ by 2050	Ø Green Gas Support (FiT) Ø Renewable Heat Incentive	Ø Renewable Transport Fuel Obligation (blending %)
Germany	Emission reduction of 25% by 2030	Ø Renewable Energy Act	Ø Tax incentives
France	Ø 282PJ by 2030 Ø Blending target: 6.6% by 2028	Ø Grid operator contribution (60% of capex) Ø €900 million French support scheme	Ø Tax incentives (TICGN)
Italy	141PJ by 2026	Ø Long-term Incentives support (40% of capex)	Ø CIC certificates used in transportation
Europe Overall	1,236PJ by 2030		

Number of biomethane plants in Europe 2024[1]



Notes: 1. European Biogas Association – Biomethane Map 2024

Both supply and demand side incentives are required to support a new market

Supply side incentives lead to high production rates;
Demand side incentives lead to high willingness to pay and targeted end use

Incentives in Denmark

Demand
- None

Supply
- **FiT scheme** (€16.67/GJ)
- **Subsidy scheme (€1.7 billion)**

Outcome
- Supply increased **~5PJ** 2012 to ~**28PJ** 2022
- **~18%** of Danish gas consumed in Denmark = high export market

Incentives in Sweden

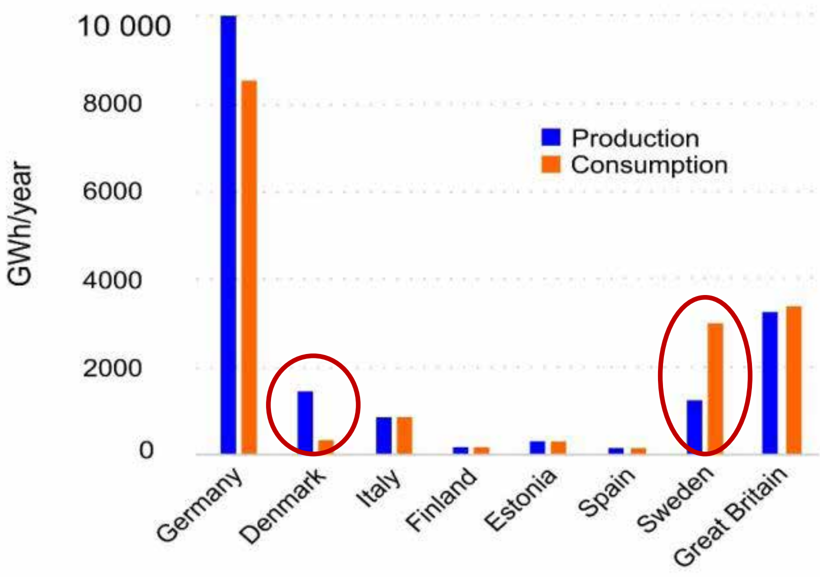
Demand
- **Energy Tax and CO_2 Tax Exemptions**
- **Rebates** on vehicles
- **Exemptions** from zone restrictions

Supply
- **Production Support Scheme** (€7.6-10/GJ)

Outcome
- Demand far outstrips supply
- Imports majority of Danish biomethane

Supply vs Demand in Europe

Observation:
- **Denmark**: Supply > Demand
- **Sweden**: Supply < Demand



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With a 20-year head start, electricity has a recognised decarbonisation pathway. Gas doesn't, yet!

Legend: Biomethane | Electricity | Hydrogen

Mandatory Renewable Energy Target and RECs

LGCs and STCs

ACCU Scheme

Capacity Investment Scheme

NEM-Reforms

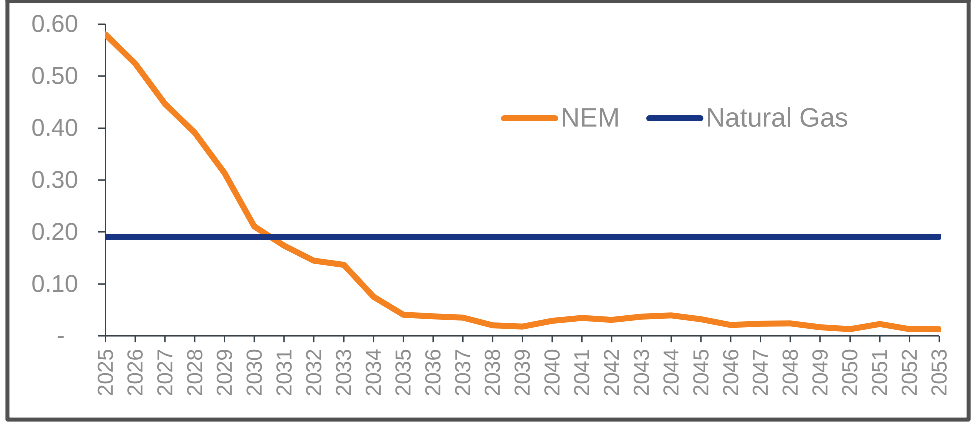
Various consumer subsidies and grants

2001 - 2017 | 2018 - 2022 | 2023 | 2024 | 2025

Electricity Policy

Demand side support	Renewable Energy Target Various consumer subsidies and grants
Supply side support	Capacity Investment Scheme NEM-Reforms, Capital grant scheme
Result	40% renewable electricity penetration

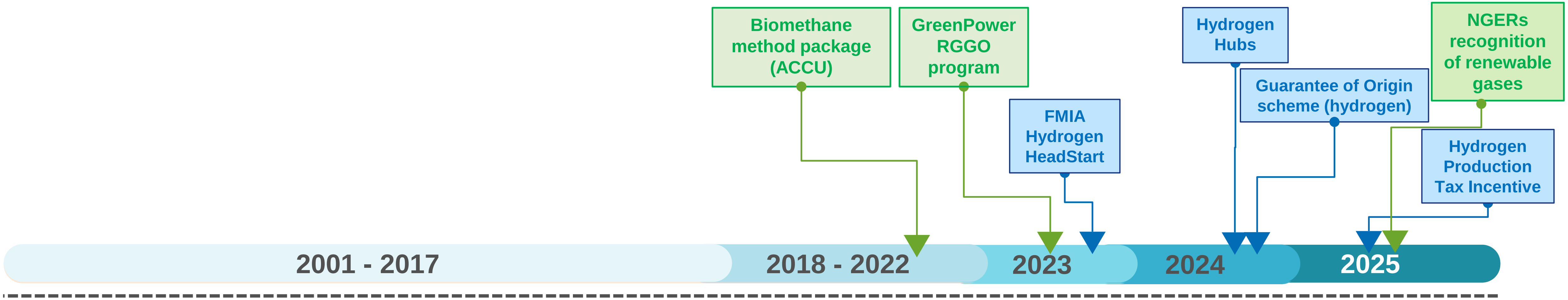
Emission Intensity Factor – Electricity vs Natural Gas[1]



Notes: 1. Frontier Economics

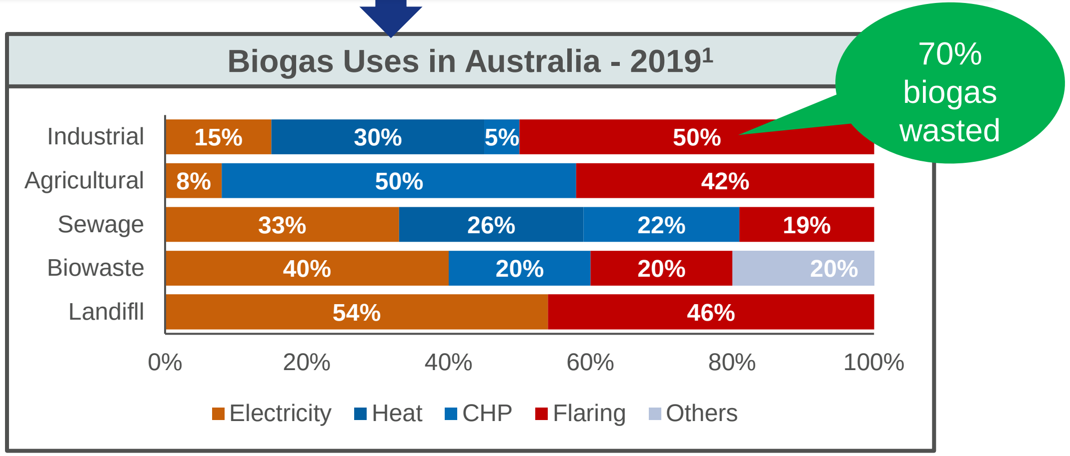
Policy is not yet stimulating a renewable gas market

Legend: Biomethane | Electricity | Hydrogen



Biomethane

Supply side support - NONE
Demand side support – Safeguard Mechanism



Hydrogen

Supply side support - HIGH
Demand side support - NONE

The Australian
https://www.theaustralian.com.au › business › news-story
Trafigura scraps $750m green hydrogen plant at Port Pirie
2 days ago — A major $750m green hydrogen plant has been axed in South Australia for the fledgling industry just days after Anthony Albanese ...

H2 View
https://www.h2-view.com › story › 2115673.article
Origin Energy pulls out of NSW hydrogen hub project due ...
3 Oct 2024 — Origin Energy pulls out of NSW hydrogen hub project due to market uncertainty Australian utility Origin Energy has backed out of AUD $207.6m (...

The Guardian
https://www.theguardian.com › environment › mar › gr...
Green hydrogen has stalled in nearly every corner of ...
2 days ago — Chris Bowen announced $814m for the clean energy source despite projects in doubt across NSW, Queensland and South Australia.

The Courier Mail
https://www.couriermail.com.au › ... › Qld-politics
Central Queensland Hydrogen Project axed after request ...
3 Feb 2025 — A$12.5bn green hydrogen project at Gladstone that would have been Australia's largest has been axed by the state government.

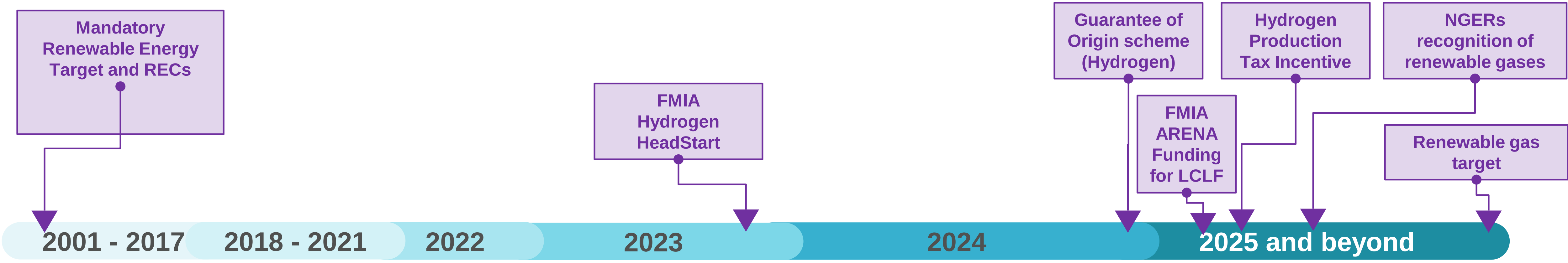
Notes: 1. RACE 2030: Opportunity Assessment Anaerobic digestion for electricity, transport and gas

Australian Government

More is needed for a successful renewable gas market

Legend

Biomethane | Electricity | Hydrogen | Future



	Expand existing policies	New Policies
Certification	Ø Expand GO Scheme to biomethane	
Demand side support	Ø National renewable gas target or ambition for both hydrogen and biomethane	
Supply side support	Ø Expand Hydrogen HeadStart policy to include biomethane Ø Expand HPTI to biomethane Ø Expand FMIA ARENA funding to include biomethane	

→ **Lowest cost decarbonisation pathway for gas**

Questions?

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