ACT Government

DEVELOPING ACT'S
INTEGRATED ENERGY PLAN

Canberra is electrifying: Towards a net zero emissions city

ACT Government Position Paper

August 2023

Contents

Foreword

Canberra shows that designing a sustainable city is complex but doable. As outlined in our CBR Switched On strategy, the ACT has a critical mission to move to net zero emissions by 2045 and have a decarbonised electricity grid.

But we have ambitious goals and can go further, faster. In 2022, the ACT Government took a world leading step towards combating climate change and announced our policy intention to electrify Canberra and phase out fossil fuel gas by 2045. We are delivering on the Big Canberra Battery and we are bringing down energy bills by increasing the energy efficiency of our buildings and homes. We have also released the ACT Zero Emissions Vehicles Strategy, outlining actions to decarbonise our transport system and support rapid uptake of electric vehicles and other zero emissions vehicles (ZEVs).

Powering our homes, businesses, city infrastructure and transport systems with 100% renewable electricity is the best pathway towards becoming a net zero emissions city, saving energy consumers money, and maintaining an affordable, reliable, and efficient energy system over the long term. This is because the technology and skills to support electrification, for the most part, already exist and are readily available for our city to adopt.

About a third of Canberra households are already experiencing the benefits of an all-electric home, and more are embracing sustainable technologies such as solar panels, home battery systems, and are increasing the energy efficiency of their properties. Canberra is also leading the country on ZEV uptake with one in five new car registrations being a ZEV and over 5,000 ZEV registrations in the ACT.

These developments show that our city is already transitioning and Canberrans are more than willing to embrace the change. But there is still a long way to go before we reach net zero emissions and electrify our economy, and we need a plan to help us get there.

We need to examine the capacity of our current energy network to support increased electric technologies and think about how to go about decommissioning the gas network. As a community, we will need to continue to transition homes and businesses that can readily electrify and provide support for those who have the least capacity to pay for upgrades. We need to find solutions for industries, businesses and buildings that will find it hard to electrify in the years to come and examine the role that green gas will play in the transition. And we will also look at how to make sure we have the right skills and workforce ready to support the change.

As an early mover in the electrification space, Canberra is in a strong position to attract new talent, ideas and investment to support the transition and develop solutions. The above challenges are economic opportunities that will require new skills and jobs to support the continued expansion of renewable technology, research and training in our city.

Andrew Barr MLA
Chief Minister and Minister for Climate Action

Although we're a leader in this space, we're also not alone. Many jurisdictions around the world and within Australia are moving towards electrification as the preferred solution to climate change.

The IEP will outline our big picture approach to electrification and ensure that the transition is managed to achieve benefits for the whole Canberra community. This is a long-term project that will impact the whole Canberra community and we welcome your feedback.

Foreword

Climate change is one of the biggest challenges we face. Canberra is a climate action leader and we have taken significant steps to reduce our greenhouse gas emissions and make sure we do our part to avoid climate disruption.

In 2010, we were one of the first jurisdictions to legislate our emissions reduction targets with the intention of creating a more sustainable city. In 2011, we set out to secure a 100% renewable electricity supply for Canberra and reached this nation leading target in 2020, becoming the first city outside of Europe to do so. Ever since, we have focussed the bulk of our efforts to meet our legislated target of becoming a net zero emissions city by 2045 and reducing emissions from transport and gas, which make up about 60% and 20% of ACT emissions respectively.

Last year, the ACT Government announced another nation leading policy approach to use our 100% renewable electricity supply to power our city and transition off fossil fuel gas by 2045. Unlike securing our renewable electricity supply, transitioning from gas will require action from our whole community.

We will lead the way and work with business, industry and households to remove technical and regulatory barriers, and provide support for those who need it to transition.

However, it is also vital that our whole community starts to think about how they use fossil fuel gas and plan their own transition to energy efficient electric appliances and infrastructure. The energy transition is a long-term project that has significant implications for how we design, build, and upgrade our city infrastructure and energy networks over the next two decades and beyond. While there is no need to rush, we also need to start planning for an all-electric Canberra now and set our city up for success.

Energy efficient electric buildings are proven to deliver energy savings to consumers, promote greater health outcomes and improve home comfort. On the other hand, we anticipate the cost of gas will continue to rise in coming years, due to global market pressures as well as the transition. This will put increased pressures on members of the community who may find it hard to transition to all-electric, such as low-income households and renters. Our priority will be on supporting these members of our community.

Electrifying our city will also impact demand for key trades groups. Electricians, gas fitters and plumbers will provide the backbone for much of the transition and will play a key role for upgrading and decommissioning city infrastructure. However, gas fitters are anticipated to see a decrease in demand over the medium to long-term. The consultation will also significantly focus on how we can support a just transition while also enabling the right skills and jobs that will help facilitate the energy transition and further develop our renewable energy industries in Canberra.

Shane Rattenbury MLA
Minister for Water, Energy and Emissions Reduction

This is why we're asking the community for ideas on how best to manage the transition and to help create an Integrated Energy Plan outlining our pathway to electrification. The ACT Government is now inviting community views on key transition challenges including how to best enable community transition, develop our future energy network, attract the right skills and workforce, as well as electrify complex buildings, industry and heavy transport.


END
ROAD
WORK

PART 1

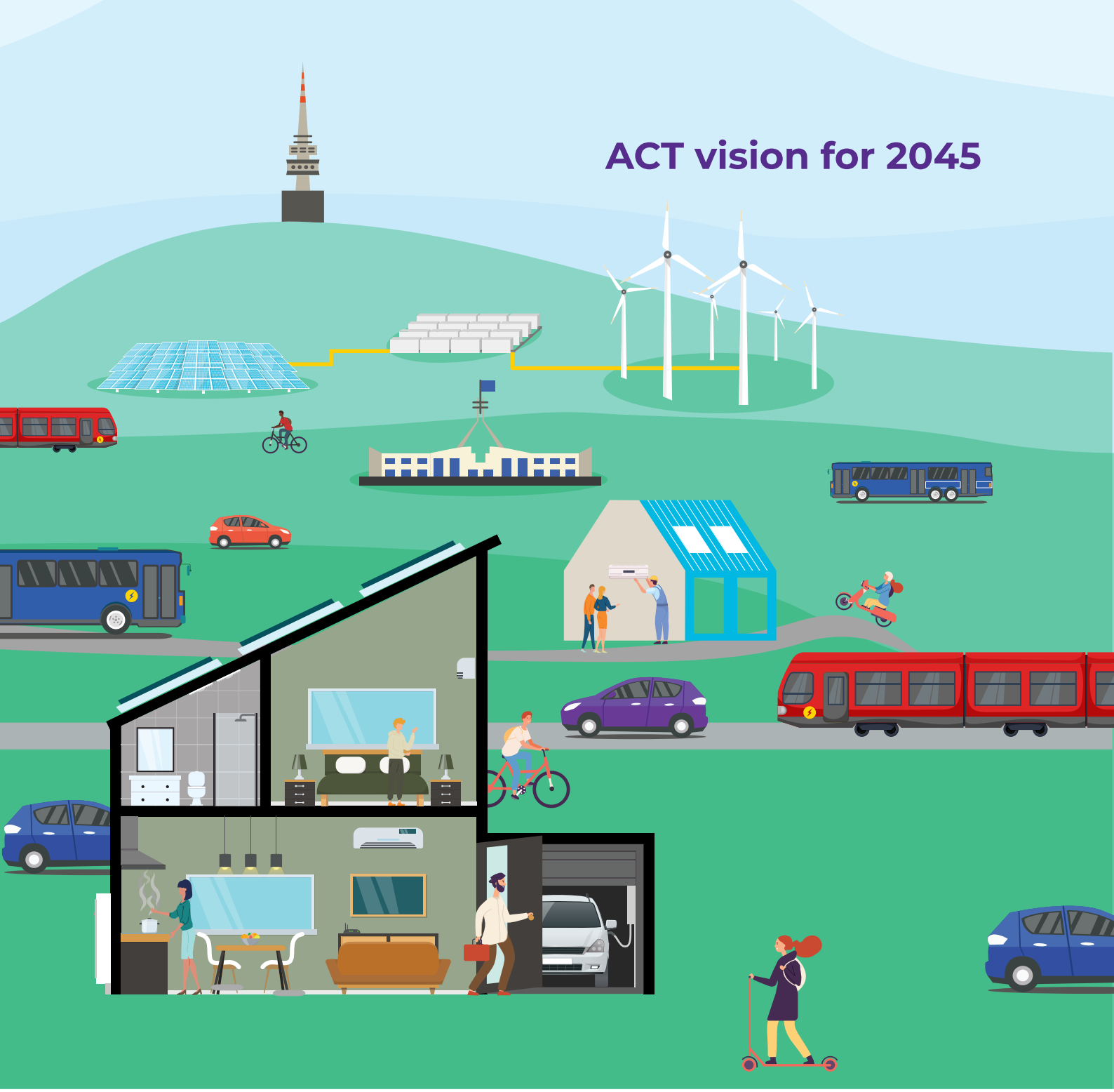
Canberra is electrifying

Our vision for 2045

The ACT continues to lead the world in taking action on climate change. We have an ambitious commitment of net zero emissions by 2045, which is a critical Mission under CBR Switched On.

The ACT will be the first Australian jurisdiction to transition from a fossil fuel economy to a net zero emissions economy, powered by renewable energy. The transition will provide savings for consumers as renewable electricity plays a bigger role in heating homes, powering businesses and fuelling vehicles. The ACT will have quiet streets, clean air and comfortable homes and workplaces powered by renewables and decentralised energy sources like large scale solar and battery systems.

A renewable gas supply will power industrial and heavy transport applications where electrification is not possible. Our fossil fuel industry workers will be reskilled to take advantage of new employment opportunities. The ACT community, business and industry will be seen as leaders, demonstrating how to achieve net zero emissions and reaping the benefits of affordable, renewable energy.



Towards a net zero city

Since 1 January 2020, the ACT has been supplied with 100% renewable electricity, becoming the first city outside of Europe to achieve this.[1] This has significantly contributed to emissions reductions in the Territory, with the ACT in 2021/2022 achieving a 47% decrease in emissions since 1990.[2]

Fossil fuel gas and transport are the two largest remaining contributors to ACT greenhouse gas emissions. Our effort is now focused on reducing emissions from these sources in order to make progress towards achieving the ACT's legislated emissions reductions targets.

1 Cass, D, The Australia Institute, 2019 'Class ACT: How the Australian Capital Territory became a global energy leader'. Available from: https://australiainstitute.org.au/report/class-act-how-the-australian-capital-territory-became-a-global-energy-leader/

2 ACT Government, 2022, 'ACT Greenhouse Gas Inventory for 2021-22' available from: https://www.climatechoices.act.gov.au/__data/assets/pdf_file/0006/2122872/ACT-Greenhouse-Gas-Inventory-Report-2021-22.pdf

Significant changes are already happening. The way we live, travel, work and think about energy is vastly different to the generations before us.

One in three Canberra households have solar and over a third of Canberra households are already all electric. The ACT has the highest uptake of electric vehicles in the country per capita – over 1 in 5 new cars purchased so far in 2023 were electric vehicles. Our light rail system is powered by renewable electricity and electric buses are already delivering Canberrans to where they need to be. Businesses are innovating with the latest technology to reduce their emissions and be more energy efficient.

We are making headway in sustainable transport and travel in the ACT with our ACT Zero Emissions Vehicle Strategy 2022 – 2030. Transport is the single largest contributor to the ACT's greenhouse gas emissions, making up over 60% of the total[3]. The Strategy makes it clear to industry and our community that the ACT is set on decarbonising our transport sector and includes actions that aim to make ZEVs a more affordable and accessible option for all our community. This is supported by our investment in electric buses, outlined in the Zero-Emission Transition Plan for Transport Canberra.

To address the second highest source of greenhouse gas emissions in the ACT, we will be transitioning away from fossil fuel gas and electrifying our city, with renewable gases used for specific purposes, if required.

Transitioning our city requires the effort and collaboration of the entire community, industry and businesses, for all of us to comfortably live and move around our city using affordable renewable energy. As a global leader we need to keep learning, improving and adapting to make sure we are using the best available technologies and approaches.

Electrifying the city to help households save on bills

Gas prices have increased significantly and have a substantial impact on the cost of living. Retail gas prices increased by 100% in real terms over the period from 2000 to 2020.[4] Although global gas markets are rebalancing after the impacts of the Russian invasion of Ukraine, increasing production costs particularly for coal seam gas relative to conventional gas and pipeline constraints are likely to increase wholesale gas prices. Transitioning to an all-electric energy supply, and the gradual replacement of internal combustion engine vehicles (ICE) with electric vehicles is going to help many households and businesses in the ACT to save money and reduce emissions in the coming years. An average household of four people, who live in a typical medium-sized Canberra home built before 1996 with all gas appliances, could save over $2,500 a year in energy bills if they transition to efficient electric appliances.[5]

In the future, renewable electricity will be our primary energy source replacing gas for heating and cooking and replacing petrol and diesel in our cars. Canberrans will save time and money by being able to charge their electric vehicles at home, and efficient electric appliances have lower running costs than gas alternatives. By starting the transition now, Canberrans can plan to make these changes when appliances and vehicles are due for replacement.

3 ACT Government, 2022, 'ACT's Zero Emissions Vehicles Strategy 2022-30'. Available from: https://www.climatechoices.act.gov.au/__data/assets/pdf_file/0006/2038497/2022_ZEV_Strategy.pdf

4 ACT Government, 2022, 'Powering Canberra, Our Pathway to Electrification'. Available from: https://www.climatechoices.act.gov.au/__data/assets/pdf_file/0009/2052477/Powering-Canberra-Our-Pathway-to-Electrification-ACT-Government-Position-Paper.pdf

5 ACT Government, 2023, 'Make Your Next Choice Electric tool'. Available from: https://energy.act.gov.au/plan

PART 2

The Integrated Energy Plan

The ACT Government released the *"Our Pathway to Electrification"* Position Paper in August 2022, which outlined why the ACT is transitioning away from fossil fuel gas, and identified a preferred pathway and implications for households and businesses.

The Integrated Energy Plan (IEP) will set out the strategy for how the ACT will transform its energy systems to secure an affordable and sustainable energy future and support a fair and equitable transition. It will provide a clear and implementable pathway to accelerate the transition and help achieve our legislated emissions reductions targets over the next two decades.

Fossil fuel gas currently makes up more than 20% of Canberra's emissions. As the second largest source of remaining emissions, the IEP will focus on speeding up the transition away from its use.

The IEP will outline the actions required over the short and long-term. It will set out how we will ensure a reliable and affordable energy system through the transition, engage and support energy consumers, and establish collaborative partnerships to deliver these objectives.

The IEP will build on the achievements of existing emissions reduction policies and initiatives. The ACT has already made considerable progress, beyond the achievement of 100% renewable electricity, including implementing the Climate Change Strategy 2019-2025, the Zero Emissions Vehicles Strategy 2022-2030, the Big Canberra Battery, Zero Emissions Transition Plan for Transport Canberra, ACT Waste Management Strategy 2011-2025 and a range of policies and programs in place to support the uptake of energy efficient technologies in homes and businesses.

The IEP will guide the transition in a rapidly changing global and national environment. As the ACT energy sector transitions, global technology improves, community expectations change and we learn more about how we produce and use energy, it is critical that the IEP evolves for our city to transition in the most efficient and cost-effective way. The phased approach to implementing the IEP will allow the IEP to evolve and keep pace with changes in society and technology.

The IEP will ensure the ACT is prepared for the energy transition, and well placed to take advantage of the opportunities it presents.

What is the Position Paper?

This Position Paper provides an opportunity for Canberrans to engage in the development of the IEP and provide feedback on critical issues.

It proposes a framework for the IEP and draft principles to guide the transition out to 2045.

It also proposes policy directions for the key areas of the transition that require consideration and action from now out to 2030. While the transformation of Canberra's energy system is wide-ranging, these areas largely focus on the transition away from gas by electrifying our households, business and industry. This is because strategies and actions for other areas, such as transport and batteries, are more progressed. The proposed policy directions will help shape the policies and programs the ACT Government will implement.

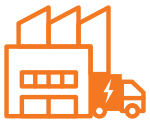
These areas are:

Developing our future energy network and sharing the costs

Electrifying our community

Electrifying complex buildings

Electrifying business



Electrifying Industry and Heavy transport

Skills and workforce for the transition

The ACT Government is seeking community and stakeholder feedback on the proposed policy directions under each focus area to inform development of a final IEP, expected in early 2024.

What is fossil fuel gas?

The National Gas Law (NGL) governs access to fossil fuel gas pipeline services and elements of the broader natural gas market in Australia. 'Natural gas' is a defined legal term in the NGL. It is a fossil fuel, consisting predominately of methane and is non-renewable.

The ACT Government prefers the term 'fossil fuel gas' as it clearly identifies that we are discussing non-renewable gases. For the purposes of this paper, fossil fuel gas has the same meaning as 'natural gas' in the NGL, and refers only to gas delivered through, or connected to, the gas pipeline network.

Principles for the transition

The principles are proposed to guide the development of the IEP and help prioritise government actions. These principles are intended to reflect the expectations of the Canberra community and priorities of the ACT Government. Proposed policy directions within this paper are in line with these principles.

The guiding principles for the energy transition are:

1 Get the ACT ready for our electric future:

The ACT's electricity needs will grow over the coming decades as gas is phased out and electric vehicles become the norm. Electrification is the most effective and lowest cost path to net zero. There is already technology and knowledge on how to electrify most assets, and global momentum to find more solutions.

2 Provide a clear and implementable pathway to achieve and maintain net zero emissions:

The ACT is focused on reducing emissions by phasing out fossil fuels. The IEP will outline the priorities and action to achieve and maintain net zero emissions within the energy sector. This is supported by broader emissions objectives including those outlined in the ACT Climate Change Strategy 2019-2025, Zero Emissions Transition Plan for Transport Canberra, ACT Zero Emissions Vehicle Strategy 2022-2030 and ACT Waste Management Strategy 2011-2025.

3 Prioritise a fair and equitable transition to net zero:

The ACT Government will prioritise support and incentives for those who need it most. Support will focus on: the bottom two income quintiles, renters and those who face greater technical, financial, and structural barriers than others.

4 Educate our community and industry to prioritise and take action to manage a sustainable and responsible transition:

The transition will be complex and will take time. The ACT Government will engage in a long-term communications and education program on policies, programs, and regulation to reach all parts of the community to empower action at the right time.

5 Provide policy certainty so industry and community investments are made in the right areas at the right time:

The transition to net zero emissions requires efficient expenditure and planning to minimise the costs for the individual and for the broader community. The ACT Government will seek to provide policy certainty to support long-term investments in Canberra's energy future, and development of an appropriately skilled workforce to implement and maintain the changes required.

6 Develop policy which contributes to building a strong and stable energy system powered by renewables:

An energy grid of the future will need to continue to provide stable and reliable power to meet consumer demand. This energy system will include a large amount of small-scale consumer owned resources, such as rooftop solar units or battery storage, which has implications for how the ACT's energy network is maintained. The IEP will provide information to support Evoenergy, the ACT's electricity network operator, to forecast and make appropriate investments to support this transformation.

7 Capitalise on the significant reputational and economic benefits for the ACT as a world leader in the transition:

Through innovation and effective jurisdictional regulation, the ACT will continue to be promoted as a world leader in transitioning the energy system to net zero emissions. This can drive more opportunities for the Territory and enable the sharing of learnings with others to support national and global change.

8 Establish the conditions for a transition by supporting the development of a net zero emissions ecosystem:

This transition is complex, and industry and community have a role to play to jointly lead the transition to move to net zero emissions by 2045. This will be achieved through capacity building and developing a supportive policy and regulatory environment.

Consultation questions: About the Integrated Energy Plan

1. Do you think the proposed Integrated Energy Plan principles to guide the ACT Government will support a successful transition to electrification in the ACT? Are there any areas missing?

The Integrated Energy Plan framework

The IEP will be delivered in three stages out to 2040:

- Integrated Energy Plan 1 2024 – 2030
- Integrated Energy Plan 2 2030 – 2035
- Integrated Energy Plan 3 2035 – 2040

We have mapped out what is expected over these time periods, and the likely focus of government efforts. The ambition, focus and actions under future plans will depend on the progress of the transition, so is flexible to change over time.

This adaptive approach will allow us to address emerging challenges and opportunities as the Territory and the rest of the country progresses through the energy transformation.

Integrated Energy Plan 1, 2024-2030:

Setting the foundations for success

Canberra's households have already started the transition, making energy efficiency upgrades such as improving insulation and upgrading gas appliances to efficient electric appliances. Households are also installing rooftop solar and battery systems to support their home energy use and switching to electric vehicles. Minimum energy efficiency standards are increasing the quality of rental properties, making homes more thermally comfortable.

It is expected that many Canberrans will continue to transition themselves towards an electric future up to 2030 as gas appliances fail or reach end of life. The ACT Government is supporting this consumer-led transition through loans, rebates and incentives, partnered with education. Ongoing education is critical to equip consumers with the information they need to make decisions at the time that is right for them to transition. In addition, the ACT Government will introduce a regulation preventing new gas connections so new homes and businesses will be all-electric from construction, and benefit from being able to use 100% renewable electricity.

As this consumer-led effort continues, we will need to ensure the ACT's electricity network is preparing for a renewable energy future, with greater demand and higher uptake of electric vehicles, batteries and rooftop solar.

We must responsibly balance the increasing demands on the network, and at the same time, be well placed to take advantage of the opportunities that technological advances in consumer energy resources (CER), such as batteries, solar and electric vehicles present. Over this period, appropriate investments in our network will be needed. We will also need to consider if any action is required to ensure an appropriate role for different scales of batteries.

As the community begins to electrify, the cost of maintaining the gas network will begin to be shared by a decreasing number of people, leading to higher gas network costs. Planning and review of current regulatory frameworks will be required to make sure the costs associated with decommissioning the Territory's gas network over time are shared fairly and done in an economically efficient way.

What are Consumer Energy Resources?

Consumer Energy Resources (CER) include energy generation and storage technologies that are on residential or business properties. CER can also be referred to by industry groups as Distributed Energy Resources. They include solar panels, batteries and even electric vehicles.

CER are an important part of our future renewable energy supply as owners will be able to either use the energy themselves or trade energy with energy providers and contribute to the national energy market.

As gas prices rise, there is risk that those who cannot electrify without assistance will be left to bear the costs. To ensure a fair and equitable transition, the ACT Government is proposing that during the first IEP, the priority area for action is to support those who require assistance to electrify their households.

Out to 2030, there will be some buildings (including multi-unit apartments), businesses and industrial processes that cannot easily electrify. We are proposing effort be focused on developing a pathway for electrification for multi-unit apartments and commercial buildings, maintaining the value of these buildings in a net zero emissions future. We will explore the appropriate role for green gas for those industrial applications requiring high grade heat, to ensure we are well positioned to take advantage of solutions as they arise.

Electrification of our city will depend on access to the right skills and workforce. Shortages in electrical trades are already apparent and competition for these skills is likely to build as other jurisdictions increasingly electrify. The ACT Government is proposing to focus on building the skills and workforce required to facilitate the ACT's energy transition, including identifying pathways for gas fitters within the Territory.

Part 3 of this Paper sets out proposed policy directions for this period in more detail.

Integrated Energy Plan 2, 2030-2035:

Accelerating the transition

Having implemented IEP 1, consumer-led electrification will ideally be well underway by 2030, with many households that required assistance to electrify having successfully made this transition. The ACT will be maintaining its supply of 100% renewable electricity and encouraging uptake of consumer energy resources. By 2030, 80-90% of new light vehicle sales will be electric, with EVs making up an increasing proportion of the fleet over time.

The ACT Government will continue to encourage behavioural change and provide information to assist the community. However, our focus is anticipated to move to additional measures to accelerate transition. This could include implementation of regulatory measures, such as requiring replacement of gas appliances with electric, or measures to ensure housing providers electrify rental properties or increase energy efficiency so renters can experience the benefits of the transition.

Beyond 2030, it is expected that integration of electrification solutions for complex buildings, business and industry will be more readily available because of technological breakthroughs, global research and development and the capacity building and pathway demonstration undertaken during IEP 1. Effort to implement these solutions will need to continue over this period, funded primarily through private green financing.

This will maintain the value of these buildings as the city transitions to net zero emissions.

We will have greater certainty around the need for niche applications of green gas in industry and heavy transport. With this knowledge, and a better understanding of the rate of transition off gas, a plan for decommissioning the gas network will be taking shape.

New policies may be required to continue to support integration of electrification technologies, including electric vehicles, into the network.

It is expected that efforts to build the required skills and workforce, including reskilling fossil fuel gas workers to meet the evolving needs of the energy sector, will be ongoing.

Integrated Energy Plan 3, 2035-2040:

Electric Canberra delivering for households

The transition will continue to be monitored against Canberra's emissions reduction targets and indicators. At this time, the lessons of the transition and the emissions reductions achieved will influence the long-term trajectories for the indicators in Part 4. Assessing this against progress achieved in other sectors will inform whether policies need to be adjusted to ensure we are on track for net zero emissions.

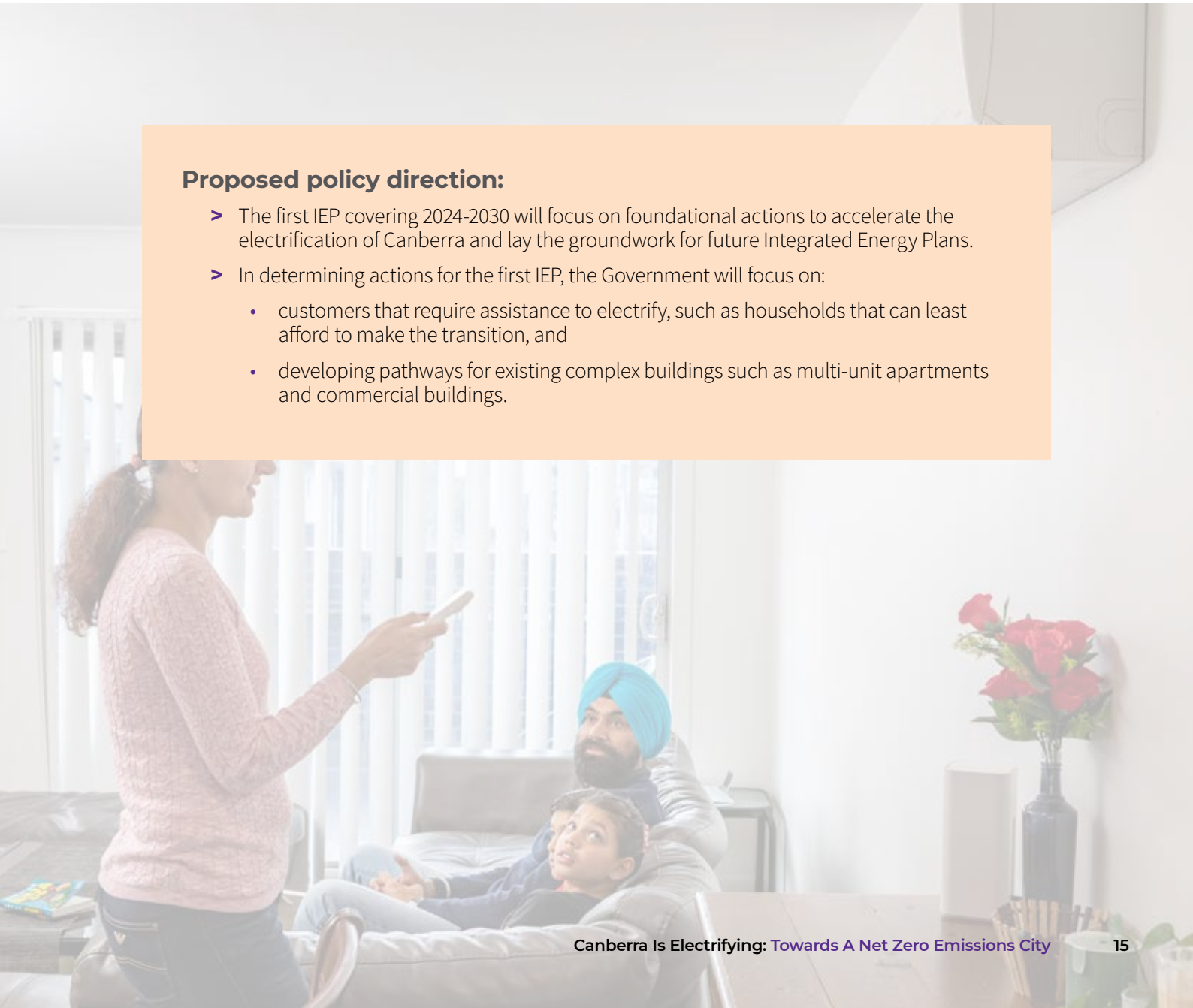
A priority for government at this time will likely be the commencement of a phased decommissioning of gas networks as the Territory moves to become permanently fossil fuel gas free. The ACT will continue to build and maintain the skills and workforce to maintain the ACT's evolved energy system.

Proposed policy direction:

> The first IEP covering 2024-2030 will focus on foundational actions to accelerate the electrification of Canberra and lay the groundwork for future Integrated Energy Plans.

> In determining actions for the first IEP, the Government will focus on:

- customers that require assistance to electrify, such as households that can least afford to make the transition, and
- developing pathways for existing complex buildings such as multi-unit apartments and commercial buildings.



The journey to 2045

2010

Legislated emissions targets

2011

Release sustainable energy policy

2012

First reverse auction

Release ACT Climate Change Strategy and Action Plan 2

2020 First Step

ACT Government announces its Zero Emissions Vehicle Strategy and Pathway to Electrification position.

In 2025, the ACT will achieve its next emissions reduction target of 50-60%.

We are here

ACT Government launches the Integrated Energy Plan Position Paper for consultation.

Late 2023

Regulation to prevent new gas connections commences.

106 new Transport Canberra electric buses in operation.

2027

Government will undertake a mid-point review of the first Integrated Energy Plan to assess progress and provide an update on the City's electrification.

2030

ACT Government will release its second Integrated Energy Plan.

The ACT aims to achieve its next emissions reduction target of 65-75% (based on 1990 levels).

80-90% of new vehicle sales will be zero emissions vehicles.

At least 286 Transport Canberra electric buses are anticipated to be in operation (about 47% of bus fleet)

2030-2035

Under the second Integrated Energy Plan, Government will focus on actions to accelerate the transition for those in households that haven't chosen to switch off gas. We will reskill more of the fossil fuel gas workforce.

Technology will have developed with transition pathways for complex uses. A pathway for decommissioning the gas network will become clear.

Purchasing an electric vehicle will be the norm and the sale of new ICE vehicles (such as diesel and petrol vehicles will be phased out).

2018

Updated legislated emissions targets

The ACT Government explores opportunities to electrify our city's transport system, including Transport Canberra trialling two electric buses, and the release of The ACT's Transition to Zero Emissions Vehicles Action Plan 2018-2021.

The ACT will achieve its next emissions reduction target of 40% (based on 1990 levels).

Release of the Zero Emissions Transition Plan for Transport Canberra outlining an approach to decarbonise Canberra's public transport system.

2019

Release ACT Climate Change Strategy.

Stage 1 Light Rail opens, powered by 100% renewable electricity from 2020.

2020

Reaffirm climate ambition in Parliamentary and Governing Agreement. ACT achieves 100% renewable electricity milestone.

2023-2025

It's a good time to start considering making your next choice electric and develop your own transition plan using energy.act.gov.au

First Integrated Energy Plan is released.

Over the next 5-10 years

More households and business consumers will start to replace their gas appliances with electric appliances and purchase electric vehicles. Government will focus its efforts on supporting lower-income households to electrify and ensure the right skills and settings are in place.

2035-2040

ACT Government will release its third Integrated Energy Plan.

The majority of our households will be electric, enjoying savings. Effort will focus on those most difficult transition challenges, and hard to abate industrial processes.

Most vehicles will be electric. We will have an efficient and reliable 100% renewable electricity network and sections of the gas network will be safely decommissioned.

In 2040, the ACT will achieve its next emissions reduction target of 90-95% (based on 1990 levels). The ACT public transport system is also anticipated to be full electric by 2040.

2045

The ACT will reach net zero emissions (at the latest).

All Canberrans will be using affordable renewable energy to work, live and travel.

PART 3

Integrated Energy Plan 1 focus areas

Development of the Integrated Energy Plan requires consideration of the broad reaching impacts of the energy transition to the ACT.

In recognition of existing government policy and other work underway (particularly for zero emissions vehicles, transport, and battery storage), the focus for the first IEP is on actions to lay the foundations for the ACT to electrify, address known challenges, and take advantage of emerging opportunities.

The following sections propose policy directions for the key areas of the transition that are being considered for government action from now out to 2030. The proposed policy directions will help shape the policies and programs the ACT Government will implement.

Developing the future energy network and sharing the costs

Electrification of our homes, businesses and vehicles will see an increasing demand for electricity and integration of new technologies, such as batteries. Investment will be required to continue to deliver an electricity system that remains strong, secure and reliable. Alongside this investment, the existing gas network will need to be gradually decommissioned as the ACT electrifies.

The management and apportionment of costs for running gas and electricity networks are governed by national energy regulatory frameworks. The appropriateness of these frameworks and cost sharing arrangements will need to be considered, particularly as other jurisdictions also move away from fossil fuel gas.

A range of reforms to national frameworks are also being undertaken to determine whether changes are needed to encourage uptake of new technologies and manage the electricity grid at least cost, for example, further incentivising uptake of smart meters. The ACT Government will engage with these reforms and influence national regulatory frameworks in the interests of ACT consumers.

There are a range of approaches to deliver the required changes to the ACT's energy networks. A consumer-led approach provides consumers with the best available information on current technologies and empowers them to transition away from fossil fuels at a time that is right for them. This approach provides the greatest choice to consumers in deciding when they transition and which pathway is best for them. To date, uptake of household energy efficiency and electrification in the ACT has been primarily consumer-led, with the ACT Government providing incentives and support, such as the Sustainable Household Scheme. The ACT Government is proposing to continue with this approach for the phase out of fossil fuel gas out to 2030, with the exception of implementing the No New Gas Regulation.

However, a consumer-led approach may not be the most efficient or cost-effective approach in the long-term, and it may result in a higher overall cost as more consumers begin to transition off the gas network.

Approaches to transitioning ACT's energy networks

Consumer-led transition

This approach enables consumers to make decisions regarding appliance electrification that suits their timing and needs. It is comparable to how consumer energy resources, such as rooftop solar and batteries in the electricity network have been deployed to date: largely consumer-led and unplanned.

Staged transition

A staged approach may involve planning for the gas network to be removed from entire areas in defined stages. This approach would allow for more precise forward planning and network investment by Evoenergy, the owner and operator of the ACT's electricity and gas networks, and potentially reduce the network costs that are passed through to consumers. Clarity on the timing of network closure will also inform homes and businesses when they are making investment decisions.

Over the longer term, a combination of approaches may be the most appropriate for the ACT. This could see support for a consumer-led transition complemented by a staged transition that begins in later stages of the IEP.

The proposed approach in the first IEP is to commence with a predominantly consumer-led approach, to 2030. However, in conjunction with Evoenergy, the ACT Government will continue to monitor and model the impact of the transition on energy networks, support the ongoing integration of new technologies into the energy system, and consider when and how a more staged transition may be required to reduce network costs.

Proposed policy direction:

- Out to 2030, the transition will be primarily consumer-led. The ACT Government will support and encourage the community to choose to transition off gas. Consumers will decide if and when they adopt consumer energy resources, such as solar and batteries, and electric vehicles.
- The ACT Government will prioritise analysis and planning to support integration of new technologies and the required growth of the electricity network in the interests of ACT consumers.
- The ACT Government will monitor the rate of transition from the fossil fuel gas network and work with Evoenergy to plan for the wind-down of the gas network.
- The ACT Government will influence national regulatory frameworks in the interests of ACT consumers.

Consultation questions: Developing the future energy network and sharing the costs

2. What are the barriers to uptake of consumer energy resources and other technology, such as batteries, solar panels and electric vehicles?
3. What are the benefits of the ACT using a consumer-led approach during the first IEP (to 2030) to transition the ACT towards electrification? A consumer-led approach means the community will be encouraged to transition off gas at a time that suits them. Consumers will decide if and when they adopt consumer energy resources, such as solar and batteries, and electric vehicles.
    a. Do you think there is any benefit in a staged transition approach following an initial consumer-led transition? What would be the barriers of such an approach? For example, after 2030, this could be a suburb-by-suburb staged transition approach.
    b. Do you have a preference for any approach?

Electrifying our community

Canberrans are already taking action, electrifying and improving the energy efficiency of their homes, businesses, and vehicles.

All Canberrans deserve to live in healthy, energy-affordable homes. This is why ACT Government offers a range of loans, rebates, incentives, grants, and other programs to support the community to make sustainable choices.

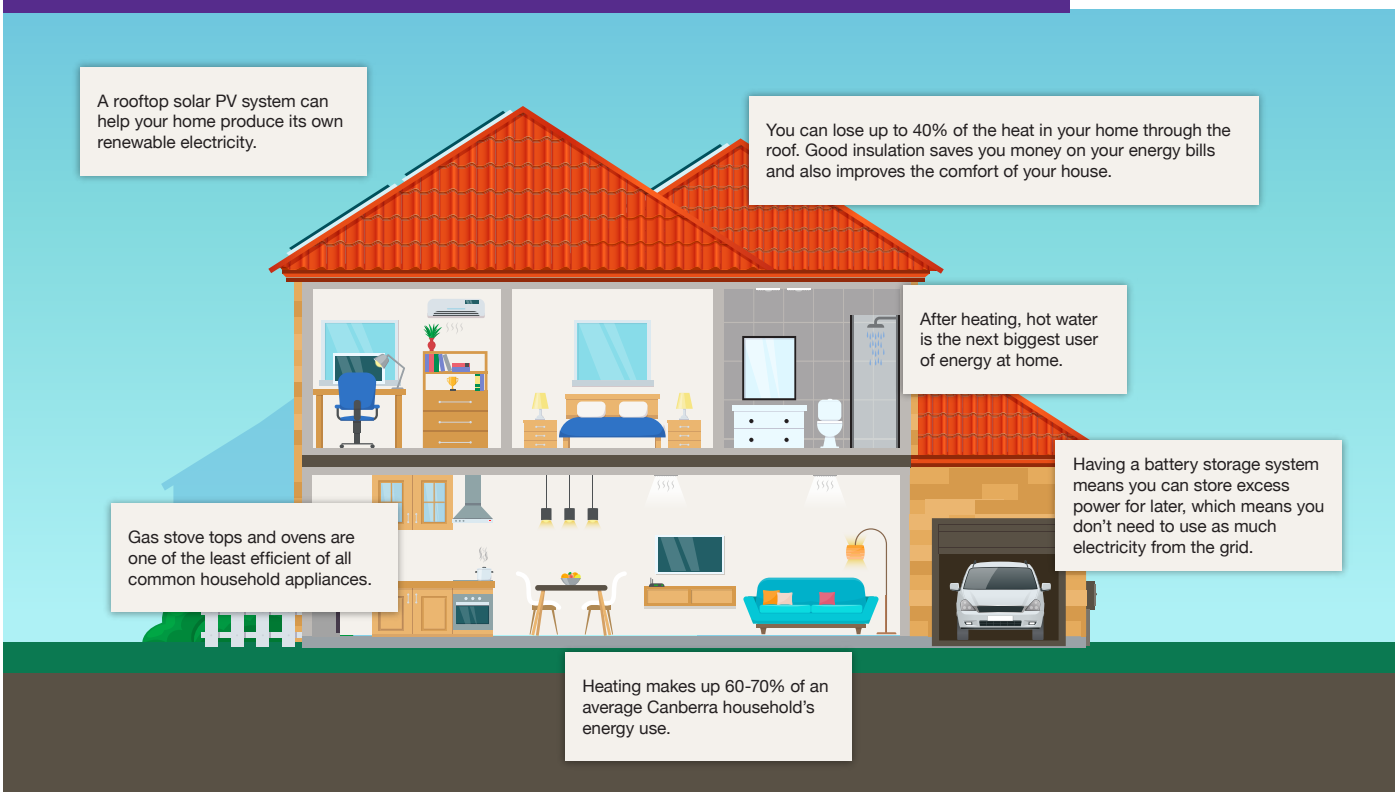
Existing programs and target groups	Description
Sustainable Household Scheme (Homeowners, community organisations and holders of current drivers licence for EV's)	Zero-interest loans of up to $15,000 for eligible households and not-for-profit community organisations to assist with the upfront cost of purchasing technologies such as batteries, electric vehicles, electric appliances and insulation.
Home Energy Support Program (Low-income homeowners)	Provides eligible Australian Pensioner Concession and Health Care Card holders, and Department of Veterans' Affairs Gold Card holders access to a rebate of up to $2,500 for the installation of rooftop solar, and up to $2,500 for installation of a hot water heat pump, reverse cycle heating and cooling system, electric stove top/oven and/or insulation.
Energy Efficiency Improvement Scheme (Households and small to medium businesses)	Regulatory scheme that requires ACT electricity retailers to achieve an annual target for energy savings and deliver savings in priority households. Includes a range of eligible activities including appliance electrification.

Sustainable Home Advice Program (Homeowners and renters)	Independent advice to help ACT households use energy and water more efficiently (includes education workshops and in-home energy assessments).
Low Income Home Energy Efficiency Program (Low-income homeowners and renters)	Helps low-income households in the ACT improve energy efficiency of their homes, reduce energy and water use and bills and contribute to reducing greenhouse gas emissions.
Renters Home Energy Program (Renters)	Free expert advice for renters on how to make their rental home more comfortable and reduce energy use and costs.
Utilities Concession Scheme (Low-income households)	An energy rebate or concession is available to eligible households. You can get money back on your electricity, gas, water or sewage costs. The rebate covers up to $750 per year.
Energy Assistance Community Partnership (Low-income homeowners or renters)	Informs public and community sector organisations about utility hardship assistance measures available.

The initiative of Canberrans, supported by these policies and programs, has already resulted in changes within the community. More homes and businesses are electrifying, and enjoying the bill savings and reduced energy, as well as the health benefits, of becoming more energy efficient.

At the national level, there have been steady improvements to the thermal efficiency of homes and the appliances within them, driven by the National Construction Code, Minimum Energy Performance Standards and star rating labels. The ACT Government is continuing to support sustainable upgrades to existing buildings, making them cheaper and more comfortable to live in.

Steps for household electrification and energy efficiency



There are a range of gas appliances households can transition to electric, and energy efficiency improvements households can make, to save money on energy bills and improve the thermal comfort in the spaces where we live.

Through further education, it is anticipated more sectors of the community will participate in the transition to more energy efficient electric homes.

ACT Government and CHOICE collaboration

The ACT Government has partnered with Australia's leading consumer advocacy group, CHOICE, to create an online experience – *Make Your Next Choice Electric*. The tool helps Canberra households to create their own energy transition plan and switch off gas.

The tool:

- helps identify by when appliances will need to be swapped out
- showcase the latest energy efficient electric appliances on the market that are best suited to individual household needs
- provide cost estimates for upgrades
- provide estimates for cost and emissions savings because of upgrades.

Regulatory priorities to support the community

The ACT Government is ensuring ACT's future housing and commercial buildings will be built all electric and will introduce a regulation to prevent new gas network connections in late 2023. This will ensure that new homes and businesses will not need to transition from fossil fuel gas in the future and protects them from expensive retrofit costs.

As a priority, the ACT Government will look at additional regulatory opportunities to support consumers by making information transparent and available. For example, information on the ACT's electrification pathway could be provided at the point of sale of a gas appliance to support consumers to make informed choices when deciding between gas and electric options. Additionally, the use of gas in buildings may not be obvious to a new tenant or purchaser. The mandatory disclosure of gas infrastructure in use on premises for both property sale and rental advertisements could also provide additional visibility to consumers.

As we near and reach 2030, the ACT Government will begin to investigate whether there is a need for additional regulatory actions that more actively restricts consumer choice, such as installation of gas appliances. Consideration will be given to the pace of transition, cost of delaying transition, advancements in solutions for complex buildings, and skills and workforce capacity.

Ensuring safety throughout the transition is also a priority for government. The government will consider whether any change to local regulation is required to ensure consumer safety, such as reviewing the rules for the installation of un-flued gas appliances.

An equitable transition for households who need further support

Assisting those who cannot transition themselves is proposed as the highest priority area for action out to 2030. Through this discussion paper the ACT Government is seeking feedback on the most effective ways to provide support to these households, including how to work with those organisations already providing support to our community.

Households without the means to transition, particularly those with low incomes, will need support to take part in Canberra's energy transition. This could take the form of rebates, access to low interest finance or regulation. Often, people who have the least capacity to pay for energy efficiency upgrades or electrification live in homes that are the most expensive to heat and cool. This can impact their health, comfort, and happiness at home. Helping lower income households transition off gas will help shield the most vulnerable in our community from increased cost of living pressures, and ensure they can live in thermally comfortable homes, powered by renewable electricity.

Energy costs make up a higher proportion of household expenditure for lower income households than those on higher incomes. The cost of gas will increase over coming years, particularly as more of our community becomes all-electric.

Renters face the added challenge of not being able to directly influence decisions to reduce their energy costs. A housing provider may incur upfront costs to install electric appliances but won't benefit from reduced energy costs. The ACT Government has recently introduced minimum energy efficiency standards for rental homes – requiring all residential rental properties to meet a minimum standard for ceiling insulation as a first step to improve the energy performance of rental buildings. Government will consider further options for renters and rental providers to incentivise energy efficiency improvements and electrification. A recent report from the Grattan Institute also calls on the Federal Government to make instant asset write offs available through the tax system to housing providers who upgrade gas appliances to efficient electric options.

CASE STUDY | Supporting low-income households – Guna's story

Through the Home Energy Support Program, Guna, who holds an Australian Pensioner Concession Card, was able to access $5,000 in Government rebates to help install solar and upgrade his gas hot water system to an energy efficient hot water heat pump. This was the last remaining gas appliance in his home and he is now all electric and saving hundreds on his energy bills annually, as he is also no longer paying a gas supply charge.

Switching off a gas connection

The last step in the transition to an all-electric household or business is to abolish or disconnect a gas connection. Temporary gas disconnection is often the preferred option for customers as it is currently more affordable than the cost of abolishment. However, the safest option is to abolish the gas network connection.

Recently, the Australian Energy Regulator (AER) made a decision reducing the difference between disconnection and abolishment costs for consumers in Victoria.

From 1 July 2023, individual Victorian consumers will pay a maximum of $220 for abolishment and network businesses will recover the balance from its operating costs, spreading it across all consumers.

The AER have noted that this is only an interim measure to address this issue and that further work is required to develop a longer-term solution.

The ACT Government will work with the AER, Evoenergy and other jurisdictions to consider the appropriateness of abolishment charges and investigate options to minimise the safety risks, the barrier they present to electrification, and network planning challenges. This work will be prioritised ahead of the AER's next decision on gas network arrangements for the ACT, which will cover the period 2026-2031.

Abolishment vs disconnection – What is the difference?

Disconnection

Closing a gas account involves a temporary disconnection. If you just close your account, your gas connection still needs to be maintained and you will still have an active, pressurised gas line on your property which is a safety consideration.

Costs

Gas disconnection will cost around $150, plus an administration fee (for a standard meter). You should also consider asking your gas tradesperson to cap the line on the customer side of the meter when they disconnect the last appliance. This will ensure no gas can inadvertently pass into the house if the meter malfunctions or the 'tap' is turned on. If done at the same time as appliance removal, it should cost around $100. If you do it separately, it will also incur a call out fee of between $150 – $300.

Abolishment

Abolishment involves the permanent disconnection of your gas connection and removal of active gas equipment on your property. This is the safest option as it removes all risks associated with having a pressurised gas pipe on your property, including risk of gas leaks and excavation strikes.

This also involves more work than the disconnection process, such as digging up the connection point to cut the service line from the gas main, evacuating gas and removing the meter safely. The process requires at least two people onsite, may require traffic management, site restoration works and up to two hours of work.

Costs

The current fee is around $770-$800 (including energy retailer fees and Evoenergy fees) or around $1,500 (incl GST) for a business meter. This fee is regulated by the Australian Energy Regulator.

Proposed policy direction:

- The highest priority will be supporting households who need assistance to electrify, noting this group is at the highest risk of bearing the costs of the transition and being left behind.
- Out to 2030, the ACT Government will look to motivate those who can electrify to do so when the time is right for them. Actions will focus on education and behavioural programs with current initiatives, such as the Sustainable Household Scheme, providing financial support.
- The Government will investigate regulatory options designed to increase information and transparency to support consumer choice.

Consultation questions: Electrifying our community

4. What can be done to further encourage electrification among those households that have the means to do so?
5. Is there a role for regulation to support the community when choosing between gas and electric appliances?
    a. How could point of sale information support consumers when replacing appliances or should gas assets be disclosed in a property transaction (sale or rental)?
6. Which members of the community are most at risk of being negatively impacted during the transition?
    a. If we were to provide targeted support for low-income households or those who can't transition themselves, what could this be?
    b. What specific actions could the government take to best support these households?

Electrifying complex buildings

The ACT Government's vision for a more compact and sustainable city will see more Canberrans living in apartments and townhouses. For new developments, the ACT Government is ensuring they will be built all-electric by introducing a regulation to prevent new gas network connections in late 2023.

Gas systems and appliances are common in existing apartments and townhouses in Canberra, often used for heating, hot water and cooking. Electrification of these buildings will reduce emissions, lower utility costs for consumers, and increase energy efficiency.

The electrification journey, including to accommodate electric vehicle charging, will be more complex for many of these Canberrans due to social, structural, technical, and regulatory challenges. But this is not a challenge unique to the Territory, with millions of multi-unit complexes worldwide electrifying over the coming decades. Significant uptake of electrification in these buildings is not expected before 2030, providing for a period of technological development and workforce learnings.

Introducing a regulation to prevent new gas network connections

The first step in phasing out fossil fuel gas is to prevent the installation of any new gas. The ACT Government will introduce a new regulation in late 2023 (or as soon as practical) that means new houses and most new buildings in the ACT (new suburbs and new infill developments) won't be able to connect to gas. They will have to use electricity for power instead, and Canberrans will benefit from more affordable and 100% renewable electricity.

For more information on the community consultation and new regulation, visit: yoursayconversations.act.gov.au/pathway-to-electrification.

The ACT Government is proposing to work collaboratively to develop industry knowledge and capability for the increased energy efficiency and electrification of complex buildings, and how and where to best integrate charging infrastructure for electric vehicles. This will ensure that these existing apartments and offices continue to provide high quality and desirable accommodation, retaining their existing high economic value for the community.

Many low-income households live in buildings that will take longer to transition than standalone housing or townhouses. Ensuring there is a pathway, capability and skills to electrify these buildings will be central to ensuring these households also see the benefits of electrification. This pathway can then be linked to finance, exploring opportunities to link with the Clean Energy Finance Corporation and the May 2023 $1 billion fund for energy-saving home upgrades.

The move towards higher density living has also seen an increase in embedded electricity and gas networks, particularly in multi-unit developments. Embedded networks are private utility networks where a building or site owner purchases the energy and on sells it to users, for example to tenants in residential apartment blocks, retirement villages, caravan parks or shopping centres. Embedded networks can limit access to competitive energy retailers or consumer protections and can provide barriers to electrification and energy efficiency improvements. The ACT Government is reviewing the operation of embedded networks in the ACT to address these restrictions, and the outcome of this will inform our electrification pathway for apartment buildings.

The circular economy and the energy transition

The ACT Government recognises the need to act responsibly to manage a sustainable and responsible transition utilising the circular economy. The benefits of adopting a circular economy are not just about improving the natural environment, wellbeing and supporting the transition to a net zero emissions city. The circular economy provides great opportunities for innovation, economic growth, and job creation for Canberrans. For example, sustainable pathways will need to be developed to reuse existing buildings with gas components.

Proposed policy direction:

- Electrification of existing complex buildings, such as multi-unit apartments, faces distinct challenges. Widespread transition of these buildings is not expected in the immediate future. The ACT Government will focus on developing pathways for the future transition of existing complex buildings, including ways to attract green finance.
- The ACT Government will work collaboratively with industry, business and the community to build knowledge and capacity in how best to electrify existing complex buildings, including integrating charging infrastructure for electric vehicles.

The commencement of new regulations in 2023 will prevent new buildings connecting gas, including multi-unit apartments and other complex buildings.

Consultation questions: Electrifying complex buildings

7. How can government work with industry and financiers (such as green finance and investors) to electrify existing complex buildings?
    a. How can government work with community and community organisations to ensure a smooth transition for those living in complex buildings?
8. What should be the role of body corporates in preparing for the transition?

Electrifying business

Businesses are important climate action leaders. With more than 30% of gas demand in the ACT from businesses, they will play a vital role in meeting the ACT's emissions reduction target of net zero by 2045.

Many small and medium businesses will be able to transition like households and enjoy the benefits of energy bill savings from increased energy efficiency and electrification. However, we also understand that the transition may be complex for businesses where electric technology does not currently exist or is too expensive to transition. Challenges for businesses may include:

- the cost of new equipment;
- the space required for appliances;
- whether the electricity connection, wiring and switchboard can handle the extra electricity demand;
- a preference for cooking with gas;
- difficulty finding electric replacements for gas appliances;
- if a business premises is leased, whether the landlord will permit any required alterations to enable the transition;
- difficulty accessing EV charging infrastructure for commercial vehicles, particularly high kilometre per day vehicles like taxis, rideshare and delivery drivers.

This transition will be a long journey for some businesses. Many electric alternatives for businesses will become more affordable and available over time. For example, advancements in commercial induction cooktops or more efficient commercial clothes dryers.

The ACT Government will work with the community on the best way to support businesses to transition away from gas use at a time that is right for them. This will likely be at the end of life for gas appliances, at the end of tenant leases or during building upgrades.

Government-industry partnerships can help ensure we have the right workforce and skills for the future, regulatory frameworks that encourage business growth and entrepreneurship, and appropriately targeted support programs.

CASE STUDY | Small businesses leading the way – The RUC

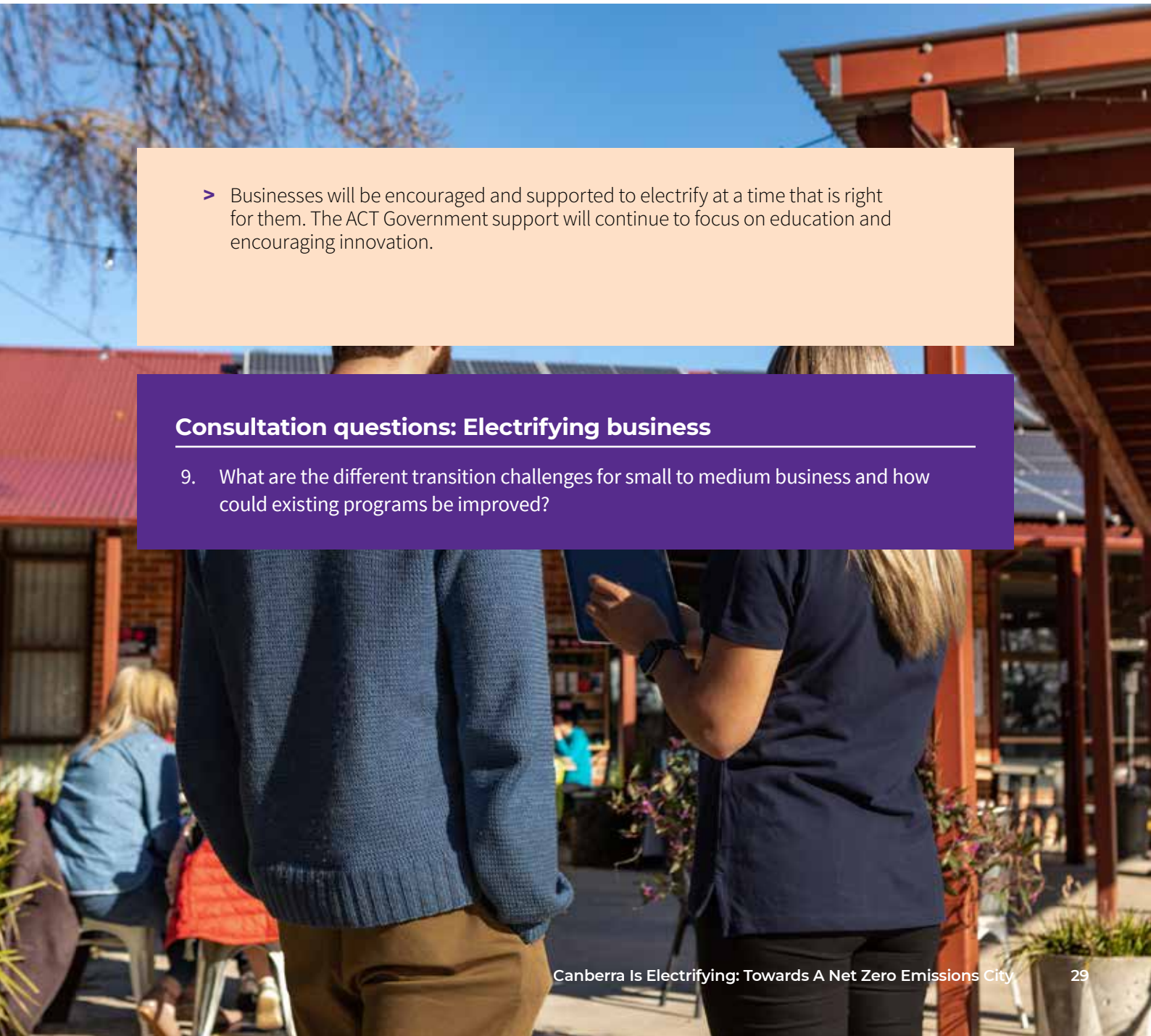
The RUC has refurbished its energy and water systems to reduce its environmental impact and installed rainwater tanks to provide water for irrigation and toilets. It generates its own electricity with a 100KW solar system, and in future this power supply could help the club transition off gas. The RUC has upgraded to more efficient lighting, cool rooms, and heating and cooling systems. It is also looking into installing electric vehicle chargers.

The RUC won ACT Government's 2023 Energy Star for the Climate Choices Business Award

The ACT Government supports small and medium businesses through the below programs:

Program (Target group)	Description
Energy Efficiency Improvement Scheme (Households and small to medium businesses.)	Regulatory scheme that requires ACT electricity retailers to achieve an annual target for energy savings and deliver savings in priority households. Includes a range of eligible activities including appliance electrification.
Sustainable Business Program (Small businesses)	Provides rebates (up to $10,000 on a 50/50 co-contribution basis) to businesses for gas to electric equipment upgrades.
Business Fleet Advisory Service (Businesses and community organisations)	Provides advice to businesses and community organisations to help electrify vehicle fleets.

Proposed policy direction:



> Businesses will be encouraged and supported to electrify at a time that is right for them. The ACT Government support will continue to focus on education and encouraging innovation.

Consultation questions: Electrifying business

9. What are the different transition challenges for small to medium business and how could existing programs be improved?

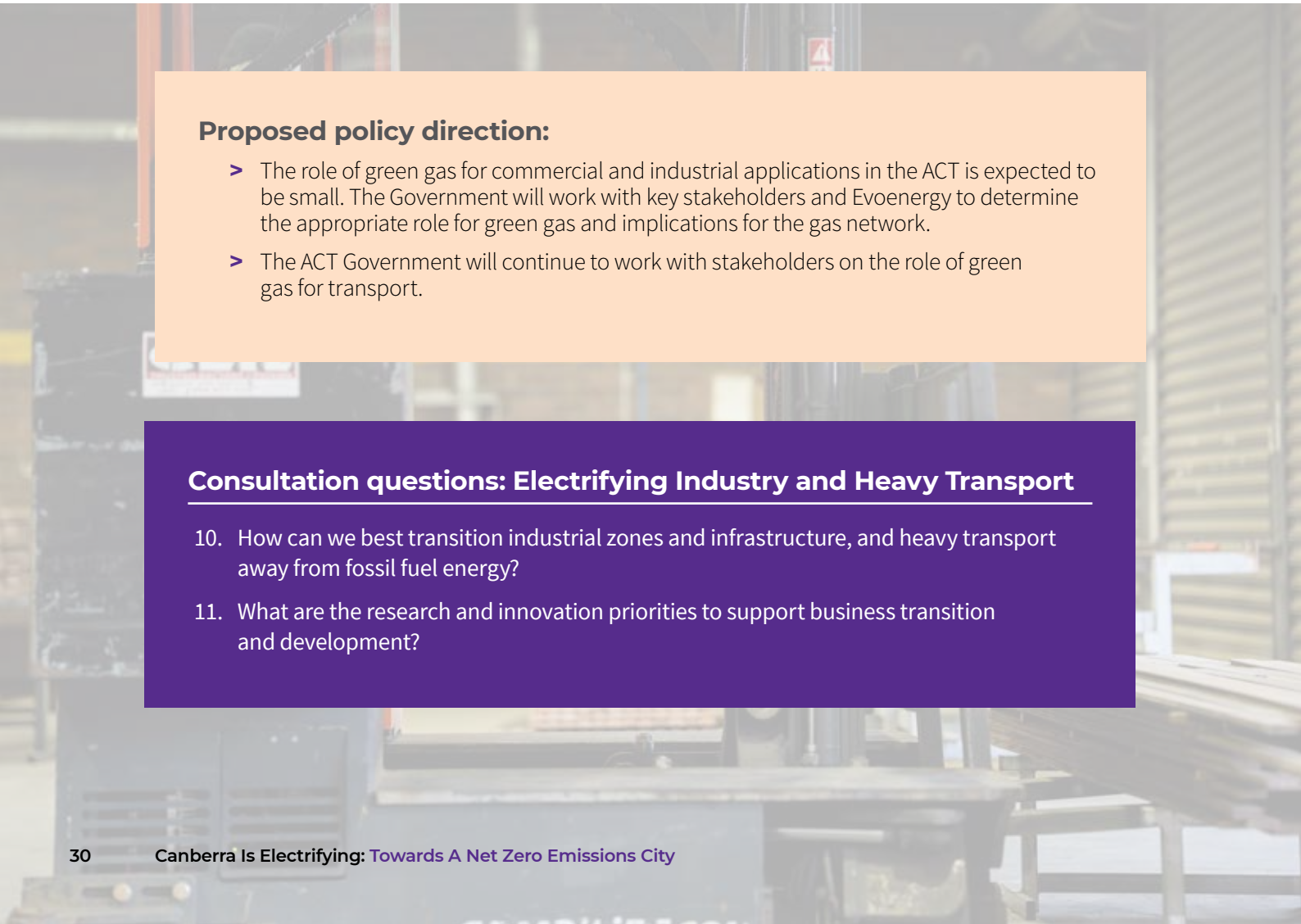
Electrifying industry and heavy transport

Electrification of the ACT is the most efficient and cost-effective approach to delivering net zero emissions. However, this is not always feasible for certain niche industrial, commercial and transport applications, where a green gas alternative will likely be required. The term green gas refers to zero emissions hydrogen (or its derivatives) produced using renewable electricity, and biogas. There are several options for production and delivery of green gas, including through repurposing elements of existing gas networks.

The niche applications that may not be readily electrified include industrial processes that require high temperatures such as asphalt and glass production. They exclude commercial space heating, cooking and hot water. Green gas, particularly hydrogen, may also provide a fuel option for heavy transport applications. Over time, as technology and international markets develop, the most feasible and economic options for these applications will become clearer.

Only a small volume of green gas is expected to be needed to meet these niche applications, due to the ACT's services-led economy. This places us at a competitive advantage compared to other jurisdictions and allows us to focus the bulk of our work on electrification.

The ACT will work with stakeholders to provide clarity regarding the role of green gas for industry and heavy transport, including consideration of the type and volume required, how and where it will be delivered, and how the transition will be managed.



Proposed policy direction:

- The role of green gas for commercial and industrial applications in the ACT is expected to be small. The Government will work with key stakeholders and Evoenergy to determine the appropriate role for green gas and implications for the gas network.
- The ACT Government will continue to work with stakeholders on the role of green gas for transport.

Consultation questions: Electrifying Industry and Heavy Transport

10. How can we best transition industrial zones and infrastructure, and heavy transport away from fossil fuel energy?
11. What are the research and innovation priorities to support business transition and development?

Skills and workforce for the transition

The ACT requires a skilled workforce to facilitate the energy transition, including electrical trades, insulators, mechanics, builders, gas fitters and more. These will be the trades that design and install the right technology in homes and businesses to make best use of renewable energy. It is critical to collaborate with industry stakeholders who represent the skilled workers required to support the transition.

Emerging opportunities over the coming decades are expected to have an overall positive impact on the workforce, with the creation of a net zero economy increasing the demand for skills to support the energy transition.

A national shortage of electrical tradespeople

There is a national shortage in key occupations, in particular those in the electrical trade, attributed to a lack of appropriately qualified or skilled applicants. Global and national demand for these skills is rapidly growing and the ACT will need to attract highly-skilled electrical tradespeople as well as create and invest in clear educational pathways to train future electricians. ACT Government is working with the Commonwealth Government to address this national shortage.

The ACT is already a world leader in the transition to net zero emissions, creating an opportunity to attract interstate and international talent to fill skills gaps.

Under CBR Switched On, our Mission is to build on this reputation and respond to climate change as an economic opportunity to attract innovative new enterprises and high-value jobs.

As an early adopter, the ACT can be at the forefront of skills and training by working with local institutions to develop programs to bridge the gap in skills needed to support the transition.

Uptake of zero emissions vehicles, driven by the ACT Zero Emissions Vehicle Strategy 2022-2030, is driving demand for more specialised mechanics and auto electricians to service this growing market.

'Skilled to Succeed', the ACT Government's skills and workforce agenda, identifies the importance of training and upskilling in Zero Emission Vehicle technologies as a key growth opportunity for our local skills sector and economy. The Canberra Institute of Technology has worked closely with Tesla to co-develop electric vehicle training to meet the auto service skills needs now and in the future.

Skilled to Succeed also highlights that the ACT Government will work with industry on post-trade pathways, including short courses in new technologies and development of materials to support upskilling for sustainable construction and Canberra's renewable energy transition. The ACT Government will release industry action plans for the renewable and sustainability, and building and construction industries in 2023. The action plans will outline government, industry and training organisation actions to support immediate workforce and training needs, identify acute pressures, and position the industry to meet emerging future needs.

The important role of gas fitters

The ACT Government acknowledges that some trades will experience unique challenges of the transition, with some directly impacted over the long-term.

Gas fitters are an important skilled trade that will play a critical and ongoing role in the energy transition. An increase in demand for gas fitters is anticipated in the short and medium term as the ACT community starts to retrofit their homes and electrify, before demand for gas fitting services decreases. Supporting this sector to reskill or retrain to support the energy transition is proposed to be a key focus for government action.

Proposed policy direction:

- The ACT Government will prioritise efforts to establish skills and workforce readiness for future needs in key occupations. This will primarily focus on the electrical trade to mitigate national shortage concerns and the exploration of a skills pathway to support those working in the gas industry.
- The ACT Government will also investigate training gaps, occupational licensing, and regulatory barriers to facilitate redeployment of any disrupted workers, and incentivisation programs to leverage regional workforces not currently engaged in the ACT. Industry stakeholders will be engaged in this work.

Consultation questions: Skills and Workforce for the transition

12. How can we increase the number of skilled workers in electrical trades?
13. What opportunities exist for industry wage and work conditions, that could assist with workforce attraction and retention?
14. How can we best support gas workers to transition their skills to be part of the net zero economy, for example in electrical trades, sustainable buildings and electric vehicle auto servicing?

Electrifying ACT Government assets

The ACT Government is aiming for net zero emissions from government operations by 2040. All new government buildings and facilities are being built without gas, and existing assets will need to transition to meet this target. This will include limited green gas investigations for high-heat applications such as crematoria.

Transitioning government operations provides a practical demonstration of how to transition complex buildings. It will explore novel approaches, support the development of a skilled workforce within the Territory, and aligns with the ACT's climate and energy goals. The ACT has recently announced $70 million to support electrification at government owned and operated buildings and has committed to electrifying its bus fleet as outlined in the Zero Emission Transition Plan for Transport Canberra.

Proposed policy direction:

> The ACT Government will electrify government operations by 2040.

CASE STUDY | Australia's first all-electric hospital building

In a world-leading climate action initiative, and an Australian first, Canberra Hospital's new emergency and critical care facility will be an ***all-electric building***, helping to minimise the carbon footprint of Canberra Hospital. Once operational, this initiative will mitigate the release of an estimated 1,886 tonnes of carbon dioxide every year; the equivalent of taking 760 cars off Canberra roads annually.

PART 4

Indicators - Measuring the gas transition

The ACT Government has existing targets to drive efforts to decarbonise, including emissions reduction and electric vehicle uptake goals. In addition to these targets, indicators are a useful tool to measure progress, particularly of the transition away from fossil fuel gas.

Out to 2030, the pace of change will be primarily driven by consumer choice, with households deciding when to replace gas appliances, close their retail accounts and abolish gas connections. The no new gas regulation will reduce connections where land is redeveloped (for example, through knock-down rebuilds) and there may be future Government programs that support electrification.

The introduction of indicators is proposed to help track Canberra's consumer-led electrification progress and how this is contributing to meeting our emissions reduction targets. Tracking progress will also help Government to determine whether adjustments are needed to actions or policies over time. Forward-looking ranges are proposed to give broad guidance on the speed of the transition. These ranges can also help in understanding potential costs and barriers to the transition over time.

The ACT Government is seeking feedback on:

- which indicator, or indicators, provide the most meaningful updates on the progress of the transition for the community, and
- the potential costs or barriers associated with achieving the proposed ranges.

Due to the barriers to abolishment, the ACT Government proposes using the number of retail gas accounts in the ACT as the main indicator. This will capture all premises still paying for supply of gas to the property and will provide the first indication of transition trends over the coming period.

There are currently an estimated 131,000 retail gas accounts in the Territory. By 2045, this needs to be zero. It is proposed that in order to progress the transition, (a 25% reduction) to 94,000-109,000 retail gas accounts is desirable by 2030 to put us on a gradual path towards zero accounts. The rate of change will be influenced by a combination of Government initiatives, industry, community investment and broader economic factors (such as gas prices and inflation). This would put the ACT on a relatively even pathway to 2045, with households that are easier to transition coming off gas first and more complex buildings and industry coming off later. The community may choose to transition earlier in response to energy prices and decisions regarding the future gas network. Tracking retail gas accounts will help to understand whether consumer behaviour is changing.

Alternative, or additional, indicators may include measuring the total number of gas network connections or total volume of gas used.

Gas network connections indicate properties that have access to the gas network including those with temporary disconnections. The number of gas network connections relates to network costs, and therefore contributes to the price of gas. Measuring gas network connections will provide information about whether energy consumers are taking the extra step to abolish (permanently disconnect) their gas supply.

There are currently estimated to be 139,000 gas network connections in the Territory (including those that have temporarily disconnected). By 2030 initial internal ACT Government analysis suggests that this may be reduced to 103,000-121,000. This range anticipates that some households and businesses will take the extra step to abolish when they have finalised their transition. The rate of gas abolishments is expected to accelerate after 2035 as barriers are anticipated to be reduced. This figure could also be represented as the percentage of residential properties with a gas connection to reflect the anticipated growth in the number of households within the Territory.

While the decline in gas consumption is not forecast to be significant during the first phase of the transition, the volume of gas used by the Territory could be significantly altered by a few larger gas users transitioning their operations. Considering declines in total gas consumption reflects how successful the ACT is at reducing emissions associated with energy use and provides a clear link to emissions reductions. As with the volume of gas, a small number of large gas users will have an outsized impact on the emissions trajectory. It is anticipated that larger gas users won't electrify until after 2030.

The ACT currently uses 6.5 petajoules (PJ) of gas annually. This may decrease to 4.27-4.7PJ by 2030, reflecting early reductions from residential and commercial sites, though there is uncertainty in the pace of appliance replacements and readiness of the community to electrify.

The ACT Government will be undertaking further analysis on the potential costs of accelerating gas disconnections to inform Integrated Energy Plan 1.

Indicator	Key points	Measure
Main indicator >> **Gas Retail Accounts**	Most accurate indication of current number of premises using gas determined using AER data set for the ACT.	2023: 131,000 **2030: 94,000-109,000**
Gas Network Connections (utility connections)	The 2030 range anticipates opportunities for connection abolishment when appliances are replaced and retail accounts are closed, along with disconnections due to major refurbishments.	2023: 139,000 **2030: 103,000-121,000**
Gas connected residential properties (%)	Shows the proportion of ACT residential properties yet to transition.	2023: 67% **2030: 45-52%**
Total Gas Volume (PJ)	The 2030 pathways ranges reflect early reductions from residential and commercial sites. It comprises anticipated reductions (1.4PJ) for all connections including several large customers based on ACT modelling.	2023: 6.5 PJ **2030: 4.27 - 4.7PJ**

Consultation questions: Indicators – Measuring the gas transition

15. Which indicator, or indicators, would provide the most meaningful updates on progress?
16. What may be some potential barriers associated with achieving these proposed ranges?
17. Are there other indicators that you think would be useful to track the transition as part of the Integrated Energy Plan? *For example, electric vehicle adoption or overall Territory emissions reductions.*

PART 5

Stakeholder engagement and community consultation

Our community is part of the solution, and we want to approach this transition respectfullyand collaboratively over the next 20 years. Feedback and engagement on how we can achieve this transition and the challenges we need to overcome are crucial to success.

The energy transition will affect everyone in the city and take collective action: households, businesses, industry, trades, developers, and community groups to achieve the goal of net zero emissions by 2045.

Have your say on the Integrated Energy Plan Position Paper

Have your say on the development of an Integrated Energy Plan, which sets out the big picture approach for how the ACT will transition off fossil fuel gas and optimise our energy system to support all Canberrans.

We want to hear from you on what you think on the proposed principles and policy directions. It will give us an opportunity to better understand the challenges and opportunities the transition away from gas presents for ACT homes, businesses, industry and community groups.

Visit yoursayconversations.act.gov.au/pathway-to-electrification

Consultation questions

About the Integrated Energy Plan

1. Do you think the proposed Integrated Energy Plan principles to guide the ACT Government will support a successful transition to electrification in the ACT? Are there any areas missing?

Developing the future energy network and sharing the costs

2. What are the barriers to uptake of consumer energy resources and other technology, such as batteries, solar panels and electric vehicles?
3. Would are the benefits of the ACT using a consumer-led approach during the first IEP (to 2030) to transition the ACT towards electrification? A consumer-led approach means the community will be encouraged to transition off gas at a time that suits them. Consumers will decide if and when they adopt consumer energy resources, such as solar and batteries, and electric vehicles.
    a. Do you think there is any benefit for a staged transition approach following an initial consumer-led transition? What would be the barriers of such an approach? For example, after 2030, this could be a suburb-by-suburb staged transition approach.
    b. Do you have a preference for any approach?

Electrifying our community

4. What can be done to further encourage electrification among those households that have the means to do so?
5. Is there a role for regulation to support the community when choosing between gas and electric appliances?
    a. How could point of sale information support consumers when replacing appliances or should gas assets be disclosed in a property transaction (sale or rental)?
6. Which members of the community are most at risk of being negatively impacted during the transition?
    a. If we were to provide targeted support for low-income households or those who can't transition themselves, what could this be?
    b. What specific actions could the government take to best support these households?

Electrifying complex buildings

7. How can government work with industry and financiers (such as green finance and investors) to electrify complex buildings?
    a. How can government work with community and community organisations to ensure a smooth transition for those living in complex buildings?
8. What should be the role of body corporates in preparing for the transition?

Electrifying business

9. What are the different transition challenges for small to medium business and how could existing programs be improved?

Electrifying Industry and Heavy Transport

10. How can we best transition industrial zones and infrastructure, and heavy transport away from fossil fuel energy?
11. What are the research and innovation priorities to support business transition and development?

Skills and Workforce for the transition

12. How can we increase the number of skilled workers in electrical trades?
13. What opportunities exist for industry wage and work conditions, that could assist with workforce attraction and retention?
14. How can we best support gas workers to transition their skills to be part of the net zero economy, for example in electrical trades, sustainable buildings and electric vehicle auto servicing?

Indicators – Measuring the gas transition

15. Which indicator, or indicators, would provide the most meaningful updates on the progress?
16. What may be some potential barriers associated with achieving the proposed ranges?
17. Are there other indicators that you think would be useful to track the transition as part of the Integrated Energy Plan? For example, electric vehicle adoption or overall Territory emissions reductions.

Stakeholder engagement

The ACT Government is establishing an Energy Transition Technical Advisory Group which comprises of industry stakeholders and associations who it will be regularly consulting with on policy decisions and potential actions.

Contact

To provide your feedback, ideas, or concerns, please contact us at gastransition@act.gov.au

Explore more about our pathway to electrification and make your personalised transition plan:

- Visit us at energy.act.gov.au
- Email us at gastransition@act.gov.au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*Based on average usage for a four-bedroom house


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