



**Canberra
Business
Chamber**

SUBMISSION PAPER



Zero Net Emissions



Contents

Introduction	3
Canberra Business Chamber Response	3
The Key Issues	3
Support for Business	3
Data Use	3
Demonstrating and Measuring Success	4
Opportunities	4
Background	4
Business Objective	5
Sectorial Focus	6
Government Targets	7
The Electricity 2020 Zero Net Emissions Target	7
Transition from Petrochemicals to Electricity and Renewables	9
Waste Management	9
Generating Change	10
Business Adjustment Costs	10
Human Resources	11
Inducing Change	11
Types of Companies	11
Influencers	12
Policy Initiatives	14
Managing Risk: Fiduciary Responsibilities	15
Conclusions	15

Introduction

The Canberra Business Chamber response to the ACT Government's Zero Net Emissions Discussion Paper of December 2017 highlights the opportunities and implications for businesses in the ACT, many of whom are Chamber members.

Canberra Business Chamber Response

This submission identifies key issues affecting efficiency and competitiveness of businesses in the ACT and region in the context of the ACT Government's Zero Net Emissions by 2050 (or earlier) policy objectives. The Chamber and its member organisations can play significant roles as influencers in support of reaching the 2050 target. The Chamber supports the co-design of any programs or initiatives between the Government and business to support emissions reduction and the maintenance of business competitiveness.

The Key Issues

Support for Business

1. The ACT Government will need to support the ACT business community to move towards zero net emissions to ensure ongoing economic stability. This will need to include a variety of education, information and training which may need to be enterprise specific, sectoral and ACT-wide support to reduce uncertainty and limit disruption as part of the move towards zero net emissions.
2. Development of a broad business education program linking the CBR brand to clean, green and competitive practices. This can be leveraged further with 'place to live', and associated community aspirations.
3. Continuation of initiatives such as the Small Business Innovation Partnerships program, and programs which recognise innovation, through which government procures specific assistance for complex government problems, and its potential to support the move towards zero net emissions. This might include first mover advantages to attract new industries to the ACT and the region, and joint projects with other jurisdictions.
4. The ACT Government needs to consider appropriate support arrangements to ease the cost of transition and to ensure that ACT businesses do not become uncompetitive during the changeover. This should include appropriate support to ameliorate capital expenses relating to transition.

Data Use

5. The lack of ACT-specific sectoral data diminishes both the ACT Government's and business understanding of sectoral contribution to zero net emissions target. ACT Government could consider using NSW data as a proxy. This will allow the ACT Government to target and tailor resources, on a prioritised basis, of a detailed sector-by-sector

understanding of how carbon emissions from natural gas, waste and industrial production can be eliminated. Negative impacts on some business sectors can be anticipated and transitional arrangements considered.

6. New sources of existing data could be utilised by Government in their analysis to provide greater insights into use of existing energy sources by business (e.g. ATO model business data which provide greater granularity). The Chamber would welcome the opportunity to work with government to maximise the use of underutilised existing data sources.

Demonstrating and Measuring Success

7. Development of a barometer - listing progress by the business, government and the wider community – for all to see.

Opportunities

8. The ACT Government should continue to support innovation in electricity generation and storage, including maintaining the current subsidy for domestic battery storage costs.
9. The ACT Government needs to maintain its support for energy efficiency measures post 2020 and continue to raise awareness amongst electricity users of opportunities provided by increased competition amongst energy retailers.
10. The ACT Government needs to ensure favourable business environment for innovation in electricity generation and storage developments are maintained, free from unnecessary regulatory impediments and fosters these new business developments in the ACT.
11. Adoption of a recognised accreditation scheme, with incentives for businesses to participate, will encourage businesses to reduce waste and will help customers to select those businesses which are contributing towards climate change targets.
12. Duplication of national policies should be avoided so that further focus can be given to:
 - Incentives for existing firms to speed adoption;
 - Processes (education, case studies, awards) to draw these innovations to the attention of early adopters and majority adopters; and
 - Technology and performance standards for late adopters and laggards.

Background

The ACT Zero Net Emissions by 2050 policy objective is generally supported by the ACT community and by all ACT Government political parties. However, beyond acknowledging the value of the 2020 zero net emissions target from electricity generation, there has been little wider discussion of the mechanisms for achieving the proposed 2050 target. The recommendations on targets and timetable in the

Discussion Paper provide a valuable introduction to the issues to be addressed so that the zero emissions objective, including interim targets, can be met. It is noted that current recommendations are based on current technology and hence likely to be subject to continuing modification.

Business Objective

The prime concern for ongoing ACT businesses is to maintain their competitiveness, recognising that they compete with businesses in other States and regions, including the wider Capital Region, and internationally. Companies from elsewhere in Australia and most overseas competitors currently face less ambitious commitments and targets for addressing climate change.

ACT businesses vary widely in their employment, scale and market focus across a wide variety of industry sectors, as defined by the Chamber and the Australian Bureau of Statistics (ABS). Around 97% of these businesses are small to medium enterprises (SMEs), employing zero or less than 20 people (Figure 1). In adjusting to meet ACT climate change targets, ACT businesses will be looking to contain costs and/or increase market premiums to maintain their competitiveness and profitability. SMEs, in particular, face resource restrictions and hence particular challenges in adapting to change, particularly in relation to changes which need substantial capital investment.

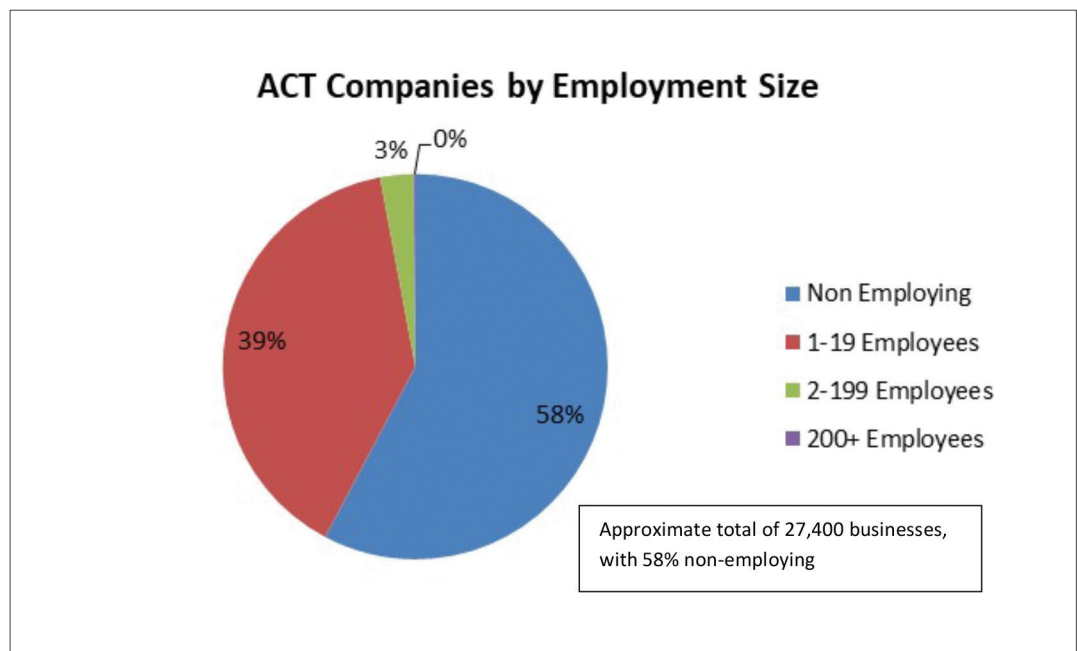


Figure 1ⁱ

Each business in each sector of the diverse ACT economy faces its own specific challenges in meeting the proposed targets. This submission seeks to address some of these while emphasising the changes required in business management and practice to meet the recommended targets involves massive behavioural and cultural change across the business community.

ⁱ Australian Bureau of Statistics, 8165.0 Counts of Australian Businesses, including Entries and Exits, Jun 2013 to Jun2017).

Enterprise specific, sectoral and ACT-wide support through information and, where necessary, education and training, will be required across the whole ACT business sector to reduce uncertainty and limit disruption through the move towards zero net emissions.

Sectorial Focus

We understand from the ACT Government that the ACT greenhouse gas inventory has been derived from a range of sources (described as “sectors” in the Discussion Paper):

- Electricity data from ACTEWAGL, which identifies an estimated 50/50 split between non-residential and residential use and apportions greenhouse gas emissions according to the National Greenhouse Gas accounts.
- Natural gas data from ACTEWAGL, based on total supply.
- Transport emissions derived from retail fuel sales data, to which is applied an emissions factor per type of fuel. Sales data do not identify purchasers.
- Industry emissions, which in the ACT are limited to “products used as ozone depleting substances”, are obtained from national accounts.
- Waste is measured from estimates of tonnes of waste deposited in landfill, landfill gas capture and household bin surveys.

The Discussion Paper’s use of the term “sector” to describe the source of emissions (electricity, gas, transport, agriculture, CFCs, other land use etc) is not the usual use of the term and could be confusing for industry and the general public.

For example, the transport sector under the Australian and New Zealand Standard Industrial Classification (ANZSIC) contains only those enterprises which obtain their main income from transport services – airlines, taxi services, couriers, trains etc. Yet the ACT transport “sector”, from the perspective of emissions, refers to emissions generated by all ANZSIC sectors during transport of goods and provision of services, plus all private uses of transport.

As a result of both the sources of data and the unusual terminology, the Discussion paper contains no clear description of the potential impact of the move to Zero Net Emissions across businesses in different industry sectors e.g. as described under the Australian and New Zealand Standard Industrial Classification (ANZSIC). The exception is companies that are large enough to be required to report to the Clean Energy Regulator. As there are few of these in the ACT, the majority of businesses here do not report their emissions. Obtaining ACT-specific data is further complicated by privacy requirements, which mean the Clean Energy Regulator will not disclose the data at ACT level.

While there are limits on the ability to obtain ACT-specific data, the ACT Government could use NSW data as a proxy, in order to obtain some indications of which sectors are likely to be most affected by a zero net emissions target and the shift to new energy sources that this entails.

The ACT Government could also implement some initiatives to capture data from the ACT's SMEs, to enable the government agencies, whose remits are also usually defined according to ANZSIC-like categories, to target education, training and specific policies at their own stakeholders to underpin the broad zero net emissions strategy. These could include, for example:

- Implementation of business-level ongoing data collection e.g. SmartMeters for electricity, to enable companies to monitor their own use;
- Surveys of small businesses in key sectors (e.g. restaurants) to estimate use of gas vs. electricity and to estimate the cost of conversion from the former to the latter, to providing estimates of sector-wide costs; and
- Case studies of small business use of energy and waste production, to demonstrate innovative approaches and the benefits of new processes, procedures and products.

New sources of existing data could be utilised to provide greater insights into use of existing energy sources by business (e.g. ATO model business data which provide greater granularity). The Chamber would welcome the opportunity to work with government to maximise the use of underutilised existing data sources.

The Chamber recommends gathering such data so that the Government has a clearer picture of which parts of the ACT economy contribute the most to carbon emissions, thus enabling directorates to develop programs which will help these sectors make the required changes to energy sources and waste management.

For clarity, and consistency with other economic policies, including approaches taken by the Australian Bureau of Statistics, the term "sector" should also be used by government to describe industry, government or community activities as outlined in the Australian and New Zealand Standard Industrial Classification (ANZSIC) or Standard International Trade Classification (SITC). Hence, the government should revise its terminology in order to prevent confusion in the market place. The word "source" is a better term to describe what the government is currently measuring.

Government Targets

The Electricity 2020 Zero Net Emissions Target

The ACT Government is justly proud of its progress towards zero net emissions from ACT electricity supply by 2020, and the Chamber applauds the decision to continue along this path. The ACT Government could well regard its work in this area as complete. However, many ACT and regional businesses rely on electricity as their key energy input and, for many, this is a major cost. Hence, the cost of electricity will remain an ongoing concern. The impact of the Federal energy policy on wholesale prices is unclear in the medium term.

There is also a wider community concern about energy prices and, we understand, relatively low take-up, to date, of opportunities offered by introduction of a second electricity retailer in the ACT. In addition, it is expected that electricity demand will continue to grow, beyond the 2020 target, with the ongoing transition from alternative fuel sources (such as uptake of electric vehicle). Given these parameters future policy settings will need to consider the transition beyond 2020, respond to any emerging unintended consequences, and focus on reliability of electricity supply.

The ACT Government needs to maintain its support for energy efficiency measures in the ACT beyond the 2020 target and continue to raise awareness amongst electricity users of opportunities provided by increased competition amongst energy retailers.

There is a well-developed renewable energy industry in the ACT. The general community and businesses have real interest in maintaining efficiency and contestability in the supply of electricity, such as roof-top solar, battery storage and community-based generation initiatives. The ACT Government could, however, consider such initiatives, including those taking generation off-grid, as undermining the government's contractual arrangements with major renewable energy suppliers and their pricing arrangements.

There is, therefore, a potential conflict between public sector macro initiatives in energy production, distribution and supply and continuing private sector innovation in renewable energy generation, storage and distribution. The government needs to be aware of the potential to negatively affect private initiatives through changes to regulations and/or existing support arrangements, particularly in relation to emerging battery technologies, and electric vehicles. Appropriate price signals are likely to have a major impact on the rate and quality of uptake of these approaches.

Regional Development Australia ACT and the SERREE (South East Region of Renewable Energy Excellence) network concurs with the sentiments expressed above, noting that the Canberra region is home to a plethora of innovative and dynamic renewable energy businesses that are 'ahead of the curve', and are already exporting globally. These businesses have flourished under the business environment that developed around the ACT Government's policy supporting 100% renewable electricity by 2020. They have continued to grow and more innovative businesses are entering the market.

SERREE considers it is important for the ACT Government to prioritize focus on developing the region's clean energy industry and profile, both as a response to climate change and as an economic development platform that can underpin business growth and diversity, new jobs and regional investment.

The Chamber concurs with SERREE and believes the government should continue to support innovation in electricity generation and storage, including maintaining the current subsidy for domestic battery storage costs.

The public sector is an important early adopter of such technologies. The ACT Government needs to ensure a favourable business environment for such developments is maintained, free from unnecessary regulatory impediments and fosters these new business developments in the ACT.

The Chamber also supports continuation of initiatives such as the Small Business Innovation Partnerships program, and programs which recognise innovation, through which government procures specific assistance for complex government problems, and its potential to support the move towards zero net emissions. This might include first mover advantages to attract new industries to the ACT and the region, and joint projects with other jurisdictions.

Transition from Petrochemicals to Electricity and Renewables

The transition from petrochemicals to electricity and renewables will require extensive changes including:

- Electric vehicles to replace passenger motor vehicles and delivery vehicles, heavy road transport including buses, air and rail transport, earth-moving and building equipment, farm machinery;
- Electrification of small items in business and domestic use, or conversion to bottled rather than natural gas;
- Electric space heating and cooking appliances to replace gas space heating, instantaneous gas water heating and ovens, in business and home applications;
- Replacement of current wood-fired applications with electricity; and
- Potential new energy sources including hydrogen fuel cells and biofuels (which may become important to heavy vehicle transition).

All these will transition at rates determined by pricing, equipment life cycles and skill requirements to enable the change. Some businesses which currently supply the existing equipment or energy source (e.g. firewood) may close – not dissimilar to the current situation with the introduction of green bins.

In the longer term, carbon sequestration may be required to keep warming below 2 degrees. This may require a suite of technologies which may provide opportunities for new industries and impacts on those which use carbon-based products as inputs.

The ACT Government should consult further with the industries most affected by these changes and consider appropriate support to ameliorate the capital expense and/or transitional costs. Education programs are important to alert industry to pending changes that will affect the life of their capital equipment. Transitional arrangements need to be planned, unlike the green waste bin initiative.

Petrochemicals, while significant contributors to carbon emissions, also play a major role in the manufacture of a range of industrial products including plastics and fertilisers, tyres and lubricants, concrete and bricks. While the number of businesses and the production volumes involved in the ACT are limited, the transition targets need to be sensitive to the demand for these products and associated services and the employment and investment involved to avoid excessive disruption during the change.

Waste Management

It is understood the ACT Government is developing policies and implementation arrangements to achieve an improved waste management and recycling regime in the ACT. A major plank of this policy is to reduce the amount of waste going to landfill. Reducing waste to landfill enables the existing landfill sites to last longer and reduces methane emissions (which, in any case, can be captured for energy production).

The management of waste and/or recycling is a key issue for all businesses but has a particular impact in sectors such as retail, hospitality, tourism and the building industry. Waste management requires innovative and cost-effective solutions both in terms of decarbonising the environment but also to protect the environment from continuing degradation. Here, too, Canberra based initiatives are leading the way, in conjunction with R&D institutions e.g. the Canberra-led Mineral Carbonation International. These initiatives may also dramatically reduce the net emissions from existing activities and will affect the trajectory towards zero net emissions over time.

As with the emissions reduction agenda, the response by ACT businesses to the ACT Government's waste reduction program would be best undertaken in harmony with the former, in a way that enables ACT businesses to maintain their competitiveness. In other jurisdictions, at State or council level, there is support for smaller companies in some of these sectors to achieve accreditation as low-waste producers. For example, both the Queensland Government and the Sydney City Council are subsidising the cost of tourism providers to become EarthCheck-accredited. EarthCheck products and services have been developed out of the CRC for Sustainable Tourism and are built on the Agenda 21 principles for Sustainable Development endorsed by 182 Heads of State at the United Nations Rio De Janeiro Earth Summit in 1992. EarthCheck accreditation involves reports on greenhouse gas emissions, energy efficiency and waste management, among other things.

Adoption of a recognised accreditation scheme, with incentives for businesses to participate, will encourage businesses to reduce waste and will help customers to select those businesses which are contributing towards climate change targets.

Generating Change

Business Adjustment Costs

Many businesses will face substantial costs of adjustment as they seek to respond to specific interim targets (or the removal of current energy sources). Some of these adjustments will involve substantial capital investment; for example:

- The cost of moving to zero emission refrigerants, currently around three times the cost of greenhouse gas producing CFCs;
- Changes from petrochemical sourced energy to electricity, with electric vehicles currently more expensive than their petrol-driven counterparts (although cheaper to run) and requiring a network of charging facilities (although it is acknowledged that the government's economic modelling predicts price parity by the late 2020s); and
- The Chamber also queries the role for biofuels, bioethanol in particular, in facilitating the transition to zero net emissions noting research undertaken or fostered by ARENA in growing the Australia biofuel industry which apparently lags international experience.

In terms of business costs, there is often a considerable time difference between the taxation depreciation life for a piece of equipment and its economic life. Hopefully this will change over time but for some low emission options the capital costs will be

substantial. If ACT businesses move ahead of their competitors elsewhere in meeting climate change targets, they could face a disadvantage in a commercial sense due to a higher cost base.

The ACT Government needs to consider appropriate support arrangements to ease the cost of transition and to ensure that ACT businesses do not become uncompetitive during the changeover.

It should be noted that some of these issues are national e.g. depreciation rates allowed by the ATO for equipment, and Australian accounting standards.

The ACT Government should also consider the impact of being a first mover to zero emissions may have on emerging industries. For example, the development of Canberra as a freight hub that will attract interstate road freight transport.

Human Resources

The knowledge, skills and capabilities of owners, managers and employees of ACT businesses are a major source of competitive advantage for these businesses. All ACT businesses will face human resource development and training costs in inculcating the behavioural and cultural change required to successfully meet the ongoing demands of climate change. ACT businesses will vary in their response to the demands of climate change, depending on their skills and philosophy.

While many businesses will see the zero net emissions goal as an opportunity and may pursue innovative approaches in response, most small businesses with limited time and stretched resources will be reluctant to give climate change a high priority without substantial encouragement and incentives.

There are examples in other jurisdictions of how encouragement can induce change, particularly through introducing suppliers of new solutions to customers in large and often slower moving traditional sectors (e.g. the South Australian Government's initiatives on the internet of things, and method to connect technology providers with major mining companies in that State).

Local businesses can learn from the experience of others, via lessons and case studies, and that government can facilitate human resource development and training, including for specific industry sectors.

Inducing Change

In order to achieve zero net emissions by 2050, or before, ACT companies will need to change the mix of their energy use. This raises the following questions:

1. What sort of companies are they?
2. What types of energy do they use?
3. Who are the influencers who can best communicate the changes required?

Types of Companies

As noted earlier, around 97% of ACT business are either non-employing (some 58%) or are small to medium enterprises with less than 20 full-time staff. Over three quarters of these are service companies, which could be expected to be heavily reliant on transport for delivery of both goods and services to their customers.

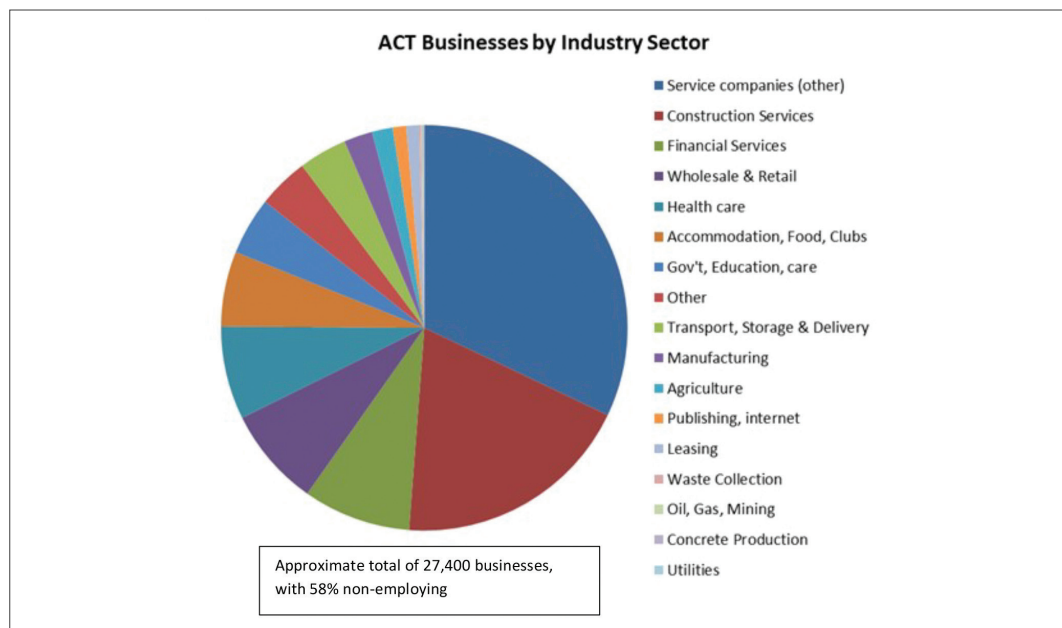


Figure 2: ACT Businesses by Industry Sectorⁱⁱ

As a starting point, it is reasonable to assume that the non-emplying companies' emissions will be almost entirely from transport – i.e. vehicle use. Influencing these companies needs to be part of a broader ACT educational program to accelerate electric vehicle adoption.

ABS data show that emplying businesses in the ACT are dominated by service companies, construction, financial services, retailers, accommodation/food/cafes and healthcare. The businesses most affected by a move to reduce emissions are likely to be businesses in oil and gas, construction and engineering activities. These businesses are likely to be the primary target industries for focused strategies to reduce emissions from CFCs, natural gas, and waste to landfill, in partnership with key industry groups.

Influencers

Voluntary change will occur in a phased way in any population of established businesses. (Figure 3), which draws on the Rogers' Bell Curveⁱⁱⁱ, gives an idea of how quickly companies change. Of a population, 5% (or so) will innovate of their own initiative and will be quickly followed by another 10% (or so) who are Early Adopters. Another 25% (or so) will follow them as Majority Adopters. A proportion of the remaining 60% will change in time, or not at all.

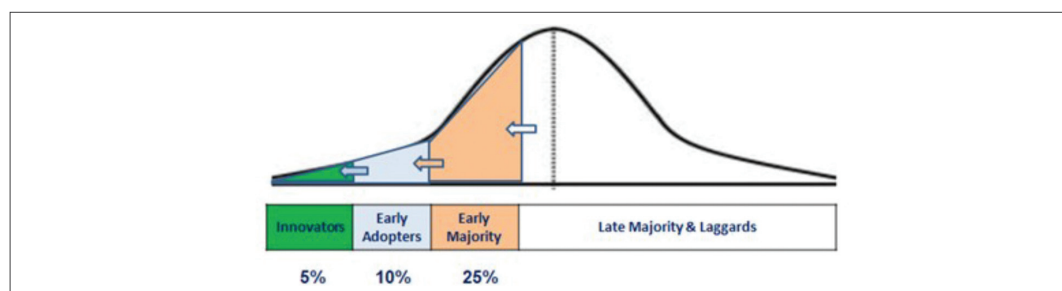


Figure 3: Typical Innovation Adoption Rates

ⁱⁱ Australian Bureau of Statistics, 8165.0 Counts of Australian Businesses, including Entries and Exits, Jun 2013 to Jun2017, Table 4 (20 February 2018).

ⁱⁱⁱ https://en.wikipedia.org/wiki/Technology_adoption_life_cycle

Research has shown that adoption periods are generally getting shorter as time progresses¹. However periods of between 30 to 100 years have been demonstrated through studies of specific technologies, and there is often a considerable lag in time from the technology's introduction until its penetration to even half the population (Figure 4).

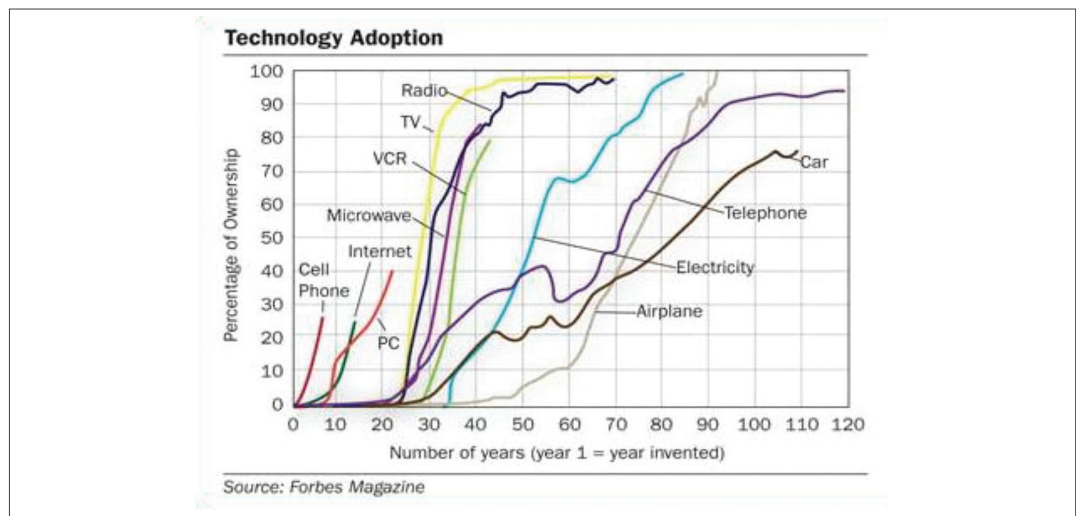


Figure 4: Technology Adoption Curves

The length of time to adopt is influenced by many things:^{2,3}

- Availability of information;
- The capital investment required to change;
- Sector-specific business cycles and shocks (e.g. the Global Financial Crisis);
- Impact on operating costs;
- Complementary skills (the ability of an individual or organisation to manage the technology/product, once adopted);
- The impact on others (e.g. for businesses, the impacts on customers and customer attitudes to business adoption);
- Attitudinal issues (e.g. wanting to be first);
- Reliability of supply and cost of maintenance (a big issue in the shift to electric vehicles);
- Changes to the “old” technology which inhibit uptake of the new; and
- Regulation.

The complexities of decision-making by individual households and businesses, and the tendency of many to put off difficult decisions, means that, in the absence of regulation and incentives, the ACT may find that, left to their own devices, less than 50% of companies have made the required change to meet the zero emissions target within the desired period.

¹ Cox, and Alm (1996), *The Economy at Light Speed – Technology and Growth in the Information Age and Beyond* – Annual report of the Federal Reserve Bank of Dallas, 1996.

² Hall, B and Khan, B (2002): *The Adoption of New Technology*, *New Economy Handbook*.

³ Comin, D, Mestieri, M (2013): *Technology Diffusion – Measurements, Causes and Consequences*.

Industry associations can play a major role as influencers in industry sectors and hence the speed of adoption. Other States, for example South Australia, have enlisted the assistance of industry associations to match up industries (in their case, IT companies with mining companies)⁴ to speed the adoption of new technologies and to open up new market opportunities for both. The Chamber and its kindred industry bodies can play significant roles as influencers in support of reaching the 2050 target.

Policy Initiatives

The OECD has considered the routes to adoption of non-carbon initiatives and highlights the need for change to occur at three levels:⁵

1. Technological – potential barriers to adoption being due to limited knowledge about new technologies;
2. Socio-economic – potential barriers to adoption being due to social norms, individual habits, attitudes, values and vested interests; and
3. Economic potential – potential barriers due to lack of competition, trade barriers, and undefined property rights.

It suggests that policy tools to overcome these barriers can include:

- Research, development and demonstration;
- Education and support (e.g. through existing ACTSmart program);
- Technology and performance standards;
- Institutional and regulatory reform;
- Subsidy reform (e.g. subsidising uptake, accelerated depreciation, etc);
- Incentives; and
- Projects (e.g. in the ACT, this would include the ACT Ginninderry initiative and the CSIRO's Ginninderra initiative).

The duplication of national policy initiatives should be avoided so that further focus can be given to:

- Incentives for existing firms to speed adoption;
- Processes (education, case studies, awards) to draw these innovations to the attention of early adopters and majority adopters; and
- Technology and performance standards for late adopters and laggards.

Given the slow pace of diffusion, the Chamber believes these measures need to be implemented as soon as possible.

⁴ Thorburn, L (2017): *Supporting Industry Promotion Policies in APEC – Case Study on Australia*, APEC Policy Support Unit, May 2017, APEC#217-SE-01.13.

⁵ OECD (2003): *OECD Environment Directorate and International Energy Agency (IEA): Technology Innovation, Development and Diffusion*, IECD and IEA Information Paper.

Managing Risk: Fiduciary Responsibilities

Recent pronouncements by the Australian Prudential Regulatory Authority (APRA) require directors of listed companies, in effect, to include in their strategic plans and public statements indications of how companies will manage risk arising from climate change. Companies large and small, including ACT businesses, would benefit from similar thinking in their own planning documents. Further, banks, insurers and other financial institutions are increasingly likely to require similar risk management strategies from their clients.

The ACT Government should encourage and support inclusion of climate change responses in business planning documents, and lead by example through its own directorates.

Conclusions

The Canberra business community is committed to the sustainable growth and prosperity of the Canberra economy and of the region. The discussion paper raises a number of critical issues for businesses and sectors across the ACT. It will be critical for ACT business to understand how the net zero emissions policy will impact them and how they will need to adapt and operate in the future. This will require careful planning by Government to ensure that the ACT economy remain strong and continues to grow. The Chamber welcomes the opportunity to discuss any of the issues raised in our submission further and how we may support the development of the policy moving forward.