

# Gas

## Substitution Roadmap

UPDATE 2024

ENERGY CONSUMERS  
AT THE HEART OF  
THE TRANSITION

**VICTORIA**  
State  
Government



# Gas

Substitution  
Roadmap

UPDATE 2024



## MINISTER'S FOREWORD

### Victoria's Gas Substitution Roadmap is on track, lowering bills and emissions, and delivering reliability for Victorian families and businesses

The Hon.  
**Lily D'Ambrosio MP**

Minister for  
Energy and Resources

Minister for Climate Action

Minister for the  
State Electricity  
Commission

Gas supplies are dwindling, and it is no longer a cheap and plentiful source of energy for Victorian homes and businesses.

The Allan Labor Government is taking decisive action to deliver lower energy bills and make sure gas is available for the industries that need it.

Helping Victorians switch to electric and more efficient appliances saves families thousands of dollars on their energy bills. At the same time, we know some industries rely on gas, and we must bring on additional supply to balance demand.

We will continue to work with the Commonwealth and south-eastern states to secure the supply needed during the energy transition.

Our work to date has laid out a long-term vision for energy efficiency, electrification and renewable gases. Now, the 2024 Gas Substitution Roadmap looks to ensure the gas market works for Victorian families and businesses. Victorians expect their government to help them lower energy bills, and make sure they have the reliable energy they need.

The Allan Labor Government is securing gas supply while we continue to deliver cheaper, cleaner power for our future.

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We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it.

We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

DEECA is committed to genuinely partnering with Victorian Traditional Owners and Victoria's Aboriginal community to progress their aspirations.



## Executive summary

The Gas Substitution Roadmap and its annual updates lay out our long-term plans for each sector in the energy transition, to save Victorian families and businesses money on their energy bills.

Gas is no longer a cheap and plentiful source of energy. And while Victoria's gas wholesale prices have nearly doubled in the last three years, Victorians continue to pay the lowest unit cost for retail prices compared to other jurisdictions. However, compared to 2021–22, Victorian residential customers are paying around \$500 more, or 34 per cent more.

Our efforts to transition homes and businesses from gas to electric are working. Since the introduction of electrification activities through the Victorian Energy Upgrades Program in May 2023, over 24,000 gas heaters and over 34,000 gas hot water systems have been upgraded to efficient electric alternatives.

This is delivering real savings for Victorians: a new, all-electric home running on solar saves up to \$1,820 a year on energy bills. These savings are even greater for a typical existing Victorian home, which could save around \$2,000 per year by going all-electric when paired with an existing solar PV system.

From 1 July 2024, new homes requiring a planning permit are being built all-electric. This means Victorians aren't just saving money on their energy bills, but also up to \$400 a year on gas connection fees.

We have prevented gas companies from charging Victorians exorbitant fees to disconnect and cracked down on inducements that lock families and businesses into costly contracts.

Despite these measures, gas supply is falling faster than demand, and new transitional supply is needed to prevent shortfalls.

Dwindling gas supplies represent a challenge for the southern states of South Australia, Victoria, Tasmania and New South Wales. The Victorian Government will continue advocating for national reforms to deliver the transitional supply Victorians need.

We recognise some industries rely on gas – and will continue to do so in the future.

But for many businesses, transitioning to electric will cut their energy bills, while freeing up supply for those who need it.

Through the Gas Substitution Roadmap, the Victorian Government is advancing our plan to reduce bills, reduce emission and improve reliability for Victorians.



# 1

## Introduction

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The Gas Substitution Roadmap is helping Victoria move away from fossil gas – cutting energy bills for Victorian families and businesses, and reducing greenhouse gas emissions.

The 2023 Gas Substitution Roadmap Update outlined our key priority of accelerating electrification of household and commercial fossil gas usage. In 2024, we have taken strong action to achieve this by:

✓ Requiring all new homes requiring a planning permit to be built as all-electric	✓ Launching the State Electricity Commission Electric Home Planner to help Victorian families go all-electric and save on their energy bills
✓ Requiring small second dwellings (granny flats) to be built as all-electric	✓ Funding feasibility assessments for large commercial and industrial businesses to slash their energy bills and boost competitiveness by getting off gas through the Victorian Large Energy User Electrification Support Program
✓ Strengthening national efficiency standards for new homes, including an increase to 7-star and introduction of a whole-of-home energy budget	✓ Publicly consulting on proposed additional minimum energy efficiency standards for renters to deliver more comfortable and energy-efficient homes
✓ Launching the Solar for Apartments program, providing funding of up to \$2,800 per apartment to install solar panels	✓ Commencing consultation on draft regulations to progressively electrify Victorian homes and many commercial buildings
✓ Prohibiting Victorian gas distribution businesses needlessly locking Victorians into decades of higher energy bills by offering inducements to connect to gas or purchase and install gas appliances	✓ Releasing an Industrial Renewable Gas Guarantee Directions Paper to test options for developing a thriving renewable gas sector
✓ Bolstering the Solar Homes and the Victorian Energy Upgrades programs, Victoria's flagship energy efficiency and electrification programs	



## Victoria is making progress but continued action is needed

The reasons Victoria should accelerate the transition away from fossil gas are more pressing than ever: ongoing gas supply risks, increasingly expensive gas bills, and the need for the state to reduce its greenhouse gas emissions.



**Gas retail prices continue to rise**

Victoria has the cheapest gas bills in the country. But the cost of gas has increased by 41 per cent for households, and 67 per cent for businesses, in the past three years.<sup>1</sup>



**Fossil gas supplies are in decline**

The Australian Energy Market Operator forecasts that Victoria's fossil gas production will almost halve from 2024 to 2028<sup>2</sup>



**Cutting gas use is critical to meeting greenhouse gas emissions targets**

Fossil gas currently contributes approximately 16 per cent of Victoria's greenhouse gas (GHG) emissions, mostly in the state's building stock.

<sup>1</sup> Essential Services Commission (September 2024) Victorian Energy Market Report [esc.vic.gov.au/sites/default/files/documents/Victorian%20Energy%20Market%20Report%20-%20September%202024.pdf](https://esc.vic.gov.au/sites/default/files/documents/Victorian%20Energy%20Market%20Report%20-%20September%202024.pdf)

<sup>2</sup> Australian Energy Market Operator (2024), 2024 Victorian Gas Planning Report Update [aemo.com.au/-/media/files/gas/national\\_planning\\_and\\_forecasting/vgpr/2024/2024-victorian-gas-planning-report-update.pdf](https://aemo.com.au/-/media/files/gas/national_planning_and_forecasting/vgpr/2024/2024-victorian-gas-planning-report-update.pdf)



## Reducing energy bills

In Victoria, most of our gas use is in homes for space heating (approximately 60 per cent of all residential sector gas use) and water heating (approximately 36 per cent of all residential sector gas use).<sup>3</sup>

Gas bills are expected to remain high in the face of an increasingly tight supply and demand balance in the east coast gas market.



## Victorian Government is taking action to ensure fossil gas supply

Southern states' fossil gas demand is predicted to exceed supply annually by 2028 (as per [Figure 1](#)), with annual shortfalls for South Australia, Victoria, Tasmania, and New South Wales predicted thereafter. This is despite forecast reductions in demand from 186 PJ per year in 2024 to 146 PJ per year by 2035.

This scenario underscores the need for new transitional fossil gas supply alongside redoubled efforts to reduce Victorian residential and business fossil gas usage. In 2024, the Victorian Government took a range of actions to accelerate critical fossil gas production.

This included:

- Granting of production approvals to commence production at Beach Energy's Enterprise field in the Otway Basin.
- Approved production licenses arising from exploration permits as part of the joint authority process with the Commonwealth at Beach Energy's La Bella and Artisan fields, also in the Otway Basin.
- Legislated the Offshore Petroleum and Greenhouse Gas Storage Amendment Bill 2024 to allow offshore underground storage of fossil gas, paving the way for the Golden Beach Energy Storage project.
- Facilitated the smooth regulatory processes to support the expansion of the Iona Gas Storage Facility as part of the Heytesbury Underground Gas Storage (HUGS) project.
- Victoria successfully advocated for Energy Minister's to work with AEMO to advise on potential expanded powers for AEMO to address East Coast gas supply issues, and report back to the first meeting of Energy and Climate Change Ministerial Council (ECMC) in 2025.



## Meeting legislated emission targets

Meeting Victoria's legislated emission reduction target of 45-50 per cent by 2030 assumes a significant cut in fossil gas usage.

In other sectors, the costs of abating emissions are higher, meaning that failing to get greenhouse gas emissions down in residential and commercial gas use adds to the total costs of transition.

<sup>3</sup> Northmore Gordon and Energeia (2021), Gas Infrastructure Advice – Cost benefit analysis of energy efficiency activities in the gas sector [assets.infrastructurevictoria.com.au/assets/Resources/Cost-Benefit-Analysis-of-Energy-Efficiency-Activities-in-the-Gas-Sector.pdf](https://assets.infrastructurevictoria.com.au/assets/Resources/Cost-Benefit-Analysis-of-Energy-Efficiency-Activities-in-the-Gas-Sector.pdf)





## Offshore Petroleum and Greenhouse Gas Storage Amendment Bill 2024 and Golden Beach Energy Storage

In October 2024, the Victorian Parliament passed the Offshore Petroleum and Greenhouse Gas Storage Amendment Bill 2024. This legislation helps deliver the investor certainty required for GB Energy, developers of the \$750 million Golden Beach Energy Storage project, to move towards final investment decision.

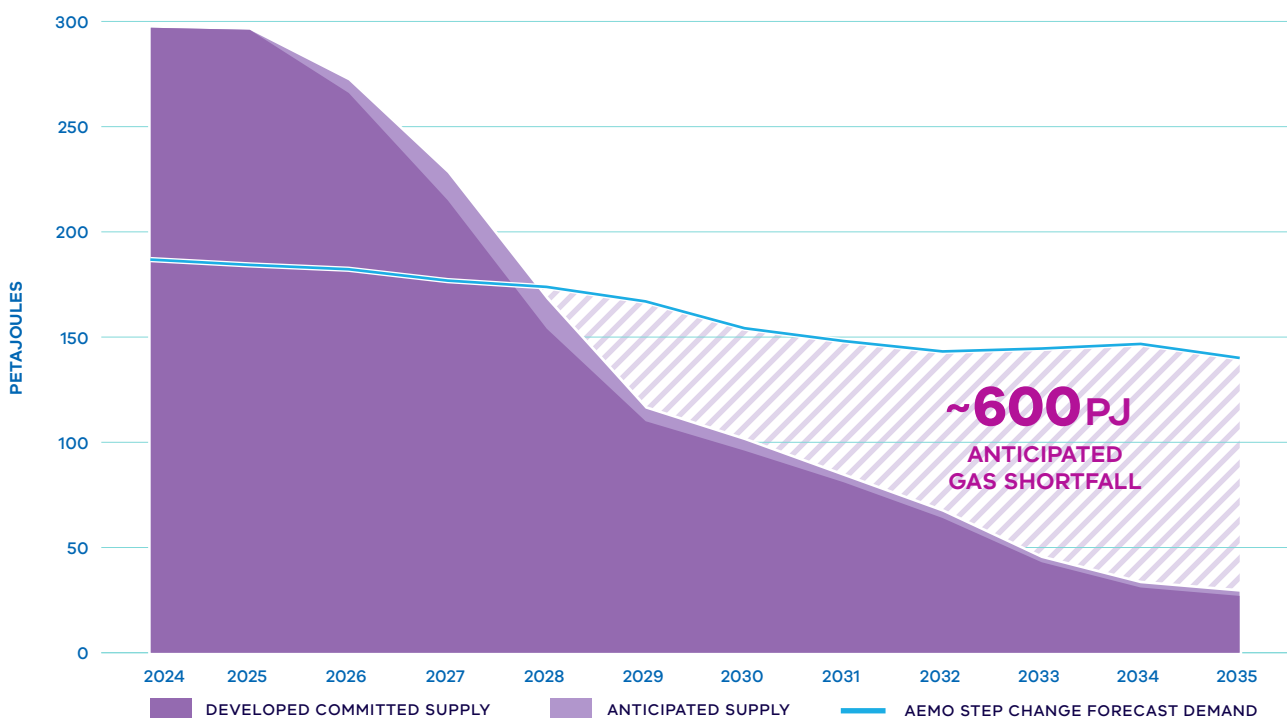
This project will boost Victoria’s gas storage capacity by over 70 per cent, bolstering the east coast gas system’s resilience to short sharp increases in demand, especially critical during the brief but substantial cold snaps on the east coast.

By winter 2028, the project is expected to produce up to 30 petajoules (PJ) over the course of a year which equals about a quarter of Victoria’s annual household and small business consumption.

Once this shallow reservoir is partially depleted, it will then transition into an underground storage facility, providing approximately 18.75 PJ of storage, increasing Victoria’s gas storage capacity by over 70 per cent.

The Australian Energy Market Operator (AEMO) noted the critical role that deep storage will have to play across the east coast through the renewable energy transition, as gas plays a more critical role providing ‘peaking’ services as renewables gradually deliver the bulk of our electricity needs.

**FIGURE 1** Victoria gas forecast  
SUPPLY VERSUS DEMAND 2024–2035 AEMO 2024



# Our latest reforms follow three years of nation-leading action

With the release of the pivotal Gas Substitution Roadmap in 2022, Victoria became the first state in Australia to clearly articulate the journey needed to move away from fossil gas. In just a few short years, dozens of commitments have been delivered.

## 2023

### ✓ \$31 million Business Recovery Energy Efficiency Fund

BREEF program concludes in July 2023, delivering 108 energy management projects in energy efficiency upgrades – reducing greenhouse gas emissions by 25,000 tonnes per year, providing \$13 million in financial benefits to business, providing 90 jobs during delivery and another 40 ongoing roles

### ✓ \$8 million Waste to Energy Fund: Bioenergy Fund

Awards \$8 million in grants to 24 recipients including water corporations, local government, agribusiness and food processing businesses for a range of innovative projects to expand renewable bioenergy generation in Victoria, to run until March 2025

### ✓ All-electric new public and government buildings

Government commits to build all new public and government-owned buildings that are yet to reach design stage as all-electric

### ✓ Clean Economy Workforce Development Strategy 2023–2033

Released

### ✓ \$1 billion new SEC established

\$1 billion investment to accelerate renewable energy transition, support households to switch to electric, and build Victoria’s renewable energy workforce

### ✓ \$220 cap on gas disconnections

Following Victoria’s strong advocacy, the Australian Energy Regulator capped the fee for gas service abolishment at \$220 (excluding GST), making it easier to disconnect and eliminate ongoing daily supply charges

## 2024

### ✓ New homes all-electric

All new homes requiring a planning permit required to be all-electric

### ✓ Gas connection incentives banned

Victorian gas distribution businesses prohibited from offering incentives to connect residential buildings to gas or to purchase and install gas appliances

### ✓ High pressure sales banned

High pressure sales tactics like telemarketing and door-knocking banned in Victoria’s flagship energy efficiency and electrification programs – Solar Homes and Victorian Energy Upgrades

### ✓ 7-star standard begins

Strengthened national efficiency standards for new homes, including an increase to 7-star and introduction of a whole-of-home energy budget comes into effect

### ✓ Heat pump water heaters in VEU and Solar Homes

Heat pump water heaters approved for use in Victorian Energy Upgrades and Solar Homes programs had a new requirement introduced where a product is required to use low global warming potential refrigerants (R32 or below)

### ✓ Rental homes energy efficiency standards consulted

Proposed energy efficiency standards for rental homes released for public consultation

### ✓ Solar for Apartments begins

Program providing funding of up to \$2,800 per apartment to install solar panels

### ✓ SEC Electric Home Planner

Launched to help Victorians understand their home energy use and switch to all-electric, piloting a new digital platform to remove guesswork and simplify the process

<p>✓ <b>Renewable Gas Consultation Paper released</b></p> <p>Seek feedback on policy options for scaling up a renewable gas sector in Victoria</p>	<p>✓ <b>Electric heat pump water heater installation made easier</b></p> <p>Plumbing Regulations 2018 amended to remove a barrier to installing efficient electric heat pump water heaters in new homes</p>
<p>✓ <b>Fossil gas residential appliance incentives phased out</b></p> <p>Incentives for fossil gas residential appliances phased out of the Victorian Energy Upgrades program, and new electrification incentives included</p>	<p>✓ <b>Victorian Gas Substitution Roadmap Update 2023</b></p> <p>Released</p>
	<p>✓ <b>Security and reliability of gas</b></p> <p>Victoria initiates significant regulatory reforms of the east coast gas market to boost security and reliability of gas supply</p>

## 2023–2027

<p>✓ <b>Energy Efficiency in Social Housing</b></p> <p>Delivering more than 18,000 energy efficiency and electrification upgrades for social housing. Another \$92 million in matched funding from the Commonwealth is being invested in a further 5,000 social housing upgrades over the next four years</p>
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<p>✓ <b>Victorian Large Energy User Electrification Support launched</b></p> <p>Providing funding for electrification feasibility assessments for large commercial and industrial business facilities that use between 10 and 100 terajoules of gas per year</p>	<p>✓ <b>Incentives for efficient electric induction cooktop</b></p> <p>Included in Victorian Energy Upgrades program</p>
<p>✓ <b>Victorian Energy Upgrades extended</b></p> <p>VEU program legislated end-date extended to 2045 to align with Victoria's net-zero emissions target, and providing long term certainty for investment. Energy saving targets for Victorian Energy Upgrades set for 2026 and 2027</p>	<p>✓ <b>The Industrial Renewable Gas Guarantee Directions Paper</b></p> <p>Released</p>
	<p>✓ <b>Electrifying new buildings RIS</b></p> <p>A RIS exploring options for progressively electrifying all new residential and many commercial buildings (where appropriate electric alternatives are available) and existing buildings released for public consultation</p>

## 2024–2026

<p>✓ <b>Victorian Energy Upgrades strategic review</b></p> <p>To ensure the program is fit for purpose for the future and supports electrification of homes and businesses at scale</p>
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# 2

## Empowering households to electrify

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The Victorian Government delivers a wide range of initiatives to help Victorian households to use less gas, slashing energy bills immediately.



## Energy bill savings and emissions reductions from electrifying your home

Residents of a typical *new*, all-electric detached home (without solar) will spend around \$2,070 per year on energy bills, compared with around \$2,950 per year for a dual-fuel (electric and gas) home. That means going all-electric will put around almost \$900 per year back in the pockets of new homeowners. Savings can increase to approximately \$1,820 a year for households choosing to install solar panels.

Converting an *existing* home with solar panels from gas to electricity can save around \$2,000 a year on energy bills. If the existing dual-fuel home does not have solar panels, converting to all-electric will save around \$1,700 per year.

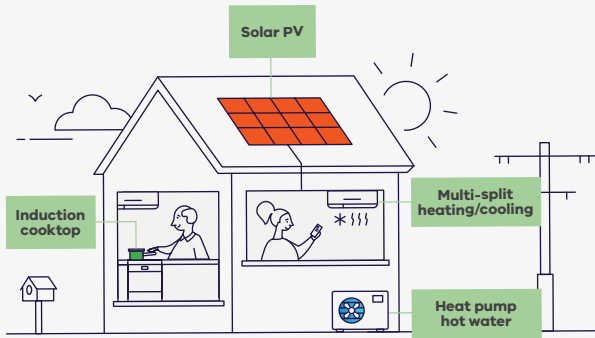
The Victorian Government offers extensive support at every step of the home electrification journey – whether you live in an apartment, detached house or townhouse, own your own home or rent. Since the VEU program introduced new electrification activities in mid-2023, more than 24,000 Victorians have switched to efficient electric heating and cooling and more than 34,000 Victorians have upgraded from a gas water heater to a heat pump water heater. Solar Homes program rebates have supported the installation of over 24,000 heat pump hot water heaters in the financial year 2023-2024.

With the introduction of discounts for electric induction cooktops, the VEU program now provides incentives to replace all major household appliances that use natural gas or liquefied petroleum gas.

Since commencing in August 2018, the Solar Homes program has provided around 350,000 rebates and loans (as of 6 November) to eligible Victorian households to support the installation of solar PV, heat pump or solar hot water systems, and battery systems. Electrification of homes helps households, including renters, to make the most of their solar systems, saving more by using free fuel from the sun, rather than paying for electricity from the grid.

## Costs of a new all-electric home versus a new dual-fuel home

### All-electric:



#### Appliance and install costs

Cooling	\$11.6k
Heating	
Hot water	\$4.2k
Cooktop	\$2.3k
Additional wiring	\$0.9k
<b>Total (appliance + installation)</b>	<b>\$19k</b>

#### Bill savings\*

Heating/Cooling	\$370 saving
Hot water	\$160 saving
Cooktop (inc. fixed charge)	\$350 saving
<b>Total savings</b>	<b>\$880 saving</b>
<b>Annual energy bill</b>	<b>\$2,070</b>

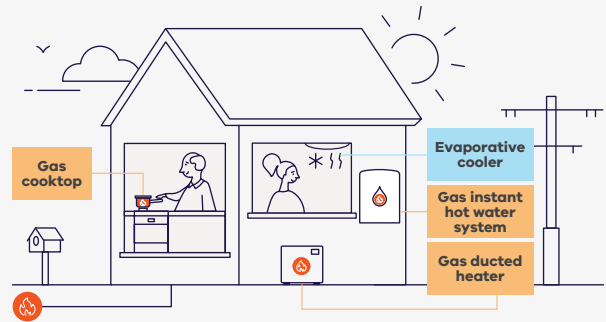
#### Solar

Solar installation cost (6.6 kW)	\$3,860**
Solar saving	\$940 saving
<b>Annual energy bill (with solar)</b>	<b>\$1,130</b>

\*Average annual savings, 2024 dollars

\*\*Solar installation cost includes small-scale technology certificates (STCs) and Solar Homes rebate

### Dual-fuel:



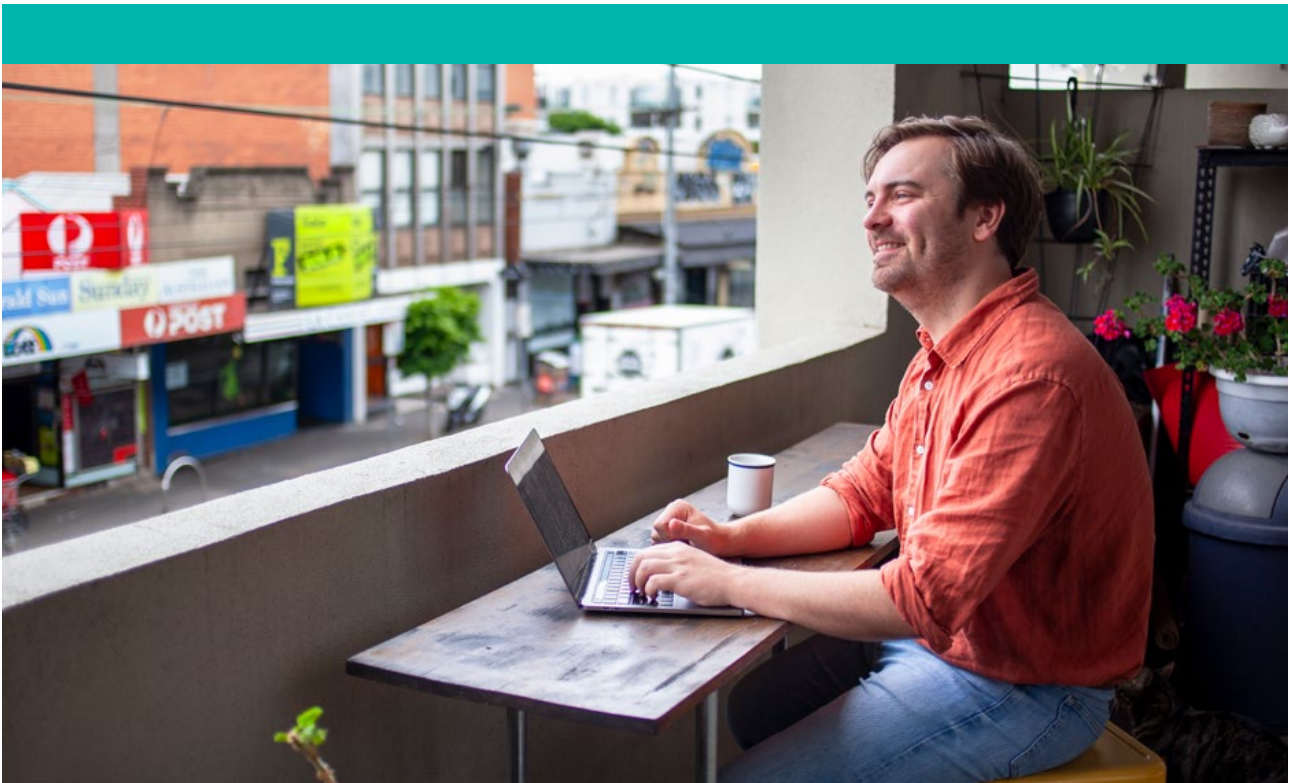
#### Appliance and install costs

Cooling	\$11.4k
Heating	
Hot water	\$2.7k
Cooktop	\$1.9k
Gas pipework installation cost	\$1.3k to \$5k
<b>Total (appliance + installation)</b>	<b>\$17.3k to \$21k</b>

#### Bill costs

Electricity bill	\$1,520
Gas bill	\$1,430
<b>Annual energy bill</b>	<b>\$2,950</b>

**SOURCE** Costs of converting an existing or new home dual-fuel to all-electric twin multi-split heating-cooling, Save money and the environment with your new all-electric home fact sheet, Victorian Gas Substitution Roadmap [energy.vic.gov.au/renewable-energy/victorias-gas-substitution-roadmap](https://energy.vic.gov.au/renewable-energy/victorias-gas-substitution-roadmap)



## Solar for Apartments

The Solar for Apartments program, launched in February 2024, will help around 5,000 households including owners and renters to save money on the upfront cost of installing solar, cut their energy bills, improve the value of the apartments and reduce emissions.

The Solar for Apartments program makes it easier for households in apartment buildings, townhouses and units across the state, to go solar by removing existing barriers for installing solar. Solar for Apartments is jointly funded by the Victorian and Commonwealth Governments.

## Energy assessments for existing homes using the scorecard assessment

The Victorian Government continues to deliver the Residential Efficiency Scorecard nationally on behalf of all jurisdictions, making home energy assessments available to all Australians, and supporting the expansion of the Nationwide House Energy Rating Scheme to include existing homes.

A Scorecard assessment rates your home's energy performance and comfort in extreme weather and provides tailored recommendations for improvement.

The Scorecard certificate provides an easy-to-understand snapshot of how your home's energy use compares with the average home, how well it copes with hot and cold weather, and to quickly see how to improve your home's performance and save money on your bills.

In 2024 the largest number of assessments were delivered in the history of the program. An increasing number of Victorians are taking up the opportunity to receive a free or lower cost assessment, with over 85 per cent of all ratings in Victoria delivered through the Home Energy Rating Assessment activity of the Victorian Energy Upgrades program since its introduction.

➤ Residential Efficiency Scorecard [energy.vic.gov.au](https://energy.vic.gov.au)





## SEC home electrification journey

The SEC is offering simple and practical solutions to help Victorians understand their home energy use and make the switch to all-electric.

As part of developing the SEC's one-stop shop for households, the SEC is piloting a new digital home planner that helps take the guesswork out of going electric. The Electric Home Planner is a free, user-friendly platform that walks users through a short survey about their home and energy usage and then tailors a plan to cut their energy bills through progressively going all-electric. It includes suggestions for suitable appliances, indicative costs, return on investment, government rebates, and emissions reductions.

Households in the Cities of Ballarat, Casey and Merri-bek can connect with SEC-endorsed installers that service their local area. Residents in Ballan can also compare heat pump hot water products and connect with installers.

The process aims to make going all-electric more seamless – from planning to installation.

The SEC is also informing households about improvements available to households on all budgets. This includes small, cost-effective steps that can be taken immediately, to larger investments that can be made when their current appliances reach end of life.

The SEC pilot program is directly informing how the SEC develop future products and services to support Victorians to reduce their energy bills through a structured user research and evaluation process.

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[➤ secvictoria.com.au/households/why-go-electric](https://secvictoria.com.au/households/why-go-electric)

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[➤ secvictoria.com.au/powerup](https://secvictoria.com.au/powerup)

# Making it easy to electrify your existing home

The Victorian Government understands that for busy Victorian families, navigating the energy sector can be a complex and daunting experience. That's why there are a range of supports on offer to simplify these interactions, on top of the financial incentives in place through the VEU and Solar Homes programs.

## 1 Plan to electrify your home

Make a plan to switch your home to electric using **SEC electric home planner**

➤ [secvictoria.com.au/powerup](https://secvictoria.com.au/powerup)

**Residential Efficiency Scorecard** will rate you how efficient your home is and provide tailored advice for efficiency improvements – the best way to make sure your efficiency dollar goes further

➤ [homescorecard.gov.au](https://homescorecard.gov.au)

## 2 Start with efficiency

Insulation, draught proofing and efficient lighting and appliances reduce energy use and make it easier and cheaper to keep homes warm in winter and cool in summer

## 3 Electrify heating and hot water

When replacing your heating or hot water system, consider installing an efficient electric heat pump or reverse cycle air conditioner – and get bonus cooling

Up to **\$5,600 discount** for reverse cycle air con system from VEU

Up to **\$490 discount** for heat pump hot water systems from VEU

**\$1,000 rebate** for heat pump hot water systems from Solar Homes

➤ [solar.vic.gov.au/solar-homes-program](https://solar.vic.gov.au/solar-homes-program)

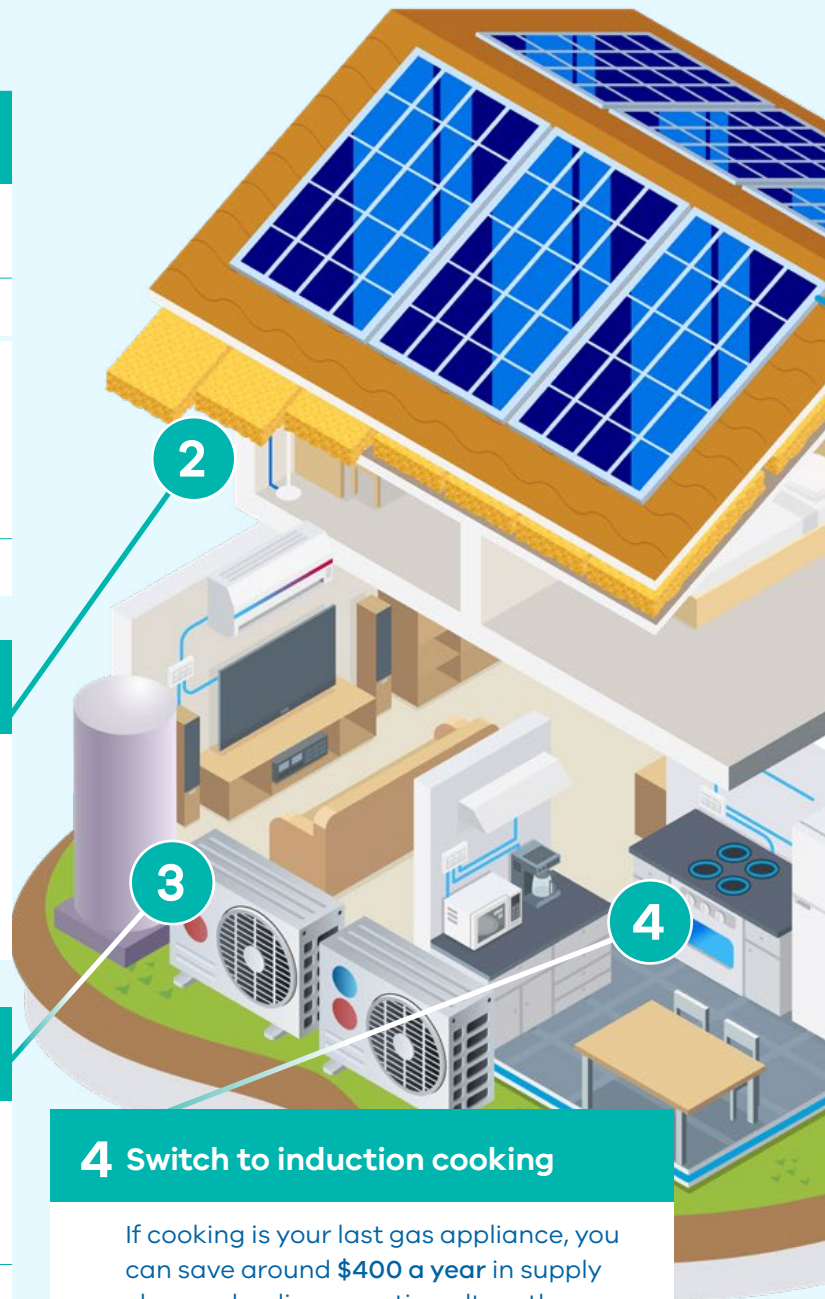
➤ [energy.vic.gov.au/victorian-energy-upgrades](https://energy.vic.gov.au/victorian-energy-upgrades)

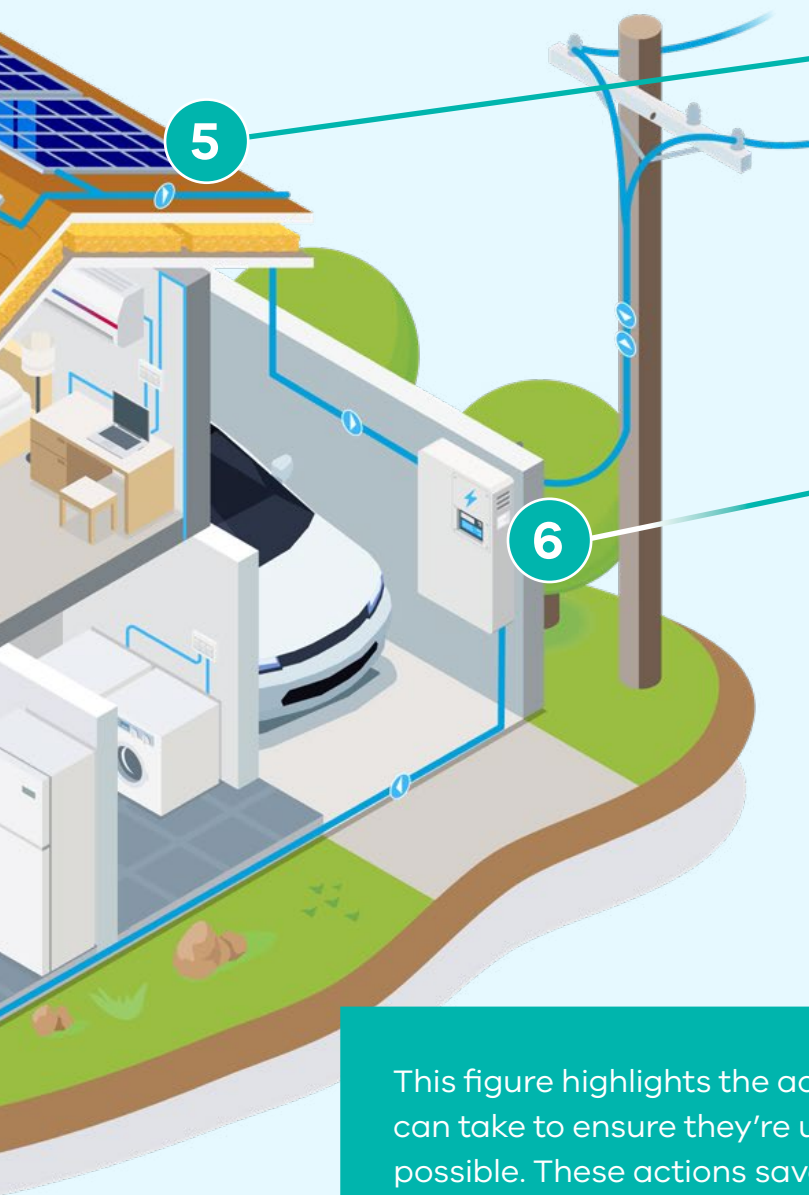
## 4 Switch to induction cooking

If cooking is your last gas appliance, you can save around **\$400 a year** in supply charges by disconnecting altogether

**\$140 discount** for induction cooktop from VEU

➤ [energy.vic.gov.au/victorian-energy-upgrades](https://energy.vic.gov.au/victorian-energy-upgrades)





## 5 Go solar

Installing solar can cut your bills even further, helping to pay off investments in efficiency and electrification even sooner

Up to \$1,400 rebate from Solar Homes

➤ [solar.vic.gov.au/solar-homes-program](https://solar.vic.gov.au/solar-homes-program)

## 6 Battery storage

Households with solar can cut bills and emissions further by installing a battery to store solar generated during the day for use at night

➤ [solar.vic.gov.au/solar-homes-program](https://solar.vic.gov.au/solar-homes-program)

This figure highlights the actions that Victorian households can take to ensure they're using their energy as efficiently as possible. These actions save households money right away. More significant actions, like replacing appliances, make most sense at end-of-life or as part of renovation projects.



## Scaling up electrification of new and existing homes

The Victorian Government's important decision to require new homes requiring a planning permit to be all-electric is already encouraging developments to make the switch.

The Council Alliance for Sustainable Built Environment (CASBE) has seen new residential approvals that selected "no gas supplied" go from 51 developments in July 2023 to 292 in July 2024, (see **Figure 2**). The Building Electrification RIS will publicly consult on options to require end-of-life replacement of gas heaters and hot water systems with efficient electric alternatives. It will also consult on expanding the all-electric requirements for new construction – currently only applying to new homes requiring a planning permit – to all new homes and many new commercial buildings.

Any decisions on these next steps will be subject to a future government decision. We are seeking feedback from Victorian households and industry regarding proposed reforms before any final decision is made.

The proposed changes will not impact gas cooktops in existing homes. Gas use in industrial, agricultural and manufacturing sectors where cost-effective electric alternatives are not yet commercially feasible, and reticulated and bottled LPG are also out of scope for the proposed regulatory changes.

## Energy efficiency standards for rental homes

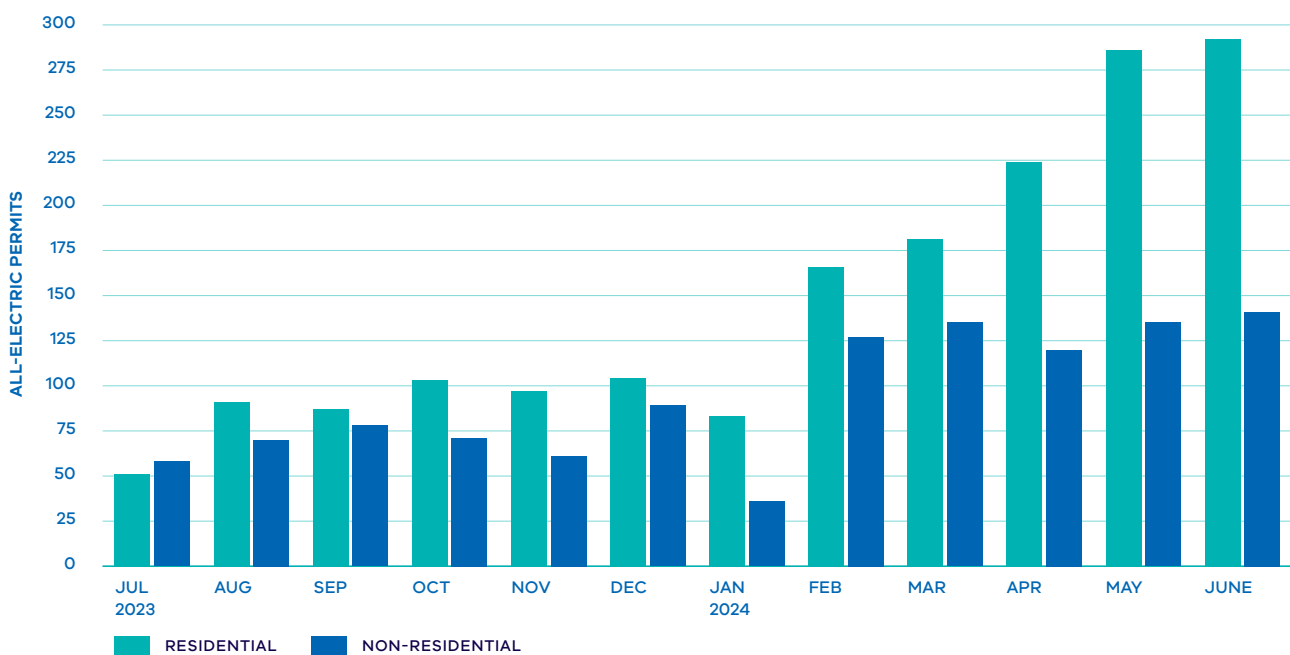
The Victorian Government is considering feedback in response to a RIS and draft regulations proposing new mandatory standards for ceiling insulation (in uninsulated homes), draught-sealing, cooling and end-of-life replacement of gas heating and hot water systems with efficient electric alternatives which was released for public comment in June 2024.

A decision on the next steps will be determined in the first half of 2025, along with the consideration of feedback to the building electrification RIS that has just been released. These two important processes need to be considered together so that the transition can continue in a fair and efficient manner.

The consultation closed with over 2,200 responses received from stakeholders. All feedback received will be considered by the government when it develops the final regulations.

**FIGURE 2** Trend in builds going all-electric

VICTORIAN LOCAL GOVERNMENT AREAS JULY 2023 TO JUNE 2024



**SOURCE** Projects in BESS are dynamic and are revised by users in BESS throughout the planning permit process of a project, sometimes over several years. Only the latest version of a project is included in BESS data [casbe.org.au](https://casbe.org.au)



## Stronger consumer protections and fairer network charges

Victorian households and businesses must be at the heart of the state's transition away from fossil gas. As the energy system changes, it is important that Victoria's nation-leading consumer protections framework evolves to uphold these protections.

The Victorian Government has commenced a review of protections for consumers of resources used to generate, store, manage or sell energy – such as through solar photovoltaic (PV) panels, household batteries, electric vehicles (EVs), electric vehicle charging and smart energy devices. The Victorian Government also plays an important role in monitoring the broader energy retail market to understand changes that could affect consumers.

The Victorian Government is taking action to ensure Victoria's consumer protection and energy market rules evolve and continue to meet the state's needs as we continue to transition to renewable energy.

- From April 2024, the government prohibited Victorian gas distribution businesses from needlessly locking Victorians into decades of higher energy bills by offering inducements to connect to gas or purchase and install gas appliances
- From August 2024, high pressure sales tactics like telemarketing and door-knocking were banned in Victoria's flagship energy efficiency and electrification programs – Solar Homes and Victorian Energy Upgrades
- The AER has capped gas abolishment fees at \$220 (ex GST), further lowering the cost of going all-electric
- The Essential Services Commission in October 2024 updated the GDCoP to include revised rules for new gas connections and gives additional protections for Victorian gas network customers. This includes that from 1 January 2025, customers will pay full up-front costs of a new gas connection instead of the cost being shared by all gas-users, bringing gas in line with current practice for new electricity and water connections.

This update outlines our commitment to extending this framework in two ways:

- 1 The government is taking steps to boost transparency in the gas market by making local consumption data from gas distribution businesses publicly available. This will improve our understanding of how fossil gas consumption is evolving both locally and across the state to support evidence-based decisions about the future of gas networks.
- 2 The Essential Services Commission will consider how to simplify and standardise timeframes, procedures, charges and billing arrangements related to abolishment of gas connections.<sup>4</sup>

On top of a robust consumer protections framework, Victoria also provides the most generous energy affordability assistance in the country for those who are struggling with their energy bills, laid out below.

Analysis from the Institute for Energy Economics and Financial Analysis (IEEFA) indicates that gas network owners across Australia have earned billions of dollars above regulated rates of return for an extended period. This has directly added 5 per cent to the average household gas bill each year.<sup>5</sup>

Regulatory frameworks currently in force were developed to encourage network growth, and were not developed to ensure the reliable, secure, and affordable delivery of gas in a network with gradually declining consumption patterns.

Careful consideration is required to ensure that regulation and policy provide a secure and predictable environment for end users and business investment. The Victorian Government is monitoring the network to ensure it remains fit for purpose, delivering value for users, operators, and producers.

4 Essential Services Commission 2024, Energy Retail Code of Practice review: Issues Paper, 6 June 2024 [engage.vic.gov.au/energy-retail-code-of-practice-review](https://engage.vic.gov.au/energy-retail-code-of-practice-review)

5 Institute for Energy Economics and Financial Analysis, Gas networks are making persistent and significant supernormal profits, 2024



## Energy affordability assistance for households and business

The Victorian Government is supporting households and businesses through a range of grants, incentives for energy upgrades and other financial supports.

### Household supports

<b>Energy concessions program</b>	A range of energy concessions are available to eligible concession card holders to help reduce bills, providing a 17.5 per cent discount off annual electricity bills and gas bills during winter. This includes the Excess Gas Concession and Non-mains Energy Concession for LPG users.
<b>Utility Relief Grant Scheme</b>	Provides up to \$650 per utility every two years to low income Victorians experiencing unexpected hardship to pay utility bills.
<b>Payment Difficulty Framework</b>	A set of energy rules to prevent residential customers getting into debt with their retailer, simplify the bill paying process, and ensure disconnection for non-payment is a measure of last resort.
<b>Energy Assistance Program</b>	Provides one-on-one help to navigate the energy market, apply for grants and concessions, find and switch to better offers and address billing errors.
<b>Energy Bill Relief Fund</b>	The Victorian Government has partnered with the Commonwealth Government to deliver the 2024-25 fund. Most Victorian households will receive up to \$300 to help with the cost of their electricity bills.
<b>Victorian Energy Compare (VEC)</b>	An independent Victorian Government energy price comparison site that helps households and businesses compare electricity, gas and solar market offers.
<b>Victorian Default Offer (VDO)</b>	The VDO is a reasonable electricity price set by the Essential Services Commission that all retailers are required to offer to their customers. The VDO operates as a trusted safety net for customers unwilling or unable to engage in the market.



## Business supports

<b>Victorian Energy Compare (VEC)</b>	Small businesses can also use the Victorian Government's energy price comparison website, Victorian Energy Compare, to compare offers from other retailers.
<b>Victorian Default Offer (VDO)</b>	Small businesses that use less than 40 megawatt hours of electricity per year are eligible for the VDO. The VDO operates as a trusted safety net for electricity retail customers who are unwilling or unable to engage in the market.
<b>Victorian Energy Upgrades (VEU)</b>	The VEU program is providing incentives for businesses to lower gas consumption, for example through incentives to replace gas boilers, water heaters and other appliances with energy efficient electric heat pumps and other electric appliances. Since 2009, the VEU program has supported more than 170,000 businesses.
<b>Energy Bill Relief Fund</b>	The Victorian Government has partnered with the Commonwealth Government to deliver the 2024-25 fund. The fund is providing eligible Victorian small businesses with \$325 in 2024-25.

## Efficiency and electrification upgrades for social housing

The Victorian Government is helping Victorians living in social housing transition to cheaper, more efficient energy and appliances.

The Energy Efficiency in Social Housing Program (EESHP) has delivered more than 18,000 efficiency upgrades, equipping social housing with efficient heating and cooling systems, hot water heat pumps, electric cooktops, ceiling insulation, draught sealing, and solar panels. Over 1,000 solar PV systems have been installed through the Solar Homes Program.

The Big Housing Build program is delivering over 12,000 new social housing properties, and an all-electric specification has been pursued wherever possible since the commencement of the Program in 2020.

All newly designed homes are now all-electric in specification.

The Victorian Government is partnering with the Commonwealth Government to deliver phase two of the EESHP, investing \$92 million in matched funding to improve the energy efficiency and liveability of 5,000 social housing properties by June 2027. As well as installing a range of modern, energy-saving technologies to slash bills and emissions, these homes will be disconnected from the gas network to support full electrification, where it is possible.



## Small-scale energy networks by Homes Victoria



Homes Victoria has partnered with Energy On to deliver local small-scale energy grids that supply electricity to social housing renters at four all-electric sites across Melbourne – Ascot Vale, Ashburton, Heidelberg West and Hawthorn.

The homes all have electric cooking, reverse-cycle air-conditioners, and energy-efficient heat pump hot water systems. Each of the sites is powered by 100 per cent renewable energy; a combination of on-site power from solar PV and renewable energy purchased as accredited GreenPower. The Local Energy Networks (LENs) allow for 100 per cent GreenPower to be supplied to all renters across the four sites. This adds to the demand for renewable electricity in the grid and helps create an additional market for renewable electricity projects, supporting Victoria's move away from gas and towards our state's target of net-zero emissions by 2045.

Through its partnership with Energy On, Homes Victoria offers renters a tailored energy package that can reduce their average energy bill by \$400 per year compared to the current Victorian Default Offer.

A quarterly pricing review ensures that the prices offered to renters are always equal to or cheaper than the best offer in the market, with a price match guarantee ensuring renters always get the best energy deal in the market. The number of homes where LENs were not available went from 247 to 714 homes where LENs were made available.

The successful roll-out of LENs across the four sites successfully proved that LENs can be used to provide renewably generated/GreenPower electricity to social housing renters at or below market rates. The project also gave Homes Victoria valuable experience in partnering with a Local Energy Network Operator and managing LENs across multiple sites. The learning generated through this project could be applied to potential LEN projects undertaken by Homes Victoria in the future.



# 3

## Working with business and industry

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Energy security is critical to commercial confidence, driving future investment, job creation and economic growth across Victoria. This underpins the Allan Labor Government's approach of reducing fossil gas demand where it makes sense, while accelerating transitional supply to deliver reliable energy to Victoria's industrial sector.



## Encouraging commercial and industrial electrification

Energy security is essential for job creation and economic growth across Victoria. That is why the government's pragmatic mix of policies to reduce fossil gas usage where it makes sense, and to bring on new transitional gas supply and storage projects, are designed to guarantee adequate fossil gas supply and provide certainty for Victorian industry.

The transition away from fossil gas will occur at different speeds across the economy while aligning with the government's legislated commitment to achieve net-zero greenhouse gas emissions by 2045.

For some large industrial businesses, continuing to use fossil gas remains the most economic or only technical choice – there is an opportunity for others to electrify, lowering business energy bills and boosting competitiveness. This is true of scenarios where gas is used to produce heat up to around 200°C, a common requirement in Victoria's world-class food and fibre sector.

Recognising the need to provide industry with a kick start, the Victorian Government has established the Large Energy User Electrification Support Program to provide cash grants to eligible, high-gas consuming businesses to fund these studies.

The objectives of the program were to accelerate electrification in the commercial and industrial sectors, reduce energy use, emissions and energy costs, and build industry capability in electrification and energy efficiency.

These studies supported businesses to look at opportunities to replace existing systems that use gas for heating, ventilation, and air-conditioning, as well as to replace industrial boilers and other systems with modern, efficient electric alternatives. The case studies below demonstrate the impact of the government's investment to date and provide clear evidence of the financial benefits available to many Victorian businesses by reducing their exposure to fossil gas.

However, those industrial users where electrification is not technically or commercially viable will still benefit from the gas substitution agenda. They will gradually face less competition for remaining fossil gas supplies, putting downward pressure on prices. Despite this, demand will not fall fast enough to maintain a balanced market without new transitional gas supply. New investment is urgently needed if gas supply from 2028 is to keep up with demand from homes and businesses, and for gas-powered electricity generation.



## VEU Large Energy User Electrification

The Victorian Government provided an electrification feasibility study grant of \$49,000 to Fuchs Lubricants (Australasia) as part of the Large Energy User Electrification Support Program.

Fuchs Lubricants is a global lubricant manufacturing business with two Australian sites that currently use fossil gas in processes that heat and cool their products. Their Victorian-based site in Sunshine received an electrification feasibility study which outlined the technical and economic feasibility of installing a 120kW air-sourced electric heat pump to electrify their industrial pre-heating process.

The electrification feasibility assessment found Fuchs Lubricants could save 2,387 GJ per annum (equivalent to the annual gas use of around 50 Victorian homes). By making the switch to industrial air-sourced electric heat pumps, the facility could use excess solar power to deliver 50°C temperature water to pre-heat base oils before they enter the blending vessels.

The assessment also found that Fuchs Lubricants could access up to a further \$45,000 from the Victorian Government through the Victorian Energy Upgrades program.

To justify the investment required to electrify, businesses need to evaluate potential returns, including savings on energy costs, operational efficiencies, and available financial incentives. Through the electrification feasibility study grant provided by the Victorian Government, Fuchs Lubricants learned that the cost to electrify 25 per cent of their site's gas use could be paid off in just over 18 months, making this a financially attractive investment.

[energy.vic.gov.au/grants/large-energy-user-electrification-support-program](https://energy.vic.gov.au/grants/large-energy-user-electrification-support-program)

Victoria is working with the Commonwealth and other relevant States to ensure a national, integrated response to this supply risk – that delivers certainty of supply to industry at a price that ensures businesses remain competitive.

The government's efforts to reduce demand and increase transitional supply, combined with our efforts to lead reform of the east coast gas market, will ensure adequate supply for Victorian users. To build on this, we must continue exploring opportunities to accelerate the transition where opportunities present themselves.



## Gasco

The Victorian Government provided a grant under the Low Carbon Manufacturing program to Gasco Pty Ltd in Bayswater, Melbourne to deliver electric heating solutions to replace gas heaters.

Gasco has specialised in the design, supply, manufacture, installation, commissioning and service of heat transfer and combustion systems for over 30 years, working with Australian and global customers across a wide variety of industrial sectors from food and automotive to pharmaceuticals and mining.

Gasco looked to the Victorian Government for assistance to bring forward their plans to obtain additional certification to IECEx International Standards to locally design, manufacture, commission and service larger flame-proof electric heaters around double the size to what Gasco could previously design and build.

The Gasco process is additionally environmentally effective as it works in real time, supplying just the right amount of energy to achieve the system requirements, maximizing efficiency, with virtually no power wasted.

These larger heaters will be principally used in Power, Gas and Process Industries, as well as other infrastructure development. Where practical they will also replace traditional gas heating in gas transmission systems as part of Gasco electrification decarbonisation strategy.

Beyond the Large Energy User Electrification Support Program, the Victorian Government is supporting local manufacturing to seize the opportunities of the renewable energy transition – including:

<b>Victorian Energy Upgrades</b>	Supported 4,167 upgrades for businesses to install efficient heat pump water heater technology in 2023-24.
<b>Large Energy User Electrification Support Program</b>	Delivered by Sustainability Victoria, the program provided grants of \$14,000 to \$60,000 (or \$66,000 if regional) ex GST for approved specialists to complete electrification feasibility assessments (Projects) for eligible Victorian commercial and industrial business facilities that use between 10 and 100 terajoules of gas per annum.
<b>Made in Victoria – Energy Technologies Manufacturing Program</b>	This program provided grants of between \$100,000 and \$750,000 to businesses to increase capacity to manufacture components for zero emission and renewable energy supply chains like wind, hydrogen and solar.

The Building Electrification RIS is also considering electrification requirements for new commercial (greenfield and infill). Any decision on the next steps will be subject to a future government decision.

The Victorian Government is committed to leading climate action through government operations to help to meet Victoria’s emissions reduction targets, create jobs, and support the state’s transition to a net-zero emissions and climate resilient economy. To avoid increasing government’s gas consumption and locking in future emissions, all new Victorian Government buildings that were ahead of design-development stage in July 2023 must be built as all-electric.

Government departments and public sector agencies are also encouraged to consider opportunities to phase gas out in existing buildings when gas equipment reaches end of life and as part of any planned asset renewal, including by preparing options for electrification in business cases for government construction projects.



## Building skills and capacity to deliver the transition

Reaching 95 per cent renewable energy by 2035 will create 59,000 jobs in Victoria, including 6,000 apprenticeships and traineeships.<sup>6</sup> The accelerated renewable energy build required to meet this target is occurring in parallel with record Victorian investment in transport, housing, and other infrastructure, driving elevated demand for skilled workers.

The Victorian Government is developing this renewable energy workforce through new courses, new training centres, and fostering partnerships with industry, education and skills, and community sectors.

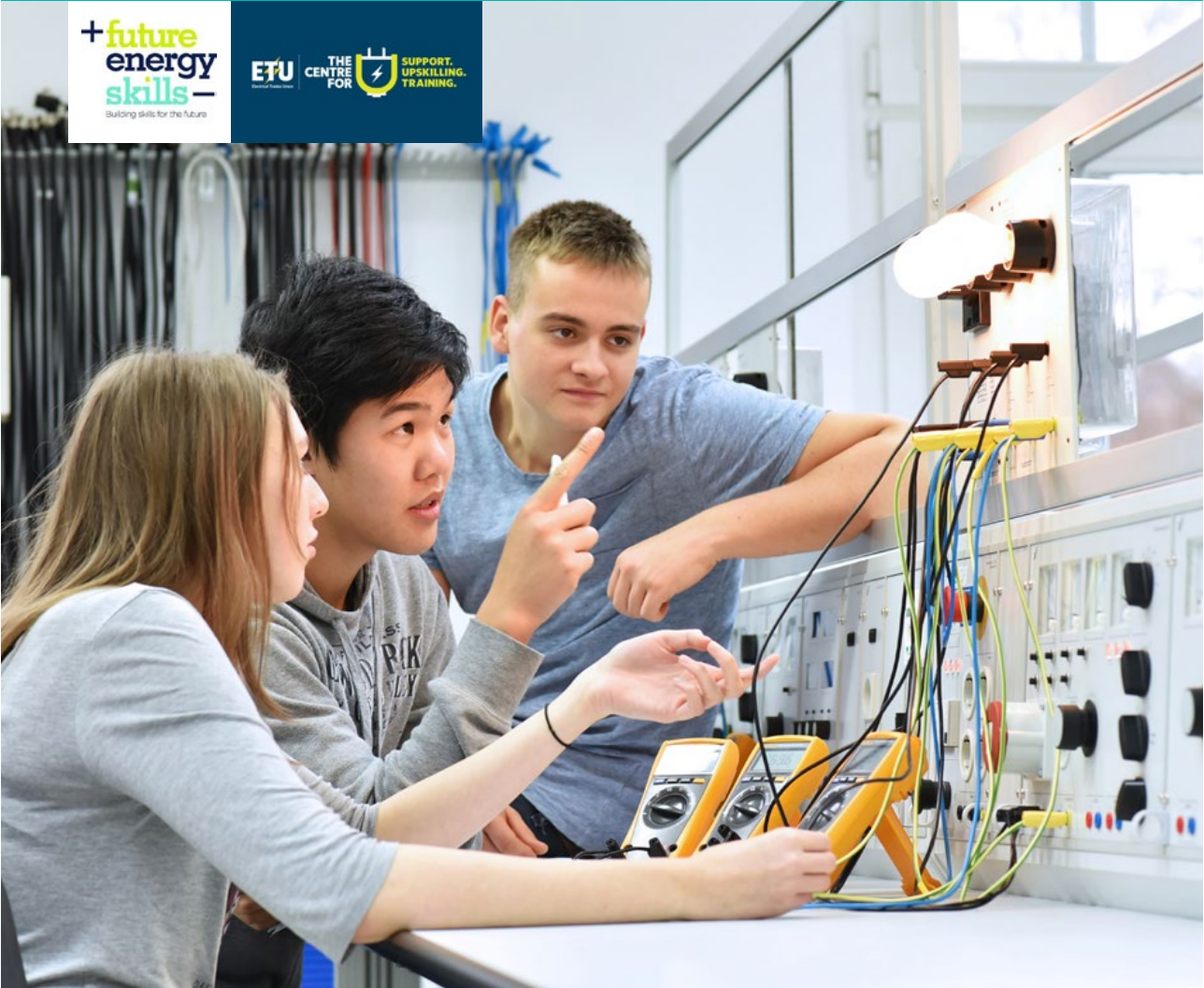
These investments will give Victoria the skills to deliver the renewable transition, and to capture a share of the benefits the transition is already delivering.

<sup>6</sup> [secvictoria.com.au/workforce](https://secvictoria.com.au/workforce)



## Victorian Government skills and training initiatives

INITIATIVE	DESCRIPTION
<b>Victorian Energy Jobs Plan</b>	<p>The Plan brings together the Women in Energy Strategy, the Clean Economy Workforce Development Strategy 2023-33, Victorian Skills Plan, the forthcoming Wind Worker Training Centre, Hydrogen Worker Training Centre and SEC Centre of Training Excellence.</p> <p>The plan will support Victoria to develop the workforce required to deliver our nation leading target of 95 percent renewable electricity generation by 2035, and to drive investment confidence to enable the energy transition.</p> <p>Public consultation was conducted in 2024, with submissions published to the Engage Vic website. The Plan will be published, together with the Women in Energy Strategy, in early 2025.</p> <p>Actions include: to develop our energy workforce to support this transition, including how to support local communities to benefit from energy sector jobs and skills development and under-represented groups such as women, people with disabilities and First Nations people to enter the energy workforce.</p>
<b>SEC Centre of Training Excellence</b>	<p>The Centre will drive partnership between industry and the skills / education sector to attract and retain the workforce needed for the renewable energy transition. It will connect with schools, the Victorian TAFE Network and other training providers, unions and industry to identify skills priorities and coordinate courses in renewable energy.</p>
<b>Renewable Hydrogen Worker Training Centre</b>	<p>The Victorian Government is investing \$8 million in the Renewable Hydrogen Worker Training Centre, backed by an additional \$10 million from the Commonwealth Government. The worker training centre will play a key role in attracting, upskilling, and delivering training that supports the accessibility, growth, mobility, and retention of workers in the renewable hydrogen sector. This is delivered in tandem with a \$4.9 million investment to develop a Wind Worker Training Centre.</p>
<b>Clean Energy Workforce Development Strategy 2023-2030</b>	<p>This strategy will assist government planning and investment in the skills and training Victoria needs to reach net-zero emissions by 2045.</p> <p>Investments include the SEC Centre of Training Excellence, a TAFE Clean Energy Fund with initial investments in new facilities at Gippsland TAFE, South-West TAFE, and Federation TAFE.</p>
<b>Victorian Higher Education State Investment Fund</b>	<p>The \$350 million Fund directed to Victorian universities supports capital works, applied research and research infrastructure projects which contribute to Victorian Government priorities including to net-zero emissions by 2045.</p> <p>Two such projects are the Hycel Hydrogen Technology Hub, and the Victorian Hydrogen Hub, which put Victoria firmly at the forefront of global hydrogen research.</p> <p>These projects were made possible by \$9 million and \$10 million in grant funding from the Victorian Government respectively.</p>
<b>Solar Victoria Training and Workforce Development Program</b>	<p>Solar Victoria is investing \$11 million to deliver a comprehensive training and workforce development package.</p> <p>A key initiative is upskilling up to 1,000 plumbers and fourth year apprentices to understand energy efficiency requirements, and design and install hot water system heat pumps. In addition free training has been made available to support upskilling nearly 1,000 electricians/eligible electrical engineers to design and install solar photovoltaic and battery storage systems.</p>
<b>Certification of Insulation Installation</b>	<p>Accreditation for insulation installers has been developed and delivered by the Energy Efficiency Council. Accreditation is a requirement for insulation installers subcontracted to deliver retrofits in the Victorian Government's public housing program.</p>



## A new course in energy efficiency management

Well-trained electricians will be the stars of Victoria's transition to net-zero by 2045.

To ensure this critical workforce is best placed to play their role in the transition, opportunities must exist for them to participate in accessible and engaging training programs to install electric vehicle chargers, solar PV systems, household batteries. In addition to these technical skills, Victoria's electrical workforce must maintain their status as trusted advisors to Victorian households to maximise the efficiency of their electrical systems, to keep electricity consumption and bills as low as possible.

The Electrical Trades Union and the Centre for U, in partnership with industry, are responding to this need. The ETU with the Centre for U is developing a new accredited Course in Energy Efficiency Management, growing capacity in the VET training workforce, and delivering a pilot program to 300 licensed electricians.

The Course in Energy Efficiency Management is now accredited to 31 March 2029 and is designed to provide electricians with the skills required to:

- Facilitate electrical efficiency awareness to clients
- Analyse real time energy usage data and evaluate capacity for clean energy technology integration/adoption
- Develop energy efficient electrification plans for residential applications
- Undertake sub metering arrangements for commercial building energy efficiency

The course will boost licensed electricians' ability to include energy efficiency assessment and management with the aim of supporting, where appropriate, fossil fuel energy sources such as gas, with renewable electricity sources, such as solar PV, to support gradual household electrification.



## Ensuring robust supply chains for quality appliances

The Victorian Government's flagship electrification initiatives, **Solar Homes** and **VEU**, are rapidly increasing interest in going all-electric. Appliances like heat pump water heaters and reverse cycle air conditioners are readily available and perform well.

### Heat Pump Hot Water System Roadmap

Funded by both the Victorian and the New South Wales governments, the industry-led Roadmap for Heat Pump Hot Water Systems in Australia, was developed by the Energy Efficiency Council (EEC) and released in July 2024.

The Roadmap provides industry and governments a path forward to scale-up the heat pump hot water market. It includes 17 recommended actions including revising standards, end-of-life stewardship, industry training, product quality, consumer protections, minimum energy performance standards, and installation audits.

In the last 12 months, the uptake of heat pumps in both states has been significant, with more than 100,000 across both states, driven by the Victorian Solar Homes program and the NSW Energy Savings Scheme.

In Australia, water heating is a major source of household energy, accounting for around 23 per cent of a home's total energy use. By replacing a gas hot water system with a quality heat pump hot water system, consumers are estimated to save up to \$330 per year, on top of additional savings in going all-electric.

To oversee and progress the recommendations, both governments have supported the establishment of a consultative group of industry representatives.

Beyond the Roadmap, both governments recently advocated for the timely progress of a minimum energy performance standard as the highest priority from the Roadmap at a recent Energy and Climate Minister's Council meeting.

## Improving appliance efficiency standards

The Victorian Government is continuing to advocate for and support the Commonwealth Government to expedite development of Minimum Energy Performance Standards (MEPS) for heat pump water heaters through the national Equipment Energy Efficiency (E3) program. These standards will provide consumers with confidence that products sold in Australia have been tested to and meet a minimum level of performance especially suitable for Australian climate conditions.

This will provide more transparency of product performance and enables confirmation of product energy efficiency claims. Standardisation also supports industry by providing a level playing field that products are tested through a singular test method and point of registration across all jurisdictions. This testing will also support the future development of consumer information collateral such as online product comparison tools and energy rating labelling.

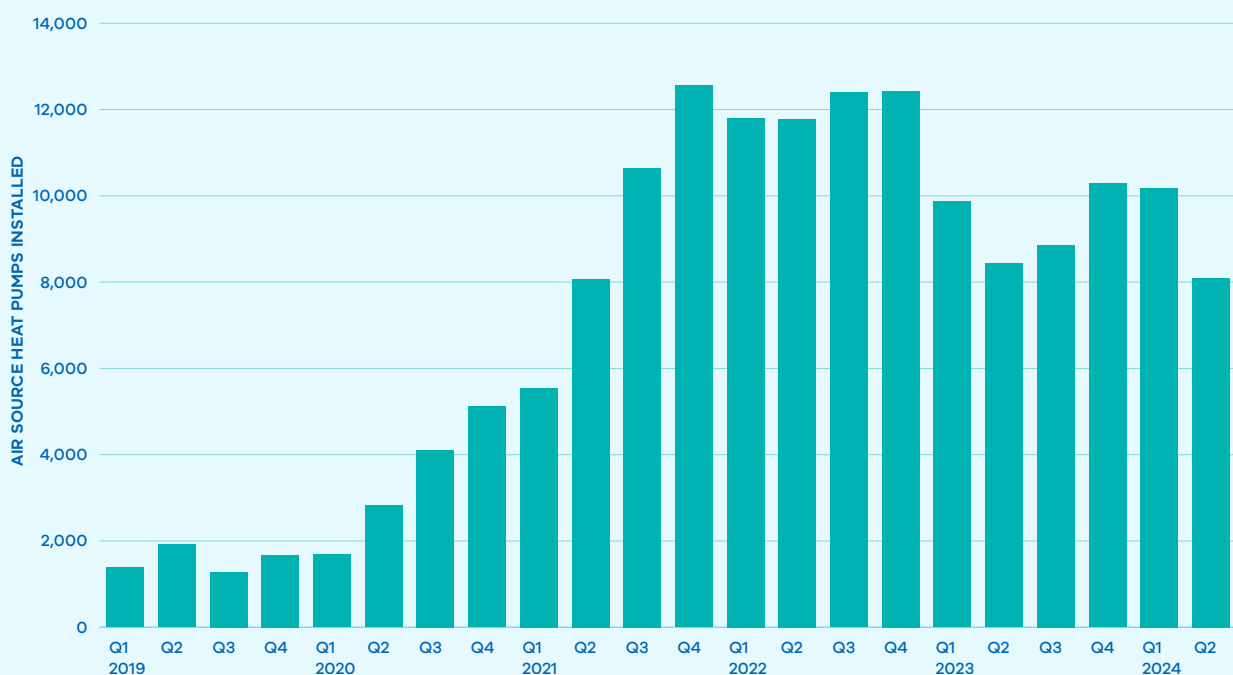
## Growth in heat pump hot water systems in Victoria

Victorians are recognising the massive cost-savings on offer from replacing their ageing gas appliances with modern, ultra-efficient heat pumps. Households that replace a gas hot water system with a quality heat pump hot water system can save up to \$330 a year on energy bills.

The Victorian Government has played its part in supporting this trajectory through the VEU and Solar Homes programs. As of November 2024, Victorian Energy Upgrades has upgraded over 117,000 hot water systems, of which the Solar Homes program supported over 42,000 rebates for Victorian households. In Victoria, the number of heat pump hot water systems installed increased by over 270 per cent between 2020 and 2023.

**SOURCE** Commonwealth small-scale technology certificates (STC) database, Clean Energy Regulator

**FIGURE 3** Air source heat pump installation in Victoria





# 4

## Ensuring secure, affordable supply for industry

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Maintaining reliable and secure supplies of fossil gas and electricity, whilst scaling up renewable gas, are critical priorities for the Victorian Government through the transition to net-zero by 2045.



## Ensuring security of supply through the transition to net-zero

The Victorian Government will continue to maintain reliable and secure supplies of fossil gas through the transition to net-zero by 2045. Victoria produces more gas than it consumes and has been a net exporter to other states for many years but gas supplies in the Gippsland Basin are depleting rapidly.

Victoria is working with the Commonwealth and other relevant States to ensure a national, integrated response to this supply risk – that delivers certainty of supply to industry at a price that ensures businesses remain competitive.

Victoria recognises existing Commonwealth controls on gas exports, the Australian Domestic Gas Security Mechanism and the Heads of Agreement. In 2018, Victoria introduced a legislative framework that prevents any petroleum production licensee supplying petroleum to an LNG exporter unless the licensee has first taken all reasonable steps to supply that petroleum to a domestic customer. While the market operator has a role in forecasting and responding to gas supply security risks and Victoria has led reforms to ensure it can manage gas storage better, there is a need for stronger action.

The Victorian Government is exploring interim supply options to safeguard reliability of supply for the period in which it is still needed. Several supply and infrastructure proposals are under development spanning domestic offshore gas exploration, storage projects, such as the Golden Beach Energy Storage project, pipeline infrastructure upgrades, and gas import terminal projects. The Victorian Government is closely engaged with all proponents to ensure statutory approvals processes are conducted efficiently and effectively, in consultation with affected parts of the Victorian community.

The Victorian Government is also working with the Commonwealth Government and other east coast jurisdictions to improve AEMO's ability to manage and intervene, where necessary, in the east coast gas market to maintain system security.

This includes measures agreed by Energy Ministers in December 2023 to progress Stage 2 of the East coast Gas Market Reliability and Supply Adequacy reforms for the east coast gas market.



## Electricity system resilience

Victoria's electricity infrastructure can manage the gradual increases to load that will flow from accelerated electrification of Victorian households and commercial buildings. Currently peak electricity usage in Victoria occurs during the summer months with a load of up to 10GW, while winter peak load is currently about 8GW. As approximately 60 per cent of Victorian residential and small business gas consumption is used for heating, electrification will mainly lift winter peak loads where there is excess capacity to manage this demand.

The Victorian Government is delivering a range of policy initiatives to ensure that we have reliable, affordable and sustainable electricity supply into the future:

- Legislated Victorian Renewable Energy Targets for renewable electricity generation of 65 per cent by 2030 and 95 per cent by 2035
- Legislated Victorian Energy Storage Targets of at least 2.6 GW by 2030 and at least 6.3 GW by 2035 – enough to power half of Victoria's homes current peak energy use
- Delivering Australia's first offshore wind industry, with legislated Victorian targets of at least 2 GW of generation capacity by 2032, 4 GW by 2035 and 9 GW by 2040. This is critical to diversifying Victoria's energy supply and replacing retiring coal-fired power plants
- Establishing VicGrid to coordinate the development and planning of Victoria's Renewable Energy Zones. VicGrid has introduced new legislation to improve transmission planning and share the benefits of transition with Traditional Owners, local communities and landowners.

- Published Cheaper, Cleaner, Renewable: Our Plan for Victoria's Electricity Future, to highlight investment opportunities for the private sector to partner with the government, while keeping the wider community informed of the opportunities and benefits of the state's long-term plan.
- Advocated strongly through the Energy Ministers forum to develop the National Consumer Energy Resources (CER) Roadmap to harness the power of consumer energy resources to provide electricity supply and resilience across the National Electricity Market (NEM).

The Victorian Government will continue to work closely with AEMO, generators, and network service providers to ensure that Victoria has access to reliable, safe, and increasingly renewable electricity throughout the transition.

Consumer energy resources in the form of the rooftop solar panels, batteries and electric vehicles are now also being recognised as a major contributor to electricity supply and resilience for Victorian households and commercial facilities.

SOURCE Image of Gannawarra from Edify Energy



SOURCE Yarra Valley Water

## Scaling up renewable gas for industry and gas-fired generation

The Victorian Government is committed to testing options to scale up a thriving renewable gas sector to decarbonise parts of Victoria’s heavy industry and gas-powered generation sectors, where electrification is not commercially or technically feasible.

The Victorian Government’s preferred approach to scaling up this sector, for consultation, is to establish the Industrial Renewable Gas Guarantee, a Victorian market-funded certificate scheme commencing in 2027 with a 4.5 PJ per year target by 2035.

There is a large portion of Victoria’s industrial and gas-powered generation fossil gas use that is ‘harder to electrify’, where electrification is not yet technically or commercially feasible. This includes sectors that require fossil gas to generate high heat temperatures above 200°C, such as in heavy manufacturing. Fossil gas is also an essential input into much of the chemical industry and cannot be replaced with electricity. Renewable gases like biomethane and renewable hydrogen are the most likely technologies to decarbonise this part of Victoria’s fossil gas consumption.

Scaling the renewable gas sector and providing these gas users with a feasible decarbonisation method will take years. Work must begin now to ensure that the industry can grow to meet demand and support the achievement of Victoria’s ambitious emission reduction targets.

On this basis, the Victorian Government’s preferred approach for consultation is:

- Establish the Industrial Renewable Gas Guarantee, a Victorian market-funded certificate scheme commencing in 2027 with a 4.5 PJ target by 2035 (approximately 6 per cent of projected Victorian industrial and GPG fossil gas demand) with:
  - 1 PJ target in year three of the scheme
  - A scheme review in year three of the scheme to assess scheme costs, supply chain development, and the scale of demand
  - Appropriateness of the 2035 target and beyond
  - Renewable gas used exclusively in the industrial and GPG sectors
  - Costs recovered across all gas customers
- Ensure that the scheme leverages relevant jurisdictional initiatives (such as the Guarantee of Origin (GO) scheme and the GreenPower Renewable Gas Certificate) and is designed in a way that can be integrated into a national or multi-jurisdictional approach over time.



- Continue to advocate strongly for:
  - The need for a nationally funded renewable gas scheme that includes both biomethane and renewable hydrogen.
  - Scope 1 emissions reductions from renewable gas to be accounted for in the National Greenhouse and Energy Reporting scheme (NGER) and within Australian Carbon Credit Units (ACCUs).

The Renewable Gas Directions Paper<sup>7</sup> tests options for developing a thriving renewable gas sector and consulting on the government’s preferred approach to establish a market-based scheme. The consultation feedback from stakeholders will inform future government decisions on the state’s renewable gas policy.

A thriving renewable gas sector will deliver an economic dividend to Victoria in the form of direct investment and regional employment opportunities. Not only will this provide direct benefits to the communities and workers in this new sector, but it will also create additional revenue streams for a range of businesses whose by-products can be used to produce renewable gases. Key sectors that stand to benefit include the agricultural, water and waste sectors.

Reliable and ongoing access to feedstock is an essential condition of a self-sustaining renewable gas sector. Work is also underway in the government and within industry to identify the total recurring recoverable feedstock that could be available to biomethane producers.

The Victorian Government does not see a role for renewable gases to decarbonise the residential building sector. Victoria’s household energy consumption will be gradually decarbonised by electrification. Electrification is the lowest cost way to decarbonise the majority of Victoria’s fossil gas consumption in the buildings sector. Electrification is also the lowest cost way to decarbonise part of Victoria’s industrial fossil gas consumption for lower-heat applications (<95°C). Higher temperature use-cases are technically possible and will be monitored closely.

Using renewable gases to decarbonise buildings will have the doubly harmful effect of massively increasing household energy bills to cover the higher increased production costs of renewable gases, while needlessly creating competition for access to renewable gases for industrial users who want and need them.

## EXPLAINER

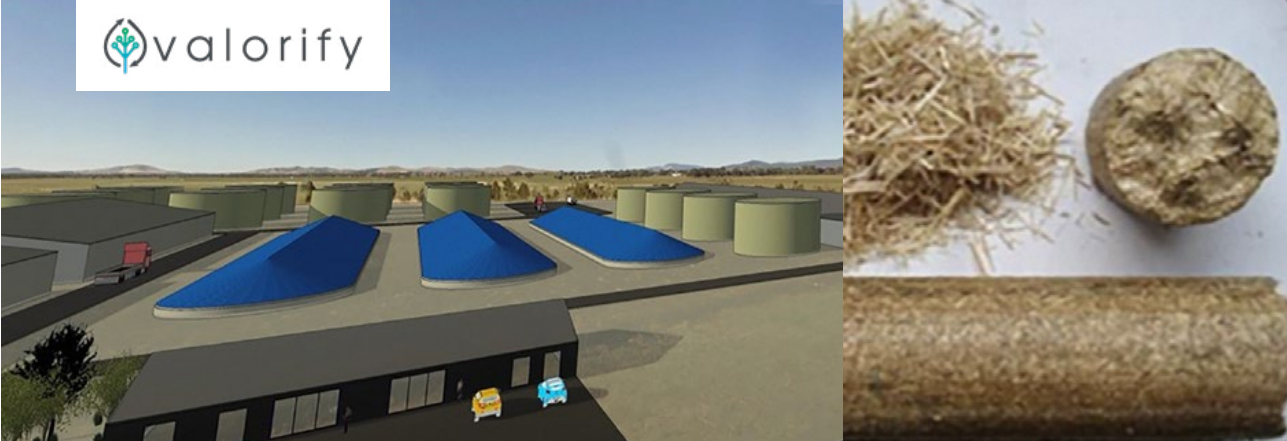
### What is renewable gas?

Renewable gas is commonly defined as:

<b>Biomethane</b>	Chemically identical to fossil gas, but as it is sourced from biological carbon already in the biosphere (organic material in agricultural residues, landfill emissions etc), its combustion is not adding to already dangerously elevated levels of atmospheric CO <sub>2</sub> that are driving climate change.
<b>Renewable hydrogen</b>	Predominantly produced through electrolysis (to split water atoms) powered by renewable energy.

Over the past 18 months, the Victorian Government has worked closely with industry and the community through a rigorous policy development and consultation process to explore options for scaling up Victoria’s renewable gas sector. The Victorian Government has released [Victoria’s Renewable Gas Directions Paper](#), which outlines the government’s preferred policy direction. It should be noted that the proposed Industrial Renewable Gas Guarantee scheme will be subject to further stakeholder consultation and government consideration before a decision is made to progress the scheme.

7 [engage.vic.gov.au/victorias-renewable-gas-future](https://engage.vic.gov.au/victorias-renewable-gas-future)



## Valorify converting agricultural residues into renewable gas

Pacific Heat and Power Pty Ltd, trading as Valorify, is a Melbourne-based renewable energy developer solely focused on establishing utility-scale biogas assets that convert agricultural residues, predominantly cereal straw, into renewable gas and liquid fuels.

Valorify produces decarbonised energy products that target 'hard to abate' sectors of the economy, leveraging existing skills and infrastructure to supply drop-in, affordable, low carbon energy and chemical feedstocks, at competitive cost.

Valorify is currently considering two projects in Victoria – Ararat and the Goulburn Valley. The Valorify business model is predicated on a “design once, deliver many”, modular process which emphasise simple design and repeatability to minimise capital expenditure, allowing for more competitively priced fuels to power Victorian industry.

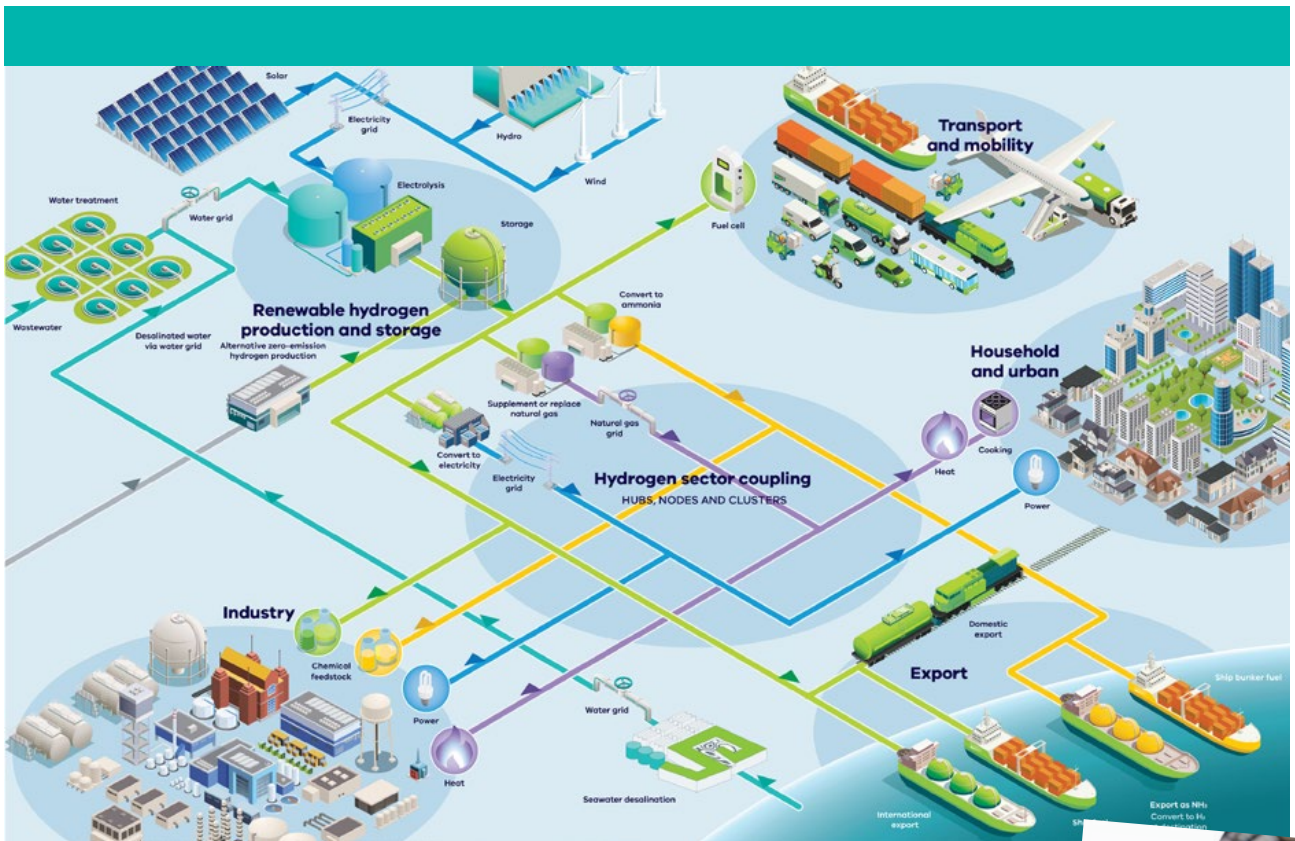
### Ararat Bioenergy

The Ararat Bioenergy project is a transformational bioenergy and Circular Economy project, to be developed and centred in a new industrial park in Ararat, Western Victoria. This project is designed to maximise the effective use of low-grade or excess straw and crop stubble, and potentially other organic waste streams, transforming them into renewable gas, electricity, heat and other valuable co-products such as renewable fertiliser, hydrogen and/or biomethanol.

### Goulburn Murray Woka Yurringa Energy Project

The Goulburn Murray Woka Yurringa Energy Project is an agricultural waste to renewable energy project led by Valorify, in partnership with Yurringa Energy. Based on an innovative First Nations' partnership, Yurringa Energy will be a key partner and shareholder, creating wealth, facilitating employment opportunities and contributing to the self-determination of the Yorta Yorta people.

**SOURCE** Case study and photos: Valorify



## Renewable hydrogen in Victoria

To support the development of this emerging industry to meet the state's ambitious decarbonisation targets, the Victorian Government released the Victorian Renewable Hydrogen Industry Development Plan (IDP) in early 2021.

The IDP identifies the opportunities renewable hydrogen presents for Victoria and outlines the Victorian Government's focus areas and key actions to drive the development of a renewable hydrogen industry across the state.

Since the release of the IDP, the Victorian Government has invested in renewable hydrogen research and education, worked closely with industry, and funded several projects across the state including the 10 megawatt Hydrogen Park Murray Valley project.

These Victorian Government-backed projects are demonstrating renewable hydrogen's potential in several key uses.

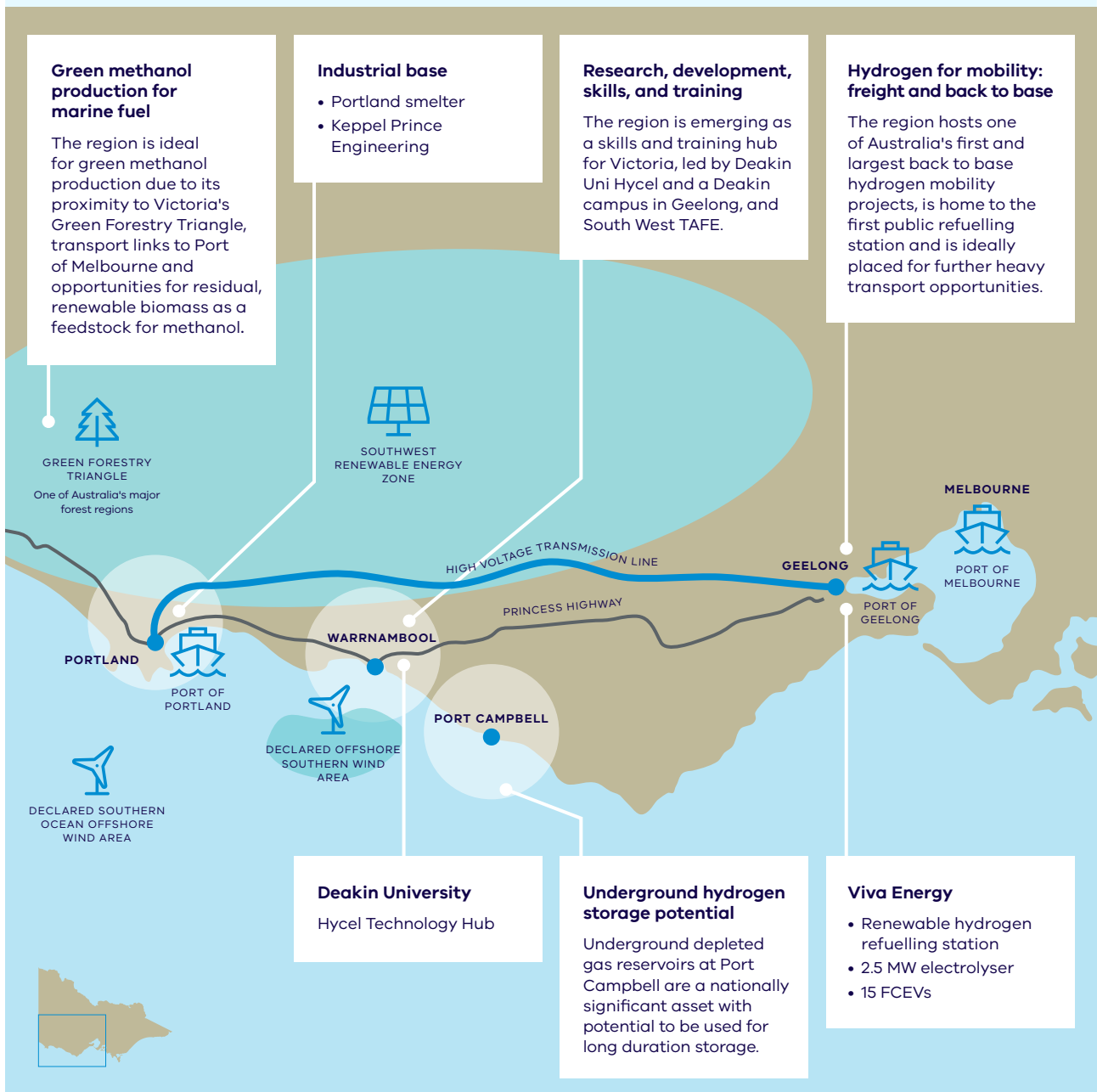
Victoria's first renewable hydrogen grants (the Business Ready Fund and the Commercialisation Pathways Fund) have also been delivered, supporting businesses with \$7.2 million of funding to explore hydrogen in applications as diverse as backup power, transport, as a replacement for natural gas in crematoria and to produce green methanol to assist with the decarbonisation of shipping.



## Opportunities for renewable hydrogen investment in south-west Victoria

The Barwon South-West region, from Portland through to Geelong with connections into Melbourne, is an exciting area for renewable hydrogen project development and investment.

The region includes strong renewable energy resources with an offshore wind and renewable energy zone, large scale underground hydrogen storage potential, two deep-water ports, large industrial hubs, key freight and transport routes, and existing energy infrastructure such as transmission. The region is also home to several exciting renewable hydrogen projects.





# 5

## Partnering with other jurisdictions

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The Victorian Government welcomes opportunities to work in partnership with the Commonwealth Government and other states and territories to support the transition away from fossil gas, while easing cost of living pressures and cutting emissions.

Victoria's strong leadership and advocacy on the need for all states to take action on East Coast gas supply has resulted in the recent Energy and Climate Change Ministerial Council (ECMC) meeting discussing the East Coast gas supply situation. The Energy Ministers noted the importance of urgent supply and demand side actions and tasked Senior Officials to work with the AEMO to advise on potential expanded powers for AEMO to address East Coast gas supply issues emerging by 2028 and to recommend policy options to address supply and cost of gas over the medium term. These are to complement market-led solutions, while preserving current export contracts. Ministers will consider this advice at the first meeting of ECMC in 2025.

The Victorian Government's partnership with the Commonwealth Government to invest \$92 million in matched funding to improve the energy efficiency of 5,000 social housing properties, as well as \$8.05 million in matched funding for the Solar for Apartments program to connect solar PV up to 5,000 apartments, are recent examples of this. However, with the time horizon to net-zero and the scale of change needed, stronger and more collaborative action is needed.

The Commonwealth Government released the Future Gas Strategy which acknowledged that the future for residential and commercial buildings is electric, stating that 'households and small businesses will have, for the most part, electrified by 2050'.<sup>8</sup> To achieve this, a clear pathway to support the timely transition of Australia's building stock is needed. For Victorians, the Gas Substitution Roadmap establishes clear steps to deliver this collective action.

Another area of collective focus is the development of a robust renewable gas industry. The Commonwealth Government is developing its Guarantee of Origin (GO) scheme<sup>9</sup> to track and verify emissions associated with production of hydrogen (and renewable gases such as biomethane) and renewable electricity within Australia. It has also established Safeguard Mechanism Credits (SMCs) and Australian Carbon Credit Units (ACCUs), which may lay the foundation for the development of a renewable gas market. These initiatives provide tracking and verification opportunities but, without a strong national renewable gas target with an effective economic mechanism, the ability to scale renewable gas to meet the nation's needs will be limited.

The Victorian Government will continue to advocate for the national reforms needed to deliver a net-zero economy future while it continues to take the definitive actions required to deliver cost of living relief, emissions reductions and security of supply for Victorians.

<sup>8</sup> Future Gas Strategy | Department of Industry Science and Resources [industry.gov.au/publications/future-gas-strategy](https://industry.gov.au/publications/future-gas-strategy)

<sup>9</sup> Clean Energy Regulator (2023), Guarantee of Origin [cer.gov.au/schemes/guarantee-origin](https://cer.gov.au/schemes/guarantee-origin)



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