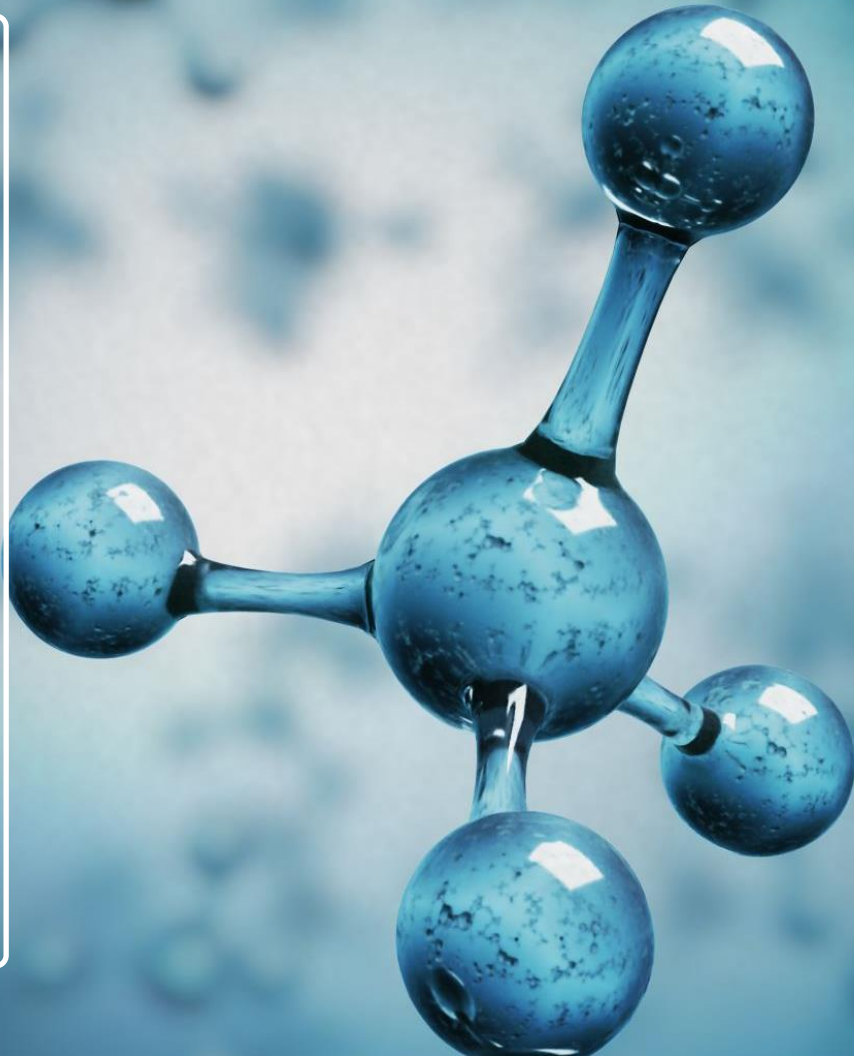


Gas Transition and Consumer Impacts

National Consumer Roundtable on Energy, 30th April 2021

- Dean Lombard, Renew
- Mark Grenning, Energy Users Association of Australia
- Geoff Buchanan, ACTCOSS
- Rebecca Law, SACOSS



Overview

- Draft principles for managing the gas transition - Dean
- Stranded assets and accelerated depreciation – Mark
- ACT case study - Geoff
- SA case study - Rebecca

Managing the gas transition

- What's the problem?
- Where do we need to get to?
- How do we do it?
- What the hell is accelerated depreciation and is it good or dumb?

What's the problem?

- Fossil gas – incompatible with a zero carbon economy
- Gas supply – tightening anyway = price rises
- Dual fuel is more expensive for households than single fuel – especially with solar
- ‘Death Spiral’: the fewer connections, the higher cost per connection

Where will we end up?

Electrification

- Potentially (and eventually) zero carbon
- Single connection = only one fixed charge (lower cost)
- Solar PV can serve (lower cost)
- Needs new appliances
- Implications on grid security? (to a point... but could also provide grid services)

Non-fossil gas (green hydrogen?)

- Zero carbon (if done right)
- Still two connections = two fixed charges
- Solar PV can't serve
- Needs new appliances
- No implications on grid security (but little potential to provide network services)

T R A N S I T I O N



What world do we want to live in?

In 2050

- People (and industry) get the energy they need at a fair price
- The economy is decarbonised
- Non-fossil gas is available where it's needed
- People buying apartments next to live music venues can't shut them down with noise complaints

Between now and then

- People (and industry) were able to make the right choices when replacing appliances, building houses, investing in plant etc.
- Unneeded supply infrastructure has been fully retired

How do we get there?

There's a transition that will be cheaper and easier for energy users if it were managed rather than just done in an ad hoc way:

- Avoid/minimise stranded assets
- Subsidise new appliances for those who need it
- Guide appliance choice as replacements happen along the way
 - Also help grow appliance industry e.g. heat pumps
- Implement solutions for industry
 - Electrification in many cases
 - Hydrogen where thermal fuel is essential

The costs and risks of transition must be minimised and shared equitably, with households and communities not bearing any more than is reasonable, and people on low-income or disadvantaged by the transition supported.

Principles for a managed transition

Put people at the centre

- The energy supply to homes and small businesses is based on meeting needs efficiently and at least cost
- That people have the energy they need for the uses they require it for - focused on the function and the outcome NOT the means

Long-term and flexible

- Industry and market transitions are managed with an eye on the foreseeable future to minimise unnecessary costs and stranded assets
- That the future risks involved in transition are recognised transparently now
- That decisions taken now minimise the risk that the community will have to bear increased costs related to inefficient or inappropriate investments
- That where future options are contingent, that contingency is recognised as a risk to the community.

Just and Fair

- All households have access to the energy they need, delivered as efficiently and affordably as possible
- Any cross subsidies between different types of users are transparent, and promote fairness and equity as much as possible
- Where the transition is unaffordable for people on low income or experiencing disadvantage appropriate supports are provided.

Ensure it works

- The energy system is fit-for-purpose
- Efficient, components of the energy system are there because they are the best way to meet needs, not simply because they have always been there
- The structure of the system optimises its efficiency

Deliver clean and healthy energy

- The energy system will be a net zero emitter before 2040
- Planning and implementing the transition to a net zero energy system must start now. The short and medium term decisions required to reach the long term targets should be implemented now, with the objective of minimising price impacts on consumers now and the risk of future price impacts.

Recommendations

- National Cabinet: Review the role of reticulated gas in providing clean affordable energy for residential housing, and plan for the changing role. (Maybe pause network expansion and/or new connections while doing this)
- **Moratorium on new fossil gas extraction and transmission pipeline development.**
- Introduce a domestic gas reservation policy for price stability during the transition.
- **Supporting the development of renewable Hydrogen for domestic industrial and manufacturing and export**
- Feds/states: Support for low-income and other at-risk households to traverse the transition
- **AER and/or AEMC: fit-for-purpose review of gas law and rules re how to continue to meet the National Gas Objective in the context of state and territory net zero emission targets.**
- How to manage stranded asset risk for gas networks (e.g. applications of accelerated depreciation to new and existing assets) in the context of the energy system as a whole.

THE FUTURE OF GAS – A PERSPECTIVE ON A COMPLEX ISSUE FOR GAS NETWORKS

EUAA
Energy Users Association of Australia

Consumer Roundtable

Mark Grenning
30 April 2021



- Net zero emissions targets are relevant even if not legislated - has to be considered now by the AER
- The hydrogen development time line is irrelevant to a decision on how to deal with potential stranded assets
 - Do not wait for hydrogen to be proved ‘economic’ (whatever that means)
- National gas rules developed with aim to encourage gas consumption with efficient asset utilisation (conforming capex) and pricing (declining block tariffs) giving consumers a choice
 - We are moving into a different world and question whether the gas rules can cope with the gas transition involved with a zero net emissions target eg conforming capex NPV period vs regulatory depreciation
 - Need a wide review of the rules
 - what can be done within existing rules – to apply to current Victorian distribution reset
 - What will require a rule change - to apply in next cycle starting with Jemena 2025-20
 - Accelerated depreciation is not the only option
- Not just a gas issue, also an electricity issue esp in ACT/Victoria

- So what is in the long term interests of consumers in 2021?
 - earlier the action on stranded assets the better – the longer the wait the fewer consumers/less volume to spread cost over as demand falls
- The regulatory contract – what have consumers agreed to pay? Should it change and if so how?
 - Separate RABs – assets built to end of current regulatory period + new
 - New customers ok if they wanted to accept a new regulatory contract including stranded asset risk – AGN Mt Barker example
 - Otherwise intergenerational inequity, especially vulnerable consumers who are not able to exercise a choice
 - Accelerated depreciation not the only option
- Very complex issue for consumers that will require long engagement
 - Need to understand issue first then discuss policy options
 - Don't assume Government will pay just because it is caused by Government policy

THANKYOU

www.euaa.com.au



Mind the Gap: Gas transition and consumer impacts in the ACT

National Consumer Roundtable on
Energy, Sydney, 30 April 2021



Gas transition to net zero emissions by 2045

The ACT has legislated to reduce emissions (from 1990 levels) by:

- 40% by 2020
- 50–60% by 2025
- 65–75% by 2030
- 90–95% by 2040
- 100% (net zero emissions) by 2045

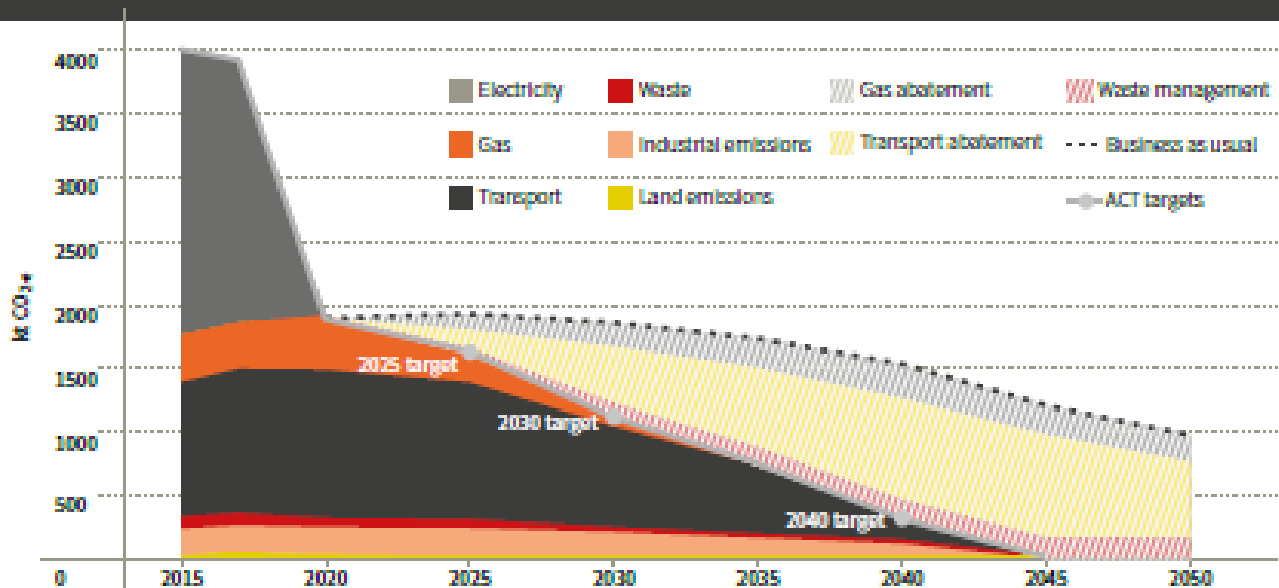
Fossil-fuel-gas forecast to account for 22% of ACT emissions in 2020.

More than 70% of households and businesses in the ACT are connected to fossil-fuel-gas – 126,505 households & 3,619 small businesses

While only indicative, the ACT Government modelling suggested that to achieve these targets there would need to be 'around 60,000 existing households not connected to gas by 2025, increasing to 90,000 in 2030 and all houses by 2045'.

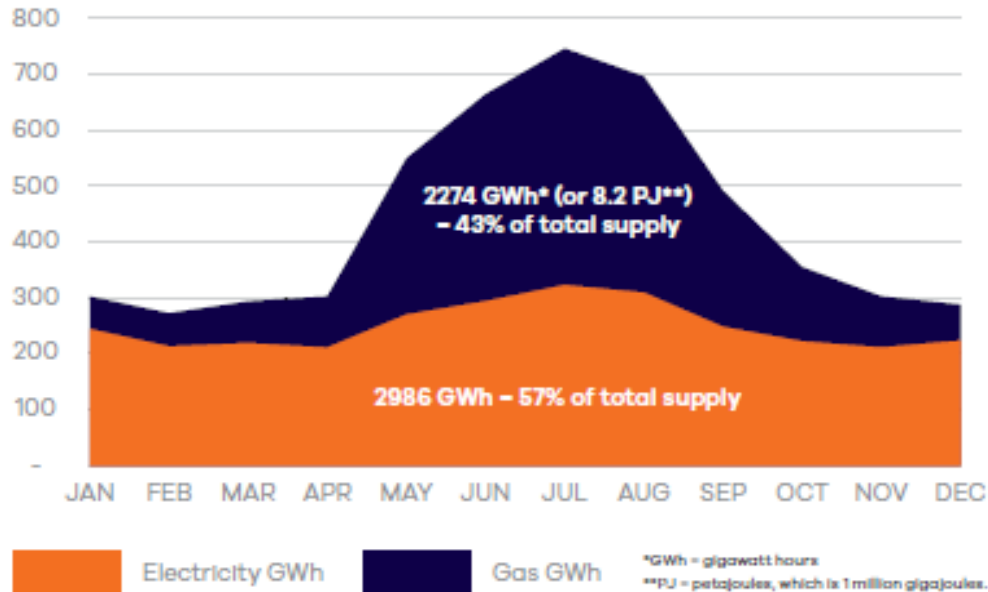
Potential pathway to net zero by 2045

Figure 6: A potential pathway to achieving interim targets and net zero emissions by 2045.
Source: ACT greenhouse gas emissions modelling 2018.



Energy demand mix in the ACT

Figure 3.1: 2018 ACT energy demand (GWh) showing gas and electricity use over the year, including winter peak demand



ACT Climate Change Strategy 2019-2025

No.	Goal	Action	Timing
4.03	Reduce emissions from gas	Amend planning regulations to remove the mandating of reticulated gas in new suburbs.	By 2020
4.04	Reduce emissions from gas	Conduct a campaign to support the transition from gas by highlighting electric options and savings opportunities to the ACT community.	From 2020
4.05	Reduce emissions from gas	Develop a plan for achieving zero emissions from gas use by 2045, including setting timeframes with appropriate transition periods for phasing out new and existing gas connections.	By 2024
4.09	Climate-wise, zero emissions public housing	Continue to upgrade to efficient-electric appliances in existing public housing properties where technically feasible and assess the cost and benefits of shifting to all-electric public housing.	From 2019
4.10	Climate-wise, zero emissions public housing	Ensure all newly constructed public housing properties are all-electric (fitted with electric appliances) from 2019.	From 2019
4.12	Climate-wise, zero emissions low income homes	Trial facilitating access to interest free loans or other innovative finance for gas to electric upgrades and deep retrofits of low income homes.	By 2022
4.18	Climate-wise, zero emissions buildings	Trial incentives and other measures to encourage all-electric, high efficiency apartment and commercial buildings.	By 2024
4.19	Climate-wise, zero emissions buildings	Expand the Energy Efficiency Improvement Scheme to increase support for low income priority households and further encourage a shift from gas to high efficiency electric appliances.	From 2020
5.13	Zero Emissions Government	Ensure all newly built or newly leased Government buildings and facilities are climate-wise and all-electric (where fit for purpose).	From 2020
5.14	Zero Emissions Government	Replace all space and water heating systems in Government facilities with electric systems at the end of their economic lives (where fit for purpose).	From 2020

Labor-Greens 2020-2024 Agreement

Phase out of fossil-fuel-gas in the ACT by 2045 at the latest, support energy grid stability and support vulnerable households, by doing the following:

- Implement a program of zero-interest loans of up to \$15,000 for households and not-for-profit community organisations to assist with the upfront costs of investing in: rooftop solar panels; household battery storage; zero emission vehicles and efficient electric appliances. The program will include an education and communications component about energy efficiency and the **shift from gas to electric**.
- Progress a project with relevant asset owners and key stakeholders to **reduce the emissions intensity of the existing ACT gas network** as much as is possible, by injecting zero-emissions gas alternatives.
- Enact minimum energy efficiency standards regulations for rental properties in 2021 with progressive implementation over the coming years.
- Implement a five-year, \$50 million program to improve building efficiency and sustainability for social and public housing, low income owner-occupiers, and the lowest performing rental properties; this includes upgrades to government housing, and financial incentives to implement minimum energy efficiency standards in rental properties.
- Deliver at least 250MW of new 'large-scale' battery storage distributed across the ACT.
- Develop the Molonglo Commercial Centre as an all-electric commercial centre (**no new connections to gas mains network**, but allow transition gas arrangements such as tanks), in partnership with expert stakeholders, and use lessons from this project to assist the phase out of fossil-fuel gas in the ACT, and demonstrate national best practice.
- Legislate to **prevent new gas mains network connections to future stages of greenfield residential development** in the ACT in 2021-22. Future stages of Jacka and Whitlam will be all-electric.
- Commence a transition project, working with industry and other stakeholders, to advance all-electric infill developments, with a goal of **no new gas mains network connections to future infill developments** from 2023.
- Ensure **all new ACT Government buildings and facilities are fossil-fuel-gas free**, including new leases. All retrofitting in Government buildings and facilities will have a goal of net-zero emissions post retrofit.

Evoenergy GN21: Forecast Demand

- the number of connections on the volume tariffs being forecast to fall by approximately 8.2% over the period
- gas demand for Tariff VI customers in 2025-26 will be 20.43% lower than in 2019-20, decreasing by approximately 15.8% between 2021-22 (6.1m GJ) and 2025-6 (5.1m GJ)

Table 8.4 Evoenergy's revised demand forecast for Tariff VI and Tariff VB 2021–26

	2021/22	2022/23	2023/24	2024/25	2025/26
Tariff VI connections	145,872	143,621	140,719	137,351	133,975
Tariff VI total usage (GJ)	6,117,672	5,901,230	5,656,742	5,399,626	5,151,378
Tariff VB total connections	13	13	13	13	13
Tariff VB total usage (GJ)	4,226	4,160	4,093	4,027	3,965

Evoenergy GN21: Accelerated Depreciation

“As customer numbers decline, accelerated depreciation will reduce the risk that customers who find it difficult or infeasible to move away from gas will be left to pay an unfair share of costs and that Evoenergy will face asset stranding.”

Evoenergy proposed to shorten the asset lives for three categories of new investments in ACT and NSW as follows:

- high pressure mains from 80 years to 50 years (c. 2071-76)
- medium pressure mains from 50 to 30 years (c. 2051-56)
- medium pressure services from 50 to 30 years (c. 2051-56).

Evoenergy advised that this proposal would add \$1 per year to customers' gas bills.

AER's Final Decision has accepted Evoenergy's proposal.

Addressing Consumer/Community Impacts

Responding to stranded asset risk

- Need for a clear and coordinated approach to addressing stranded asset risk in a way that is fair and equitable.
- Need for a comprehensive gas transition strategy for Evoenergy's gas network in the ACT and Queanbeyan-Palerang Region.

Consumer vulnerability

- Develop our understanding of consumer vulnerability amidst the energy transition:
 - which customers are vulnerable
 - what makes them vulnerable
 - specific measures networks, regulators, and governments could undertake to address consumer vulnerability.
- Address consumer vulnerability distribution network access arrangements.

SA Case Study

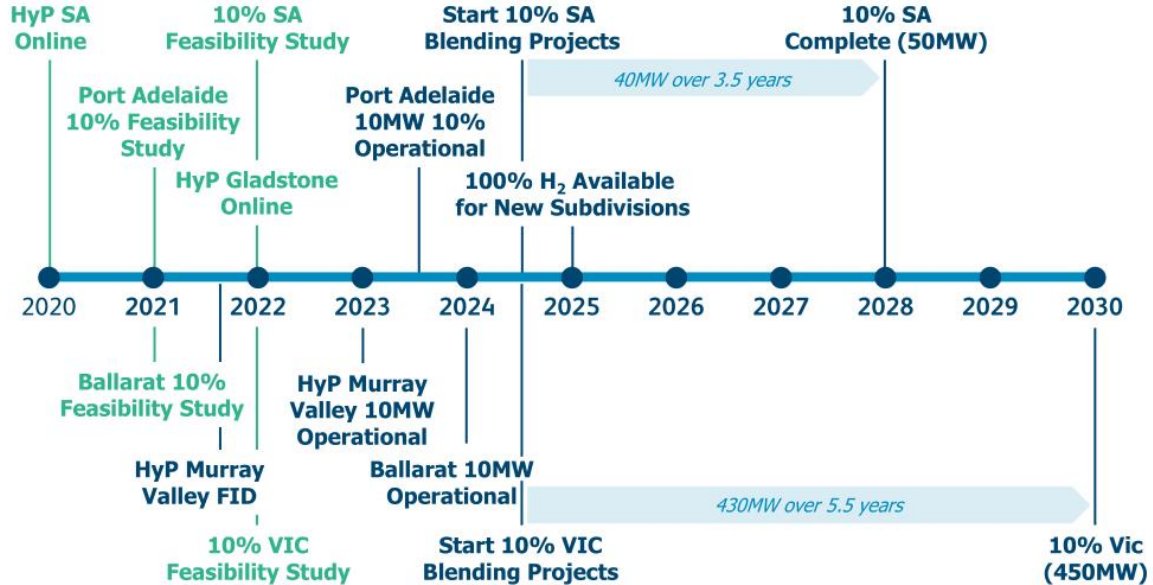
Policy environment

- South Australian Government supportive of hydrogen development
- ‘South Australia’s Hydrogen Action Plan’ released Sept 2019
 - Mostly focussed on renewable hydrogen production and export infrastructure
- Potential battleground for State Election in 2022
 - SA Labor announced \$220m plan to build, own and operate a renewable hydrogen power station

SA Case Study

Delivering the Vision | Hydrogen is Plan A – 10% Across the Networks

A mud map on how this could play out (Victoria and South Australia)



SA Case Study

Network business – AGN SA actively pursuing development of green hydrogen for reticulated gas

- Hydrogen Park South Australia ('HyP SA') – 1.25MW electrolyser, \$11.4m funded by AGN, \$4.9m from SA Gov
- Delivering 5% renewable hydrogen blend to 700 customers
- 20% renewable Unaccounted for Gas (UAFG) – legislated in future?

SA Case Study

Network business – AGN SA actively pursuing development of green hydrogen for reticulated gas

- Decision to not shorten asset lives in its 2021-26 access arrangement
- Will consider accelerated depreciation for the 2026-31 reset period – after ‘wait and see’ approach on the role of gas in a low carbon future
- More info about if 10% hydrogen blend is viable and replacement of cast iron mains gives ‘headroom’ to consider shortening asset lives

SA Case Study

Network business – AGN SA actively pursuing development of green hydrogen for reticulated gas

- Decision to not shorten asset lives in its 2021-26 access arrangement
- Will consider accelerated depreciation for the 2026-31 reset period – after ‘wait and see’ approach on the role of gas in a low carbon future
- More info about if 10% hydrogen blend is viable and replacement of cast iron mains gives ‘headroom’ to consider shortening asset lives

SA Case Study

AGN proposes 3-stage process to address future of gas

1. Development of scenarios for the future energy market given forecasts about declining energy costs, policy settings and other factors which may influence market development
2. **Development of investment and divestment plans** for each scenario to work out what assets need to be built and what assets retired in order to support that scenario
3. **Accounting for economic asset stranding**

AGN's Potential Futures

- A tube and trailer network directly supplying a relatively small number of customers, such as large industrial customers, with hydrogen, rather than relying on network delivery.
- A “trunk line” business serving major customers directly with local networks in relevant communities operated on a smaller scale by someone else connected to our hubs.
- A small and declining legacy business of supply to residential areas which already have a network connection, but unable to compete in new residential areas.
- A completely different business model whereby we have no focus on residential gas (or hydrogen) supply at all, but rather help facilitate a niche role for hydrogen in the electricity market by connecting grid-scale wind and solar producing hydrogen via spilled energy.
- Networks as the facilitators of trade in a decentralised energy market whereby various players, down to the level of individual residential households, sell hydrogen as an energy storage service into a grid, which we operate.