COMMUNITY CLIMATE CONVERSATIONS

COMMUNITY CLIMATE PANEL REPORT

JUNE 2023

IN THIS REPORT

The Big Ideas

SOUTH AUSTRALIA'S COMMUNITY CLIMATE PANEL

The South Australian Community Climate Panel has kickstarted a statewide conversation about how to involve the community in reducing emissions, as South Australia works towards net zero carbon emissions by 2050.

We have determined the big ideas that South Australia needs to pursue, and the actions that we think are needed to achieve net zero – even those which are difficult to implement. For each action, we have considered the role of all South Australians, the role of the community and non-government sector and also the role of Government.

We met across 6 sessions over 23 hours in total to consider the following:

THERE ARE MANY OPPORTUNITIES TO REDUCE OUR GREENHOUSE GAS EMISSIONS; SOME WILL HAVE MORE IMPACT THAN OTHERS.
WHICH OF THE OPPORTUNITIES DO SOUTH AUSTRALIANS NEED TO DISCUSS?

This report contains our advice and the outcomes of our work.

This report will be used in two ways. It will be provided in full and in its entirety to the project sponsors (South Australians for Climate Action, The Conservation Council of SA and the South Australian Department for Environment and Water) to inform the progress towards net zero.

It will also be used to prepare the Community Conversation Guide – which will be used by community groups all across South Australia as they embark on conversations to consider this question.

This report also contains individual submissions (at Attachment B) from some Community Climate Panel members, who wanted the opportunity to share their detailed thinking with Government.

This project is being sponsored by the Department for Environment and Water and is a partnership between the Conservation Council of SA and South Australians for Climate Action.

WHO IS THE COMMUNITY CLIMATE PANEL?

The Community Climate Panel is made up of 53 people independently selected to participate in the South Australian Community Climate Panel (the Panel). We are South Australians who want to contribute to this important conversation.

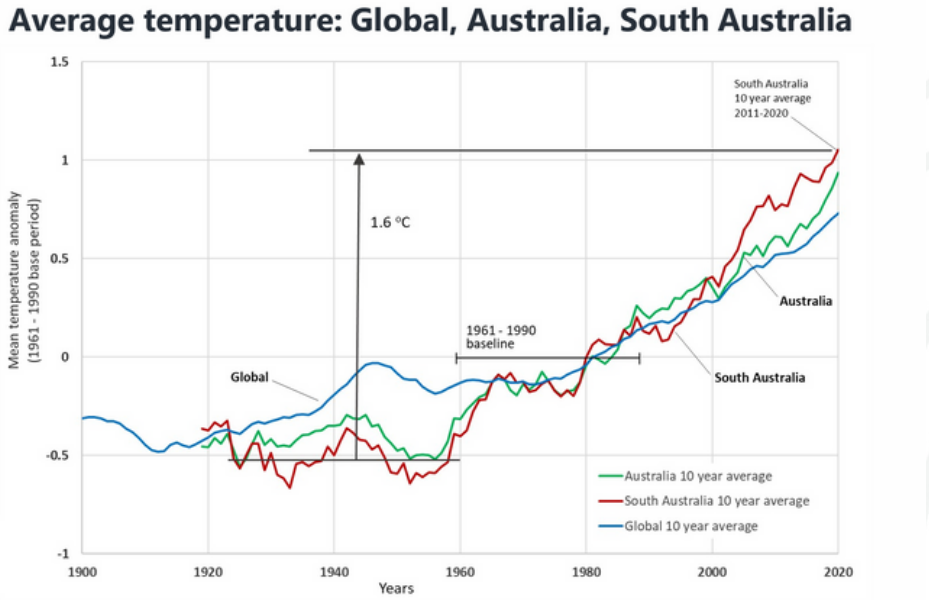
During March 2023, over 80,000 South Australians received an invitation to register their interest in being a part of the Panel. Participants were selected using a random stratification approach for diversity in line with demographics matching the South Australian population for age, gender, location, home ownership, educational attainment and attitudes towards climate change.

Graphs, which show the makeup of the panel are found at Attachment A.

PREAMBLE

We are living on a planet that is rapidly warming, in a country that is warming faster than the global average, and in a state that is warming faster than our country's average.

Our country and our State are experiencing this more rapid increase in average temperature rise because of our large land mass and reduced temperature buffering impact that the ocean provides.



Source: SA Department of Environment & Water

The escalating impacts of climate change will be felt by all South Australians, but most acutely by those in regional and remote inland areas of South Australia, including our agricultural lands.

The South Australian community may not be large contributors to climate warming pollution directly, however due to the significant impacts that climate change will increasingly have on our home state, it is in our best interests to demonstrate leadership and progress in addressing climate change through a rapid and effective shift away from our reliance on burning fossil fuels to power our homes, our businesses and our transport.

At the South Australian industry level, the importance and opportunities of a rapid transition away from fossil fuels is being widely acknowledged and planned for. In order for our state to achieve our net zero goals and demonstrate inspiring leadership and progress in climate action, there is also an important role for the South Australian community to play.

If South Australians can identify and harness the opportunities of cleaner ways of living, doing business, manufacturing, farming, and transporting goods and people, the immediate and ongoing benefits to our State population's health, economy, and resilience, especially in uncertain times, will be clear examples for other jurisdictions - just as our State's transition to a more renewably powered electricity grid has been commended and emulated globally over the last decade.

However, for members of our community to carry out this transition in a rapid and effective way, we need our Governments at all levels to understand the barriers and opportunities we face in carrying out this transition and to enact the necessary system changes which will pave the way for a healthier, safer and more prosperous life as residents of South Australia.

THE IMPORTANCE OF EMISSIONS REDUCTION

The science is in. It demonstrates climate change. Humans are impacting our environment and also being affected by climatic changes.

Doing nothing is not an option. The consequences of living as we are and continuing to impact our environment as we have been, predict an increasingly bleak outcome. We each have multiple ways that we must contribute.

Reducing emissions matters because it is the right thing to do for the planet, for us, for our communities, for all living things, now and for generations to come.

OUR KEY MESSAGES TO SA GOVERNMENT

Whilst our community can play a significant part in reducing our State's contribution to climate warming pollution, it is clear that the biggest impact will come from actions by both Industry and Government, particularly through legislation that mandates changes.

As such, to support the community's efforts in addressing climate warming pollution, we ask the SA Government to show our community clear emissions reduction planning and regular progress reports from the biggest emitters of our State, including actions to address emissions produced from fossil fuels that South Australia exports. By all players collaborating to do their bit to address the climate emergency, the South Australian community, industry and Government can make the transition in a more productive and sustainable way. We support legislative change as a key way to have impact in emissions reduction.

We would also like our Government to understand that the most effective way that we as a community can help our State reach net zero emissions is through Government system change to reduce the barriers and harness the opportunities that cleaner living options present to us. This will require our Government departments to work together on creating change that will have benefits to our community beyond just reducing emissions, but will have positive impact on our health and wellbeing, transport, agriculture, tourism and business sectors, and our economy as a whole if there is clear vision, communication and leadership for change.

The Panel recognises the need to raise community awareness that how we think and act individually has consequences in relation to climate change. It will be particularly important to bring every member of the community on the journey - even those who don't see emissions reduction as a priority. While carbon emissions are the focus of this discussion, we recognise the wider context of whole-of-life cycles, pollution in general, consumption processes and population pressures.

Out of the individual and localised decisions, we hope to empower the wider contexts of all levels of government, market forces, business, country and community to uphold common values including social equity, safety, health, social justice, nature and regenerative and circular sustainability. We specifically want to highlight equity and making transitions to lower emission living affordable for all.

THE BIG IDEAS

THE BIG IDEAS WE NEED TO DISCUSS

Our footprint is too heavy. We have been living beyond our planet's current and future capacity to process and survive our impact.

Reaching our emissions reduction targets is going to need individuals, community, governments, and industry to pursue a lot of different solutions. We considered this problem in four principal domains: how we move, what we build, what we consume and how we power ourselves.

Under these domains, the Panel have identified 6 Big Ideas and a series of suggested actions which will help us realise these opportunities. These are:

HOW WE MOVE

- ACCESSIBLE LOW EMISSION PUBLIC TRANSPORT
- ACCESSIBLE CLEAN PERSONAL TRANSPORT

WHAT WE BUILD

- SUSTAINABILITY IN CONSTRUCTION AND INFRASTRUCTURE

WHAT WE CONSUME

- CARBON EMISSIONS OF GOODS AND SERVICES
- AGRICULTURAL EMISSIONS

HOW WE POWER OURSELVES

- COMMUNITY MICROGRIDS

THE BIG IDEAS WE NEED TO DISCUSS - DETAILED

HOW WE MOVE

ACCESSIBLE LOW EMISSION PUBLIC TRANSPORT

WHY WE NEED TO TALK ABOUT THIS

To get to net zero we need a higher percentage of people using public transport.
We are stuck on this issue because of the lack of accessibility, comfortability and population density.

WHAT WE NEED TO TALK ABOUT

Community discussions should begin with asking the public if they can take public transport at least once a week. Focus on inquiring if cost, reach and reliability are major impediments. Would people use it if it were free as it is currently for seniors.

Overriding discussion point - what would it take for you to use public transport?

Do we need smaller buses and more frequent trips. Do schools that have dedicated student only buses before and after school make you feel safer in sending your kids on public transport? Would a conductor on buses and trains make you feel more comfortable?

Clearly the public do not have a good enough understanding of how cheap and efficient public transport can be. The public don't know what options are available to them (e.g. cargo bikes) or have public transport impressions based on experiences from long ago.

We respect and understand that the conversation in rural areas is very different in terms of accessibility.

SUMMARY OF SUGGESTED ACTIONS

To achieve accessible low emission public transport, the following three actions are suggested:

- DECREASE THE COST OF USING PUBLIC TRANSPORT, WHILE INCREASING FUNDING FOR TRANSPORT AND TRANSPORT INFRASTRUCTURE.
- INCENTIVISE PUBLIC TRANSPORT.
- MAKE ALL TYPES OF PUBLIC TRANSPORT HYDROGEN OR ELECTRIC.

HOW WE MOVE

ACCESSIBLE LOW EMISSION PUBLIC TRANSPORT

SUGGESTED ACTION 1: DECREASE THE COST OF USING PUBLIC TRANSPORT, WHILE INCREASING FUNDING FOR TRANSPORT AND TRANSPORT INFRASTRUCTURE.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Government should focus on improving accessibility, range and frequency of routes and modes of transport (bus to train to tram or vice versa, park and ride) in the metropolitan areas of SA and grow this capability in Regional SA.	Community and non-government organisations should encourage both the public and private sector employees to use public transport, through incentives in enterprise agreements.	Individuals need to shift - and choose public transport for their travels rather than cars.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Increasing funding for public transport (improve facilities/infrastructure/safety).	Improved education on the availability of public transport routes.	Increase understanding of available public transport routes.
Reduce funding for private transport (i.e., stop building freeways).	Identification of potential extensions of routes to new developments or regions that lack appropriate access.	Consider working from home.

HOW WE MOVE

ACCESSIBLE LOW EMISSION PUBLIC TRANSPORT

SUGGESTED ACTION 2: INCENTIVISE PUBLIC TRANSPORT USE.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Fund incentive schemes which make public transport more attractive.	Community supporting each other to feel safe on public transport.	Willingness to try - encourage more people.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Fund/ deliver promotional campaign - marketing.	Workplaces to partner with government to encourage public transport use.	Increase understanding of available public transport routes.
Incentives for workplaces to reduce their Scope 3 emissions (commute).	Identification of potential extensions of routes to new developments or regions that lack appropriate access.	Consider working from home.
Public transport safety campaign (e.g. encouraging users to look out for each other) in the vein of 'slip slop slap', etc.	Helping people navigate the system when they are lost/confused, or when they are learning the system.	
Expand collection points for Public Transport and trial some "on call" systems (e.g. Mt Barker Ride on demand).		

HOW WE MOVE

ACCESSIBLE LOW EMISSION PUBLIC TRANSPORT

SUGGESTED ACTION 3: MAKE ALL TYPES OF PUBLIC TRANSPORT HYDROGEN OR ELECTRIC.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Funding incentives for trials of electric transport fleet in the private sector (demonstrate viability to the public).	Advocacy for electric transport for the benefit of electrification (i.e., quiet streets, no air pollution, improve electricity grid).	Demonstration of public demand for more accessible public and clean public transport.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Transition - retire old diesel or petrol fleets.	No other Community/NGO action identified by Panel.	Advocacy for electric transport for the benefit of electrification (i.e., quiet streets, no air pollution, improve electricity grid).
		Identification from individuals via forum or feedback for opportunities for electrification or improved routes/infrastructure.

HOW WE MOVE

ACCESSIBLE CLEAN PERSONAL TRANSPORT

WHY WE NEED TO TALK ABOUT THIS

For South Australia to meet its climate action goals, we need to fundamentally transform our transport system so everyone can get around our suburbs, cities, and regions easily, efficiently, and safely.

This requires a community-wide discussion about the range of solutions available to us to address our transport emissions problem. At the moment, we are not engaging enough in these solutions due to a series of barriers which differ depending on mode and personal circumstances.

As the community becomes more aware of the benefits of clean personal transport options, and begins to discuss the barriers and opportunities of uptake with their elected representatives, it can be expected that the political will to re-orient the transport system towards improving safety and accessibility for active and other clean transport options will be strengthened.

WHAT WE NEED TO TALK ABOUT

Transport is an important sector for our community to focus on in order to guide our State's transition towards net-zero emissions.

Whilst climate warming emissions from most other sectors in our community are decreasing, emissions relating to transport are still showing moderate growth[1]; now responsible for the largest contribution to our State's emissions at around 30%[2], with around 10% of the State's emissions attributable to personal transport.[3]

It is important to note that in order to reach our net zero goals, personal vehicle ownership (including electric vehicles) will need to be halved[4]. This means a significant mode-shift towards active and public transport options needs to be supported. As public transport services will require lengthy and costly upgrades to service the required mode-shift, active transport presents a much quicker and cheaper strategy to achieve our net zero goals, and should become a key focus of our community's plans to move towards clean personal transport.

Over the last 10 years the range of clean personal transport options available to South Australians has rapidly expanded, and now includes a wide variety of efficient electric options:

- cars (micro, small passenger, SUV, utes and vans)
- two and three wheelers (motorbikes, scooters and rickshaws)
- light active transport (bikes, trikes and cargo bikes)
- micromobility (scooters, skates and segways)

These electric-powered/-assisted clean personal transport options add to existing active transport options including walking and riding.

1. 2021 CSIRO "Review of Progress to Achieving Targets Under Section 7 of the Climate Change and Greenhouse Emissions Reduction Act 2007" https://cdn.environment.sa.gov.au/environment/docs/appendix_c_csiro_section_7_report_2021.pdf
2. https://www.environment.sa.gov.au/topics/climate-change/greenhouse-gas-emissions
3. Motor vehicle use stats from: https://www.abs.gov.au/statistics/industry/tourism-and-transport/survey-motor-vehicle-use-australia/latest-release#media-releases
4 GHG emission stats from https://www.environment.sa.gov.au/topics/climate-change/greenhouse-gas-emissions; https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1753-6405.2010.00621.x; https://www.climatechangeauthority.gov.au/sites/default/files/2021-03/2021Fact%20sheet%20-%20Transport.pdf; https://www.climatecouncil.org.au/resources/shifting-gear-the-path-to-cleaner-transport/

HOW WE MOVE

ACCESSIBLE CLEAN PERSONAL TRANSPORT

More than just reducing transport related emissions, uptake of clean personal transport options provides a vast array of co-benefits to our community including:

- Respiratory, cardiovascular[5] and mental health and wellbeing benefits of reduced air and noise pollution, more opportunities to 'be active', and more opportunities for social interactions with other community members.
- Financial benefits to households from reduced reliance on fossil fuels and costs associated with vehicle ownership and servicing (unlocking income to spend in the local economy, and on other efficient electric purchases).
- Financial benefits to State and Local Governments from reduced road congestion and wear and tear on transport infrastructure.
- Financial benefits to regional communities from improved active transport network connections, and EV charging infrastructure, enticing tourists to spend more time and money in regional/remote areas, whilst also servicing the local community.
- Improved access and participation of the increasing number of non-driving community members (eg. older people, people with disabilities and children).
- Community energy resilience building and grid stabilisation from options like vehicle-to-load and vehicle-to-grid capability, especially important in extreme weather, fire danger situations, and remote areas.
- Increased energy independence by better utilisation of SA's abundant and cheap renewable energy supply.

However, despite the increasing availability, the range of versatile options, and the potential to significantly reduce emissions (amongst many other co-benefits), uptake of these clean personal transport options has, to date, not been wide-spread.

In order to increase uptake of these innovative solutions to transport emissions, the community needs to identify the barriers and opportunities for uptake, and call on decision makers to implement consistent system-level change to improve access to clean personal transport options.

Improving active and clean personal transport uptake must be a key focus area for reducing one of our State's largest and still growing sources of emissions; one where every member of our community can participate, and immediate health, financial and environmental co-benefits will be experienced community-wide.

5. https://www1.racgp.org.au/newsgp/clinical/vehicle-related-air-pollution-may-cause-in-excess

HOW WE MOVE

ACCESSIBLE CLEAN PERSONAL TRANSPORT

BARRIERS & OPPORTUNITIES FOR INCREASED ACTIVE TRANSPORT

Road safety
This key barrier can be improved through prescribing safer speed limits especially on local streets , as well as through driver education and enforcing bike safety rules.

Versatility and viability
While people are concerned about what they can carry and what trips can be undertaken by walking or riding, different vehicles such as e-bikes, cargo bikes, and even electric cargo bikes can provide a suitable alternative for a variety of different trips, passengers, conditions and terrains.

Accessibility and network connection
People are concerned about where they can go safely by bike or on foot. Because active transport has not been an integral part of transport planning this has resulted in confusing, disconnected networks across the SA transport system, including a lack of connectivity with public transit.
Some specific measures to quickly and relatively cheaply improve the active transport network include: reinforcing existing school and commuter walking/riding routes with safe and clearly visible road crossings, improving connections and density of the network of separated cycle lanes/paths (see SA's Bikedirect network), providing for carriage of micromobility options on buses, trains and trams, and safe clear entrance, egress and storage of micromobility options at public transport stations.

Community perception
Many South Australians have a negative perception of bike riders; they approach the issue from the perspective of a car driver, rather than viewing bike riders as part of a connected system of road users. This issue can be easily addressed through a "we are bike riders, we are humans too or we are someone's loved one family member" public awareness campaign, highlighting the diversity of the increasing bike riding community on our roads, and highlighting that increased active transport uptake frees up the roads and carparks for those who need them (i.e. every bike on the road is one less cars on the road).

BARRIERS & OPPORTUNITIES FOR ELECTRIC VEHICLE UPTAKE

Access to and compatibility of charging infrastructure
With the current regulatory environment, many different charging types complicate consumption decision which slows uptake. Moving towards an accepted standard charging technology would assist with availability and also maintenance issues.

There is also a perception of there being too limited a network of charging stations, however 98% of charging stations are less than 200km apart, and the interactive map from RAA shows how widespread the network of charging stations now is.

There can also be issues with retrofitting existing homes with EV charging infrastructure, particularly for renters or those in strata/community titled units. However, these could be overcome through community collaboration, incentive schemes for landlords, and change to regulations governing energy sharing.

Financial barriers
Electric vehicles can be more expensive than traditional internal combustion engine vehicles. However, financial support in the form of low/no-interest loans and novated lease options are becoming increasingly available for SA residents. Also, improved shared, active and public transport options will assist households to reduce their reliance on driving, and therefore reduce the costs associated with multiple vehicle ownership.

EV availability
As interest increases, South Australians are adding to the global demand for EVs and with supply chains already stretched, South Australian customers are waiting over 6 months to take ownership of their new vehicles. Moreover, the selection of EV models available to the South Australian market is not keeping pace with what is being offered to other jurisdictions or countries as we have lenient fuel efficiency legislation allowing car companies to continue to sell their less efficient options in our market. This can be addressed through improved fuel efficiency standards which will ensure car companies provide our community with a broader range of clean transport options. There is currently a small second-hand market, and South Australia does not yet have a bulk buy scheme in operation. As general demand for EVs increases, the 2nd hand market for EVs in South Australia should become more widespread, along with access to bulk buy schemes.

'Range anxiety'
Many in the community need to drive long distances and are concerned that EVs have a "range problem". Whilst the majority of trips taken in private vehicles is significantly less than the range provided by current EV options, for those needing to drive long distances (>100km daily), newer models will increasingly provide a longer range, possibly even surpassing many petrol/diesel vehicles. Moreover, the network of public fast charging infrastructure is rapidly expanding, along with EV owner's capacity to charge at their own home or workplace.

HOW WE MOVE

ACCESSIBLE CLEAN PERSONAL TRANSPORT

SUMMARY OF SUGGESTED ACTIONS

To achieve accessible clean personal transport, the following three actions are suggested:

- PRIORITISE ACTIVE TRANSPORT UPTAKE BY ADDRESSING SAFETY AND ACCESS BARRIERS IN ORDER TO REACH OUR NET ZERO GOALS.
- INCREASE UPTAKE OF CLEAN ELECTRIC VEHICLES.
- IMPROVED CONNECTIONS BETWEEN ACTIVE AND PUBLIC TRANSPORT TO ENHANCE THE UPTAKE OF BOTH OPTIONS.

HOW WE MOVE

ACCESSIBLE CLEAN PERSONAL TRANSPORT

SUGGESTED ACTION 4: PRIORITISE ACTIVE TRANSPORT UPTAKE BY ADDRESSING SAFETY AND ACCESS BARRIERS IN ORDER TO REACH OUR NET ZERO GOALS.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Improve safety for active transport users by prescribing safer speeds on local streets, increasing investment in safer cycling infrastructure , and implementing stronger active transport protection laws.	Improve access to, and enhance knowledge of new clean transport ideas and products (eg. organising electric bike pop-up test rides, subscription, hire, try-before-you-buy options, and low/no-interest loans for purchase). Demonstrating cost-benefit analysis.	Advocate for better active transport by: • Joining an active transport advocacy group. • Talking to community about the benefits of active transport and encourage them to walk or ride too. • Encourage workplaces and regular trip destinations to incorporate bike/micromobility storage and end-of-trip facilities.
Improve financial accessibility to the range of car- replacing bikes (eg. electric cargo bikes) for example subsidies for e-bikes, encourage bike loaning schemes (“try before you buy”) and businesses who provide subscription models.		Raise the importance with community and decision makers of active transport to cheaply, quickly and effectively take climate action at the community level (‘constructive hope’ - especially for the younger generations).

HOW WE MOVE

ACCESSIBLE CLEAN PERSONAL TRANSPORT

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Marketing campaign to spread the message regarding the positive health, economic and environmental impacts of cycling, and dispelling myths regarding issues with cycling.	Facilitate better bicycle storage at trip destinations (e.g. workplaces, schools, shopping centres, restaurants, and event venues).	Ride bikes more often and avoid driving.
	Organise walking and cycling “school buses” to allow kids to safely get to school.	Own fewer cars or be car-free.

HOW WE MOVE

ACCESSIBLE CLEAN PERSONAL TRANSPORT

SUGGESTED ACTION 5: INCREASE UPTAKE OF CLEAN ELECTRIC VEHICLES.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Reduce costs of purchasing and running of EVs while transitioning away from fossil fuel subsidies, making hydrogen & EVs the obvious choice.	Encourage the use of car sharing services with EV focus.	Design and build properties with EV charging capabilities. Ask local councils to provide charging facilities. Encourage councils to lead with their own EV fleets.
Government needs to support rollout of consistent (i.e. same charger types) and extensive EV charging infrastructure, both on public roads and on private properties.		Early adopters - share information about new models and ideas to improve community understanding and uptake.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Implement strict emission and air quality standards and set a target date for stop selling fossil fuel vehicles (by 2030).	Improve access to and enhance knowledge about new EV models and ideas through bulk buy initiatives - for example, organise 2nd hand markets, pop-up test drive events, subscription services, and try-before-you-buy programs.	No extra actions identified by Panel.
	Implement bulk buy initiatives - especially for the second hand market.	

HOW WE MOVE

ACCESSIBLE CLEAN PERSONAL TRANSPORT

SUGGESTED ACTION 6: IMPROVED CONNECTIONS BETWEEN ACTIVE AND PUBLIC TRANSPORT TO ENHANCE THE UPTAKE OF BOTH OPTIONS.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Allow and enhance options for carrying bikes, e-scooters, e-skateboards on trams, trains and buses and remove charges for carrying micromobility options on board.	Promote active and public transport as the preferred options to travel to events for financial, health and environmental reasons, and provide secure accessible parking and end-of-trip facilities.	Raise the importance of improved connections between active and public transport with decision makers to enhance uptake of both for financial, health and environmental reasons.
Prioritise active and public transport on roads by removing much of the on-road parking and having dedicated bus/bike lanes. This will provide safer access between, to and by active and public transit options - (e.g. there is an increased road safety risk when buses and bicycles struggle to get around cars that are parked on street).		

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Provide more pedestrian only areas like Rundle Mall.	No extra Community/NGO actions identified by Panel.	No extra Individual actions identified by Panel.

WHAT WE BUILD

SUSTAINABILITY IN CONSTRUCTION AND INFRASTRUCTURE

WHY WE NEED TO TALK ABOUT THIS

Our construction industry is responsible for a significant proportion of the greenhouse gas emissions in our state. Historically it has been challenging to reduce the emissions in this sector as industry have had significant influence over Government regulation and there has been significant pushback on increasing energy efficiency requirements in the National Construction Code and difficulties in enforcing the codes when they are adopted.

Our buildings also have a slow turnover rate - they have a lifespan of 50 or more years and so upgrading the energy efficiency via full building replacement alone is not a viable pathway to net zero. In a market where housing affordability is a challenge and general construction costs are high, there is also a perception that design for high energy efficiency is an unaffordable luxury - in new or existing buildings. Progress towards more energy efficient buildings has also been slowed by materials and skilled/knowledgeable labour shortages.

WHAT WE NEED TO TALK ABOUT

As a community we need to discuss the capacity to achieve net zero in our homes and other inhabited buildings. Working towards this directly affects the lives of community members (with some challenges), while contributing to emissions reduction across the State, country and globally. Important opportunities to consider within this change are increased comfort, increased health benefits and lifetime affordability.

Combined with regulatory and fiscal pressure, consumer pressure could sway the market towards net zero, sustainable and low carbon construction practices.

From a community perspective, the key issues are:

- Understanding, recognising and valuing quality design for low emissions.
- Material selection and transparency of embodied carbon.
- Affordability of low carbon building.
- Skills and workforce development.

WHAT WE BUILD

SUSTAINABILITY IN CONSTRUCTION AND INFRASTRUCTURE

UNDERSTANDING, RECOGNISING AND VALUING DESIGN FOR LOW EMISSIONS.

Community and industry professionals/trades need to be educated to understand the principles and then value the benefits of low emissions, high performance building systems. This education is important for consumers to be able to make informed choices and apply consumer demand, as well as to ensure that they "get what they pay for" when they are buying or building.

Industry professionals and trades need to understand the principles and standards required for low emissions building as they are the ones who are entrusted with providing advice and/or with creating our buildings.

MATERIAL SELECTION: TRANSPARENCY OF EMBODIED CARBON AND EMISSION CREATED DURING MANUFACTURE.

A significant contributor to carbon emissions from buildings is the manufacturing process of materials. Many materials are manufactured in other states and countries, using fossil fuels, and subsequently being imported into South Australia, resulting in high embodied carbon (the amount of carbon that is emitted to manufacture and then transport the material to the building site). It is also often difficult to gain accurate information on the emissions for different materials.

There are several opportunities to reduce the impact from embodied carbon in materials, including:

- Localisation and greening of manufacturing processes.
- Regulation of industry, including increases in building code standards and better enforcement of compliance.
- Transparency in embodied carbon of materials, lifetime emissions calculator.
- Retrofitting of existing buildings.
- Education of industry professionals for design and selection of low carbon materials.
- Broadscale education of the community.

AFFORDABILITY OF LOW CARBON BUILDING.

Where the homeowner, designer and builder can work together in the early stage of design and specification and rating, all future owners can avoid the long-term lifetime costs of energy inefficient buildings to achieve better outcomes for occupants.

Some solutions can include:

- Designing a smaller building.
- Increasing demand for low carbon materials to improve economies of scale.
- Finance products including lower interest rates or grants to include low emissions features.
- Transparency in building sustainability features to enable comparison and value based of these features (sustainability features have been shown to increase the value of a property).
- Efficiencies such as pre-fabrication.

WHAT WE BUILD

SUSTAINABILITY IN CONSTRUCTION AND INFRASTRUCTURE

SKILLS AND THE WORKFORCE.

The three above issues all rely on the ready supply of a skilled workforce that understands sustainable and low-carbon building materials and high performance building systems.

They also rely on a well-educated public, who understand the opportunities that their personal choices have for low carbon building. Combined with regulatory and fiscal pressure, this educated consumer pressure could sway the market towards net zero, sustainable and low carbon construction practices.

SUMMARY OF SUGGESTED ACTIONS

To achieve sustainability in construction and infrastructure, the following three actions are suggested:

- CONSTANTLY IMPROVE LEGISLATION AND REGULATION IN THE BUILDING AND PLANNING INDUSTRIES TO INCORPORATE THE PRINCIPLES OF SUSTAINABILITY AND NET ZERO EMISSIONS.
- PROVIDE EXTENSIVE TRAINING IN NET ZERO ENERGY DESIGN, SPECIFICATION AND CONSTRUCTION WITHIN THE BUILDING INDUSTRY.
- RAISE CONSUMER AWARENESS, UNDERSTANDING AND EXPECTATIONS FOR ENERGY EFFICIENCY AND SUSTAINABILITY IN THE BUILT ENVIRONMENT.

WHAT WE BUILD

SUSTAINABILITY IN CONSTRUCTION & INFRASTRUCTURE

SUGGESTED ACTION 7: CONSTANTLY IMPROVE LEGISLATION AND REGULATION IN THE BUILDING AND PLANNING INDUSTRIES TO INCORPORATE THE PRINCIPLES OF SUSTAINABILITY AND NET ZERO EMISSIONS.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Develop systems that decouple code development and regulatory implementation from the influence of industry bodies to maximise opportunities for Net Zero Energy-ready buildings.	Bring Planners, Building Inspectors and Engineers together to determine best and most economic ways to present "Green" building to the proponent of every construction.	Demand that green building information products be provided by developers, builders and real estate agents - including lifetime emissions and cost consequences of bad design.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Have a state government building authority to improve code enforcement or resource and strengthen Council capacity to police code compliance.	Unions and employers demand green building training included in all training, apprenticeship, building license courses etc and validation of knowledge.	Awareness and education to demand/expect more.
Implement a Green Builder accreditation code with rewards for the good and naming and shaming for the bad.		

WHAT WE BUILD

SUSTAINABILITY IN CONSTRUCTION & INFRASTRUCTURE

SUGGESTED ACTION 8: PROVIDE EXTENSIVE TRAINING IN NET ZERO ENERGY DESIGN, SPECIFICATION AND CONSTRUCTION WITHIN THE BUILDING INDUSTRY.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Provide the forum to ensure the key individuals in building design and execution come together to map the way forward to Low Carbon and sustainable developments that leads to development of legislation via regulation.	Unions and employers demand green building training included in all training, apprenticeship, building license courses etc and validation of knowledge.	No individual actions recommended by Panel.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Provide skills to aim for above compliance and to meet consumers to meet their energy expectation.	No extra Community/NGO actions recommended by Panel.	No individual actions recommended by Panel.

WHAT WE BUILD

SUSTAINABILITY IN CONSTRUCTION & INFRASTRUCTURE

SUGGESTED ACTION 9: RAISE CONSUMER AWARENESS, UNDERSTANDING AND EXPECTATIONS FOR ENERGY EFFICIENCY AND SUSTAINABILITY IN THE BUILT ENVIRONMENT.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Introduce and enforce mandatory disclosure at point of sale and lease. Market incentivised to incorporate energy ratings into real estate transactions.	Create and market new carbon neutral and net zero products / options for infrastructure and materials.	Homeowners value energy rating disclosure as both vendor and purchaser (or tenant) The ability for individuals to recognise the long term cost for the building. So they can make good choices.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Fund a Sustainable / Technology Shopping TV Channel with a program to highlight best practice low emissions building practices (along with all other consumer product info) to help consumers understand wise decision making.	No extra Community / NGO actions recommended by Panel.	To research a range of infrastructure and material options that would make the building they own more carbon neutral. Information not only for emissions but to reduce energy costs.

WHAT WE CONSUME

UNDERSTANDING CARBON EMISSIONS FOR GOODS AND SERVICES

WHY WE NEED TO TALK ABOUT THIS

To move towards net zero, it is important for all people (producers, consumers) to be able to understand the carbon impact of the goods & services they are buying, and then be able to choose to buy goods and services with a lower emission impact.

The ability for consumers to access information on the life cycle of goods and services is currently challenging and inconvenient and thus there is limited action in this space.

There is a need for community wide discussion in order to ascertain what is needed from a consumer and industry perspective to move forward in this area. Community trust in current claims from industry is low.

WHAT WE NEED TO TALK ABOUT

We want to enable the calculation of a whole of life-cycle carbon cost, applied to all goods and services to make everyone aware of and accountable for the impact of the products they buy. We need to calculate it, standardise it and publish it.This will drive industry change for reducing emissions. Once we understand it, we anticipate the emission impact of goods and services could then be reflected in their costs.

Total lifecycle emissions of products are very hard to quantify and measure. Generating the ability to take action to mitigate the carbon cost of products is very complex. Accountability is an issue and requires collaboration with everyone in the supply chain in order to empower consumers to make informed choices when purchasing goods and services.

Community discussion should focus on the labelling and indicators that should be implemented in order to increase knowledge. For example, does the community wish to see labelling that shows CO2 emissions of products in the form of a star rating or have access to QR codes with additional information on a (government?) database.

Broad focus areas where action could be taken could include areas of perceived high emissions and involving consumer choice, such as:

- Air travel
- manufacturing of motor vehicles
- food and drinks products e.g. meat and alcohol (Drakes, Foodland, Haighs, Coopers, etc. from SA)
- clothing and fashion (SA wool, Rossi boots, etc.)
- construction materials (local quarries, forestry, etc.)

The focus should first be on South Australian made goods and services, then address national and then international.

WHAT WE CONSUME

UNDERSTANDING CARBON EMISSIONS OF GOODS AND SERVICES

SUMMARY OF SUGGESTED ACTIONS

To achieve understanding the carbon emissions of goods and services, the following three actions are suggested:

- TRIAL REGULATION OF EMISSIONS OF GOODS AND SERVICES PRODUCED AND SUPPLIED.
- ENCOURAGE ORGANISATIONS TO PRODUCE LOW-CARBON EMISSION GOODS AND SERVICES.
- ENCOURAGE CONSUMERS TO PURCHASE LOW-CARBON EMISSION PRODUCTS/SERVICES.

WHAT WE CONSUME

UNDERSTANDING CARBON EMISSIONS OF GOODS AND SERVICES

SUGGESTED ACTION 10: TRIAL REGULATION OF EMISSIONS OF GOODS AND SERVICES PRODUCED AND SUPPLIED.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Consistent, transparent, government-set method to measure and calculate carbon emissions captured by each good/service.	Provide clear, accurate information to regulatory body and consumers.	Consumers should seek out the certification on the goods/service.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Provide information on how to read results to enable consumers to understand the emission cost of their purchase.	Promotion of information through packaging and promotional material.	Educate selves on the information provided.
Ensure the information provided is easily accessible and easy to understand.		

WHAT WE CONSUME

UNDERSTANDING CARBON EMISSIONS OF GOODS AND SERVICES

SUGGESTED ACTION 11: ENCOURAGE ORGANISATIONS TO PRODUCE LOW-CARBON EMISSION GOODS AND SERVICES.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Subsidise local businesses which prioritise local supply, manufacturing, etc.	Apply for appropriate subsidies/grants.	To prioritise manufacturing, processes, transportation etc. which are low-carbon.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Incentives for organisations to do best practice.	Retail sector and industry buy-in.	No extra individual actions identified by Panel.
Subsidise low-emission small businesses who would otherwise not be able to afford production.	Apply for subsidies.	

WHAT WE CONSUME

UNDERSTANDING CARBON EMISSIONS OF GOODS AND SERVICES

SUGGESTED ACTION 12: ENCOURAGE CONSUMERS TO PURCHASE LOW-CARBON EMISSION PRODUCTS/SERVICES.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Subsidise low-carbon emission products to offset consumer cost.	Private sector buy-in to make available and accessible.	To prioritise low-carbon goods and services over similar alternatives.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Subsidise low-carbon emission product branding, to create a niche market for climate conscious consumers wanting to purchase low emission products.	Private businesses from all segments of the supply chain, to trial low carbon emission product branding, and survey the market's response.	Purchase low carbon emission branded products, to encourage momentum towards low emission consumerism.

WHAT WE CONSUME

AGRICULTURAL EMISSIONS - WHAT WE GROW, PRODUCE AND EAT

WHY WE NEED TO TALK ABOUT THIS

Agriculture is a big part of our emissions and there is a great opportunity to have a real impact on reducing emissions by addressing change in this sector.

We know that methane is a major emitter. Our food systems are also opaque - agriculture is at the supermarket for most people. People make decisions everyday about what they eat, and a conversation about agricultural emissions could influence consumer choices.

We know this is an emotive and complex issue - compounding it is generational attitudes, practices of agriculture, family ties with land, production systems and ways of working. We want to ensure a conversation about agriculture demonstrates the value we have for our producers in SA.

We need to see a shift towards adopting new knowledge, advancing practices and also see consumers and producers shift together. For consumers, we need to see shifts in what we consume and what we demand. Supporting the community to start growing their own food, will enable us to see things differently.

On the flipside, we want to see food producers shift to more sustainable, regenerative production which continues to value our lands and waters.

WHAT WE NEED TO TALK ABOUT

At an industry level we need to see conversations about reductions in sources of emissions such as methane produced via ruminants (seaweed diet for cattle) and emissions from machinery being reduced through technological advances.

At a community level, we need to better understand the water and carbon cycle, and soil carbon emissions from tillage, land clearing, desertification. We need to address food waste - optimising solutions for what we grow.

In talking about this we need to recognise the revolutionary way in which farming has evolved - and the sustainable ways the industry is developing. Its exciting to see innovation being adopted on our farms and in food production.

A statewide conversation about agricultural emissions should advance knowledge and education and address fake news. Our discussions need to be respectful of the complexity of this issue, the emotion attached and be built on values and cultural-based consumption. What we eat has a direct link to our personal health and wellbeing.

Change in this sector will require a huge investment of time, energy and resources of farmers - we know that many of the solutions are expensive for producers and the costs to individuals of quality local food is high. As a consequence, we need to support adaptation.

We also need to address the supermarket duopoly - which drives behaviour in what we buy and eat.

WHAT WE CONSUME

AGRICULTURAL EMISSIONS - WHAT WE GROW, PRODUCE & EAT

SUMMARY OF SUGGESTED ACTIONS

To achieve emission reductions in Agriculture, the following three actions are suggested:

- OPTIMISING PRODUCTION - USING EVERYTHING WE GROW.
- INCENTIVISING / SUPPORTING FARMERS AND AGRICULTURAL BUSINESS TO TRANSITION TO LOWER CARBON PRACTICES.
- INFLUENCE CONSUMER DECISION MAKING.

WHAT WE CONSUME

AGRICULTURAL EMISSIONS - WHAT WE GROW, PRODUCE & EAT

SUGGESTED ACTION 13: OPTIMISING PRODUCTION - USING EVERYTHING WE GROW.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Assistance in supporting farmers to take 'waste' products and use them - circular economy / govt can play a way to help support this.	Find ways to use unwanted produce - ie foodbank model and highlighting what else could be done.	Influence others / make choises about what you do and don't accept (ie twisted carrots, blemished apples).

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Supermarket acceptance criteria (mandate).	Shareholders demanding more from supermarket chains.	Purchase low carbon emission branded products, to encourage momentum towards low emission consumerism.
Incentives to reduce food waste.	Food waste public education.	Composting and vermicomposting.
Loosen regulation for small producers - on farm processing.	Across Govt, NGO's and individuals incentivise, teach and actively move to using compost instead of commercial fertilisers in all forms of broadacre and horticulture farming to reduce climate effects and improve sustainability.	
	Establish a circular economy using organic wastes at all stages of farm management.	

WHAT WE CONSUME

AGRICULTURAL EMISSIONS - WHAT WE GROW, PRODUCE & EAT

SUGGESTED ACTION 14: INCENTIVISING / SUPPORTING FARMERS AND AGRICULTURAL BUSINESS TO TRANSITION TO LOWER CARBON PRACTICES.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Incentivise farmers that take action to reduce carbon footprint of their farm (increasing soil carbon, increasing green coverage, use of renewables, reduction of diesel use).	Farmer groups (Landcare groups, MLA, AWB, GRDC) Supporting / information sharing for change.	Consumers willing to pay more for a higher quality or lower carbon product. farmers will be willing to change their practices is there was a financial benefit for it.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Regenerative farming education and training to the workforce and industry.	No actions identified by Panel.	Reward local food systems.
Subsidise/ incentivise regreening and agroforestry practices.		Composting and vermicomposting.

WHAT WE CONSUME

AGRICULTURAL EMISSIONS - WHAT WE GROW, PRODUCE & EAT

SUGGESTED ACTION 15: CONSUMER DECISION MAKING.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Incentivise lower carbon products - equitable costing in which low carbon products are cheaper - support for purchasing the better choice.	Point of sale - Supermarkets informing customers on the emissions of products.	Choose lower carbon products and diets such as plant-based diets, local produce and less highly processed products.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Public information campaigns around the total carbon cost of foods - see Big Idea #4.	Education to consumers - sustainability indices.	Support locally slaughtered meat products - and small scale abattoirs.
	Empowering consumers to use their purchasing power and their power as individuals to make change.	

HOW WE POWER OURSELVES

COMMUNITY MICROGRIDS

WHY WE NEED TO TALK ABOUT THIS

Whilst micro-grids are not a significant emission reduction action, they are effective at generating the community momentum for future actions. They help to mobilise and shift communities, opening the door to other ideas and projects - such as electrification and degasification.

Microgrids put communities and people closer to energy sources which encourages the community to care about the impact and outcomes.

They also generate a sense of agency enabling communities to get involved and they start a discussion about what next - i.e., what can the community do next.

Microgrids offer energy security and climate resilience in the event of power failures, bushfires, flooding, war and other extreme scenarios that may threaten community safety or services (e.g., hospitals, schools, aged care etc.).

There is a lack of energy literacy which disenfranchises people from discussions or adoption, but we know that the establishment of microgrids is an innovation we need and it can provide new jobs and careers for a 21st century workforce.

WHAT WE NEED TO TALK ABOUT

A microgrid can be thought of as a small subset of the electricity grid that provides energy generation and storage at a local level. They can incorporate renewable energy generation as well as battery energy storage.

Communities have the opportunity to use their collective bargaining power to maximise the usage of renewable energy, decentralise supply from large corporations, and have a say in where their electricity comes from, and how it is used and shared.

The discussion needs to provide a definition of what microgrids are, what opportunities are available currently, what is required to change now (i.e, legislation, retailer regulations).

We also need to keep focussed on the health, safety and financial benefits of moving away from burning gas in the home.

HOW WE POWER OURSELVES

COMMUNITY MICROGRIDS

SUMMARY OF SUGGESTED ACTIONS

To achieve community microgrids, the following three actions are suggested:

- CHANGE PLANNING AND ELECTRICAL LAWS ON STATE AND FEDERAL LEVEL TO ENABLE RESIDENTIAL, COMMERCIAL AND INSTITUTIONAL IN SA.
- USE PRICE INCENTIVES TO ENABLE ADOPTION.
- WORKFORCE DEVELOPMENT - INCENTIVISE NEW, BEST PRACTICE, FUND EVIDENCE-BASED TRIALS / PILOTS, EDUCATE AND TRAIN A NEW SECTOR.

HOW WE POWER OURSELVES

COMMUNITY MICROGRIDS

SUGGESTED ACTION 16: CHANGE PLANNING AND ELECTRICAL LAWS ON STATE AND FEDERAL LEVEL TO ENABLE RESIDENTIAL, COMMERCIAL AND INSTITUTIONAL IN SA.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Legislative reform.	Community pressure / education of options.	Demand for microgrids from public.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Review of privatisation of electrical system - poles and wires etcetera.	Input into parliamentary enquiry.	Respond to Have your Say SA.

HOW WE POWER OURSELVES

COMMUNITY MICROGRIDS

SUGGESTED ACTION 17: USE PRICE INCENTIVES TO ENABLE ADOPTION

- THOSE WITH SOLAR PANELS FORM A LOCAL GRID.
- THOSE WITHOUT ACCESS TO SOLAR FORM A LARGE BUYING GROUP FOR GREEN ENERGY.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Incentivise microgrid formation - support early adopters.	Create a media interest to promote this as a useful idea.	Willingness to electrify - replace gas with electricity.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Government subsidised microgrids of both types to illustrate the benefits to SA residents.	Early adopters - Small business commissioner to promote.	Early adopter(s) to take lead and encourage followers through publications - newspapers etc - TV documentary / “How SA did it” - You-Tube - support from local academics - known experts.

HOW WE POWER OURSELVES

COMMUNITY MICROGRIDS

- SUGGESTED ACTION 18: WORKFORCE DEVELOPMENT - INCENTIVISE NEW, BEST PRACTICE, FUND EVIDENCE BASED TRIALS / PILOTS, EDUCATE AND TRAIN A NEW SECTOR.

The priority things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Free / subsidised trade courses (apprenticeships) at TAFE - similar to trade apprenticeship for hairdressers straight from school. Subsidies to businesses to fund training opportunities for high school students, to assist with their transition into the workforce.	Community advocacy and encouragement to join the workforce and trust in the promise of long term gainful employment. “not fashionable…it’s on trend”.	Trust in the vision for individual full electric homes, which sustain a community operative microgrid. Everyone shares the same beliefs and values, and so trusts and supports one another in achieving zero emissions.

Other things that would support this action are:

GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Incentivise SA companies to produce a pilot project - microgrid.	Specialist businesses to create a workforce to support Microgrid construction end-to-end with warranties.	Incentivise SA companies to produce a pilot project - microgrid.

HOW WE POWER OURSELVES

COMMUNITY MICROGRIDS

SUGGESTED ACTION 17: CHANGE PLANNING AND ELECTRICAL LAWS ON STATE AND FEDERAL LEVEL TO ENABLE RESIDENTIAL, COMMERCIAL AND INSTITUTIONAL IN SA.

The priority things that would support this action are:

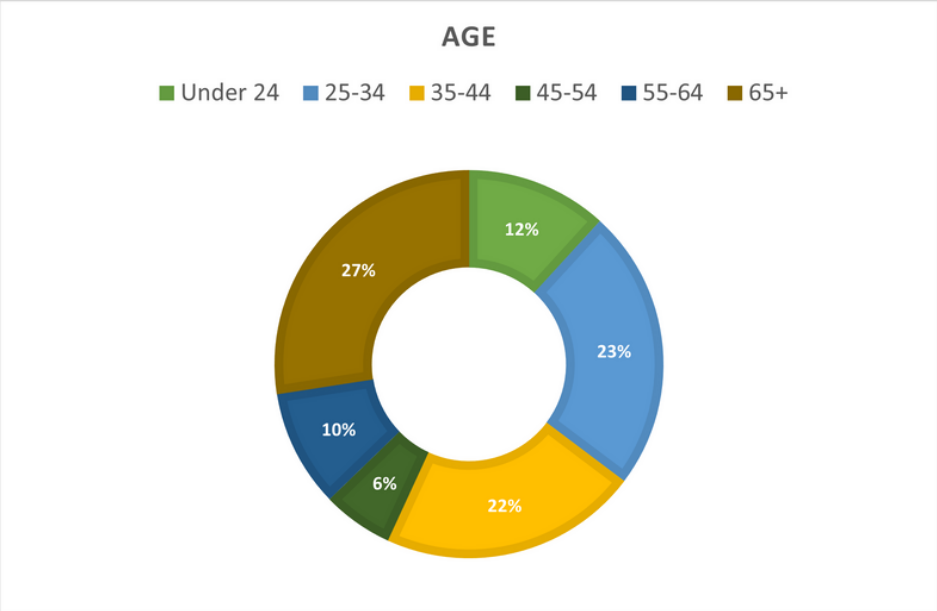
GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Legislative reform.	Community pressure / education of options.	Demand for microgrids from public.

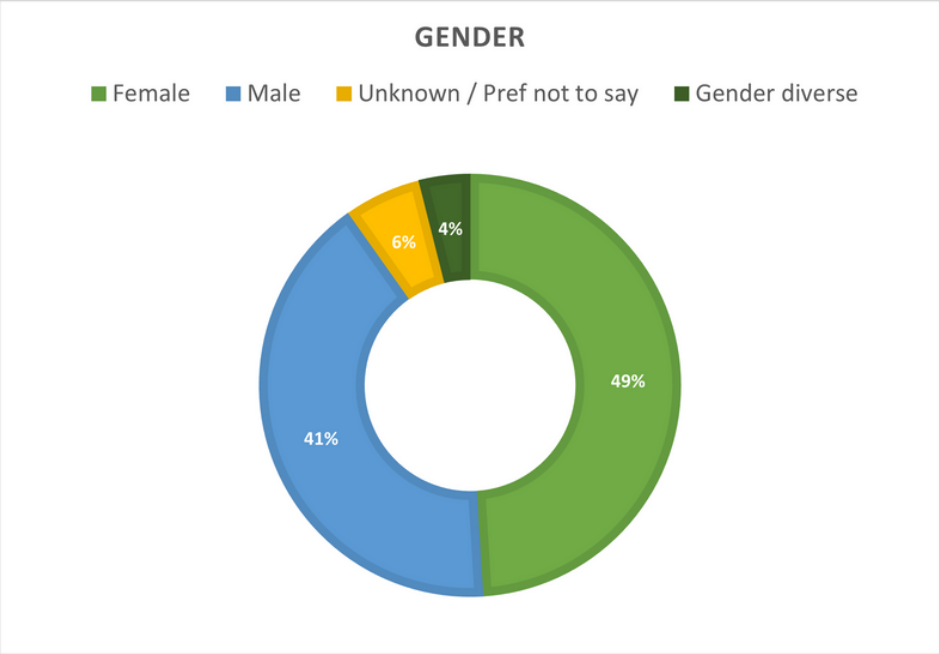
Other things that would support this action are:

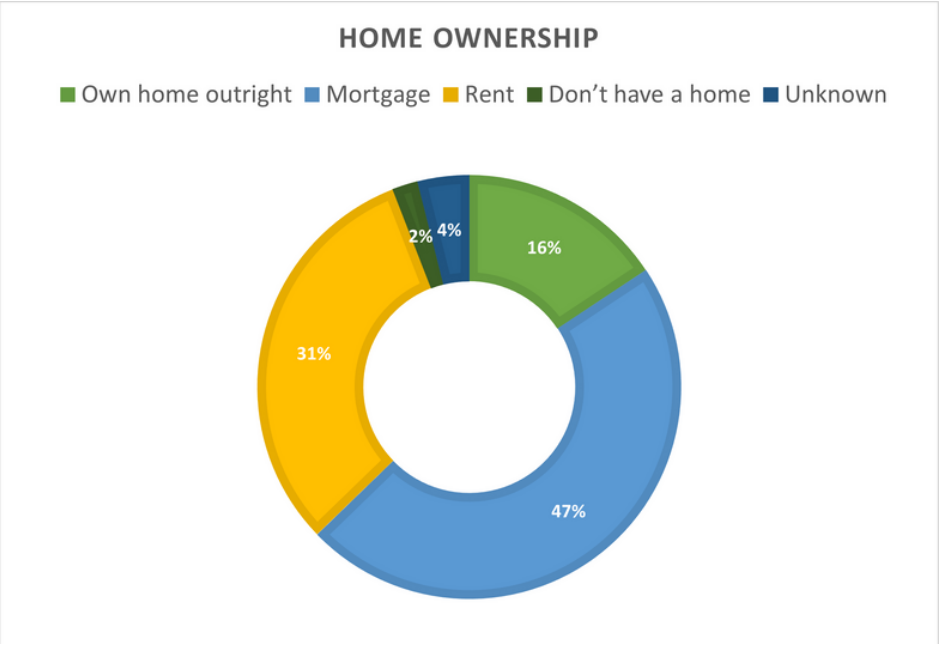
GOVERNMENT ACTIONS	COMMUNITY / NGO ACTIONS	INDIVIDUAL ACTIONS
Review of privatisation of electrical system - poles and wires etcetera.	Input into parliamentary enquiry.	Respond to Have your Say SA.

ATTACHMENT A
COMMUNITY CLIMATE PANEL DEMOGRAPHICS

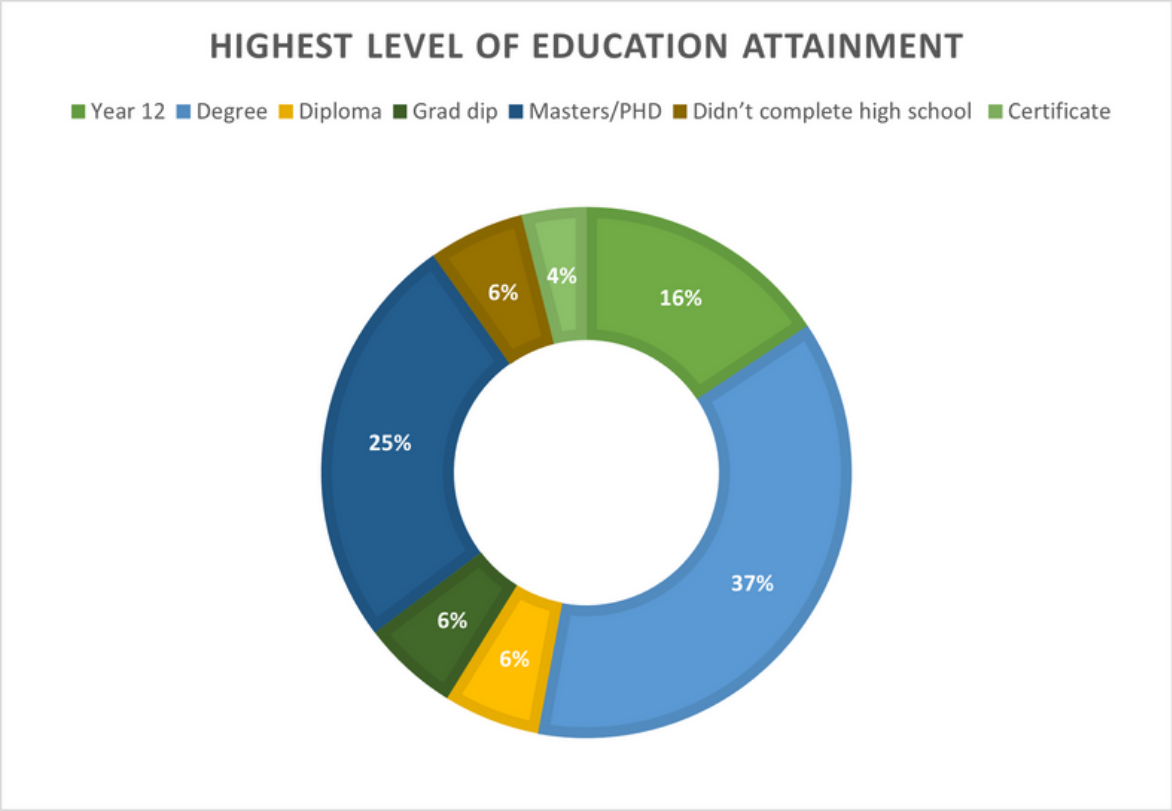
ATTACHMENT A
PANEL DEMOGRAPHICS

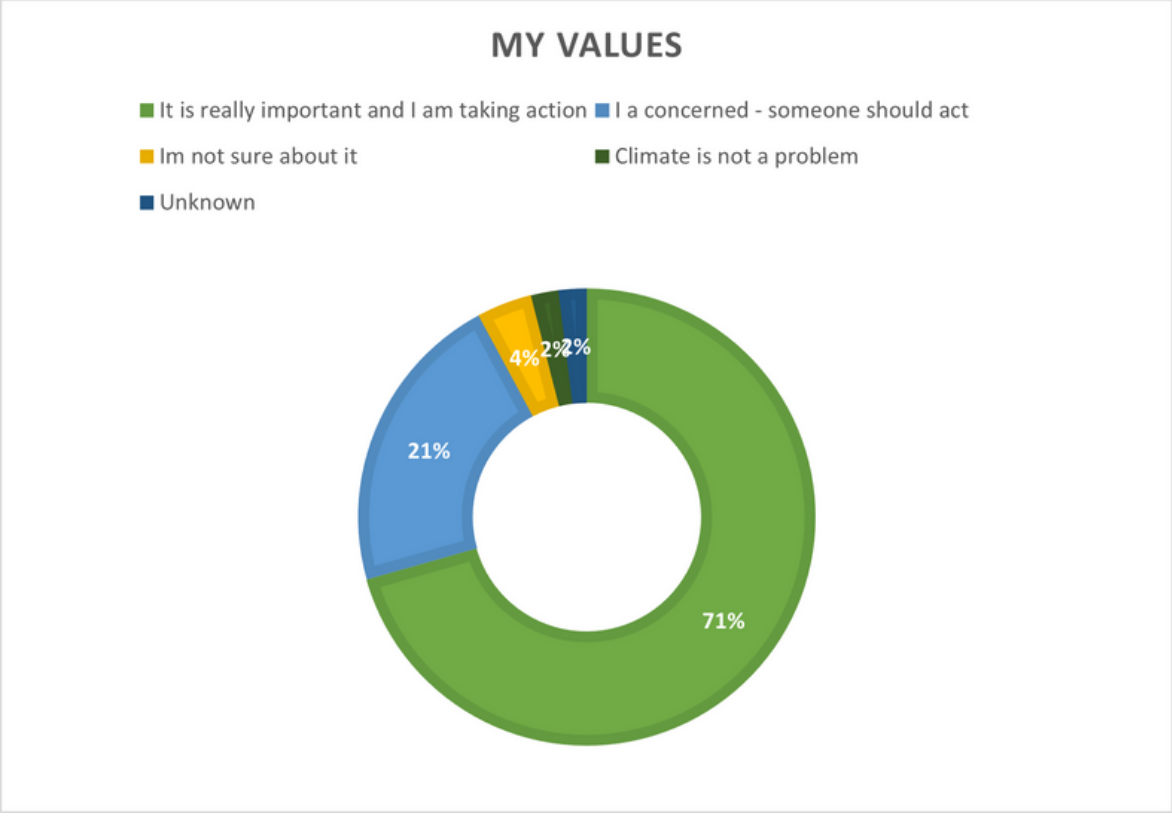






ATTACHMENT A
PANEL DEMOGRAPHICS





ATTACHMENT B
PERSONAL SUBMISSIONS

This section contains personal submissions received from panel members. These submissions do not reflect the work of the panel, rather allow those individuals who want to, the opportunity to submit their views direct to Government.

A CASE STUDY OF ACCESSIBLE CLEAN PERSONAL TRANSPORT - A FAMILY AND THEIR ELECTRIC CARGO BIKES!

“My husband and I have always loved riding our bikes, but after having kids and riding with them on the back of our road bikes, or in a trailer, or on their own little bikes, riding just became too hard and unsafe to go very far or very often.
Then we watched the MotherloadMovie, which is about a mum who feels trapped by her reliance on a car and her life-changing discovery of cargo bikes, and we were off searching for our own next set of kid/cargo-carrying wheels! .

We were blown away by the range of options for cargo bikes, and the pedal-power that an electric cargo bike could give the rider even against the wind and up hills, all with loads of up to 150kg on the back - these were proper family car-replacements! But, we were also blown away by the price…
After much soul searching, a very hefty car servicing bill, and an intense desire to get-active and reduce our contribution to climate pollution after the 2019/20 fires, we did the sums and weighed up the pros and cons. It turned out that if we replaced our second car with two e-cargo bikes we would not only be saving a huge amount of money on parking, fuel, insurance, servicing and rego, we would also be saving time, our health, *and* we would be reducing vehicle congestion, air and noise pollution in our local area too - there were immediate wins for us, and for our community all round!

We have now had our 2 car-replacing e-cargo bikes for just over 2 years and have found them to be one of the best life decisions we have made for our family. We ride to drop the kids at school, and then ride on to work, picking up shopping from local businesses along the way and carrying it easily in the panniers, against the wind, in the rain, and up a slight hill all in our usual work clothes (with rain gear when needed). We have found that we get places quicker (especially during peak hour), we are improving our wellbeing and community connection with the kids on our ‘commute’ listening to and watching nature as we ride, smiling/waving to people in our neighbourhood, and we feel we have given our family a sense of being part of an effective solution to address climate change; particularly important as our kids, and us adults, begin to fully understand the seriousness of this global problem which will be acutely felt in our home State. We have also loved being able to explore our State by bike, taking the bikes on trains to get further. And because we no longer have the high costs associated with owning 2 cars, our family has more money to spend in our local community and when we go visiting other areas in our State.

The Adelaide Cargo Bikes community is growing, but the two barriers - cost and road safety - are significant for many. If State and Local governments could change their focus from attempting to solve road congestion by widening roads and building tunnels to instead supporting more cost-effective strategies that would get more residents out of cars and onto bikes, this would have huge benefits for all South Australians immediately, particularly during this time of high cost-of-living pressures. And whilst e-cargo bikes are hefty in price, they are substantially cheaper outright and in the long-run than electric cars.

Moreover, in their recently released report on transport The Climate Council show that in order for Australia to reach our Net Zero goals, we need to halve the amount of personal vehicle ownership. This means a significant mode-shift towards active and public transport options is needed. As public transport services will require lengthy and costly upgrades to service the required mode-shift, active transport presents a much quicker and cheaper strategy to achieve our Net Zero goals, and should become a key focus of our community’s plans to move towards clean personal transport.

Active transport is indeed a form of ‘constructive hope’ during this climate emergency, especially for families. To increase uptake our community needs Government-led support to access more versatile options which cater for our clean transport needs, and our local streets need to be made safer to ride on everyday for everyone (see Recommended Actions to #ActivateActiveTransport).”

Thank you for considering my submission on accessible clean personal transport, I hope that it demonstrates the opportunities and barriers to activating active transport especially for SA families.
- Andrea, Adelaide Mum of 2

A. DAVIDSON

“My dilemma (really from the get-go) has been trying to focus on SA with intended Net Zero before 2050, when so many other worldwide factors having an impact upon us…how can we arrive at a document which will enable calm Kitchen Table Conversations with these big issues so frustrating for us all?

For example…

The world financial system…

1. Why do we accept that the wealthiest 5% control, leaving the remaining 95% of the world struggling with this faulty system;
2. the larger financial players (including banks) do not value their customers, preferring their investors (shareholders) instead, making their profits through the international gambling house….stock markets around the globe;
3. this system does not encourage manufacturing or employment, merely playing %age games with others’ money, eg which super fund presently gives the best return?
4. International cooperation is required to abandon the present financial mess to enable better equality for all…I know that the big end of town in every country will resist, but maybe just as we were told regarding climate deniers…leave the 9% behind…we the 91% don’t have time to argue with them.

Failing democracies…

5. How can we take pride in political systems which deliver leaders such as Trump, or Boris or Morrison…each of these Countries must devise systems to deliver more respectable and respectful leaders…money on monstrous voting campaigns is as wasteful as the individuals themselves;
6. The fundamental element of any relationship is trust. We do not achieve trust by spending obscene amounts of public funds on defence…the defence word itself is the mirror image of attack…there is nothing in either word which encourages trust;
7. As a species it seems that we have not learned the lessons from previous world wars…the enormity of environmental damage and waste is heartbreaking and continues in a number of hot-spots on the planet;

Big polluters…

8. If our transport systems are the main polluters, why do we think that the answer lies in the EV?…if we continue with the same “big car” design all we are doing is placing a different engine in the same size vehicle…surely, we must change that design to vehicles for individuals…my attached sketch;
9. By being able to fit 3 times as many people on our existing roads using such a system, we can avoid the continual expansion of (hot) roads and freeways in our cities.
10. With vast distances in Australia this method of person-pod EV’s may lessen demands for public transport and with clever IT we may be able to work (or sleep!) while the vehicle delivers us safely to our destinations.
11. Do we have the capability now that our car industry in Australia is shut down to consider such an idealistic solution?

PROTECT AND RESTORE NATURE - E. CHEN

I am incredibly lucky to live in South Australia. Its diverse landscapes offer abundant opportunities for me to connect with nature. I spend my spare time exploring the coasts, hills, national parks, and bushland. My passion for the environment stems from my deep connection with nature, and it compels me to recognize the importance of protecting and restoring our natural ecosystems, especially in the face of climate change.

Protecting and Restoring nature are critical in the fight against climate change. About one-third of the greenhouse gas emission reductions needed in the next decade could be achieved by improving nature's ability to absorb emissions [1]. I have developed four areas where the South Australian government can work with the community to reduce greenhouse gas emissions by protecting and restoring nature.

Restore Bushland

Bushland is a stabilising force for the climate. It regulates ecosystems, protects biodiversity, and plays an integral part in the carbon cycle. Bushland is also one of the most important solutions to addressing the effects of climate change. To maximise the climate benefits of bushland, we must keep more bushland intact, manage them more sustainably, and restore more of those landscapes which we have lost [2].

Implement Stronger Tree Protection Laws

Trees improve the health and well-being of residents, conserve energy, absorb pollutants, and keep our cities cooler. Still, South Australia has some of the weakest tree protection laws in the nation, and it is losing its significant trees at an alarming rate [3]. So many significant trees have been cut down without scrutiny, on parklands, people's backyards, and development sites. Law reform is urgently needed to protect significant and native vegetation and parklands [4].

Restore Wetlands

Wetlands, such as marshes and swamps, are effective at capturing carbon and can store it for centuries. Restoring wetlands can also provide habitat for many species and help regulate water quality. South Australia, however, has lost around 70% of our wetlands since European settlement [5]. We must retain all the existing wetlands, restore wetlands that were degraded by human activities, and protect and restore water systems as a whole.

Restore, Protect and Manage Marine Ecosystems

The ocean plays a crucial role in regulating the Earth's climate and can absorb significant atmospheric carbon. By restoring, protecting and managing marine ecosystems, such as seagrasses and reefs, we enhance their ability to sequester and store carbon, adapt to the effects of climate change, and improve coastal resilience. To harness the power of marine ecosystems to combat climate change, we need to significantly expand the area of marine sanctuaries, enhance protection measures for marine life to prevent any further losses due to human activities, and provide incentives for the restoration of "blue carbon" ecosystems [6].

In summary, by protecting and restoring nature, we can remove carbon from the atmosphere and mitigate the impacts of climate change while providing many co-benefits, such as protecting biodiversity and improving air quality. When we protect and restore nature, we can address climate change and biodiversity loss while creating a more sustainable and equitable future for all.

[1] "Biodiversity - our strongest natural defense against climate change," United Nations, [Online]. Available: https://www.un.org/en/climatechange/science/climate-issues/biodiversity. [Accessed 7 June 2023].
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DO WHAT WE DO BEST - G. JOHNSTON

Hi Fellow Community Climate Panel Members,
Cynically, how well are we going to be listened too; are we a lobby group or are we commissioned with a responsibility by those in power (the State) to start off this process of hearing from the community?
Are we an entity of Conservation SA and the SACA groups or is this a function of Department of Environment and Water (who manage the Premier's Climate Change Council) and therefore the State?

The simple answer is that we have to start somewhere. The idea that a group of disparate individuals can come together to discuss, argue, mediate and then arrive at some agreed actions is brilliant. That a non-partisan group such as ours can produce some cohesive results that can be forwarded to the broader communities for further consideration and then aimed at our State for consideration of the needs and wants of the South Australian population is a major step towards achieving net-zero.

Then, if we do have that serious level of endorsement by Government, I would ask those in 'power' about the intent of the Government and its Public Servants (most particularly Treasury) to heed, regulate and/or legislate the preparedness to make some real changes in our societal organisation towards mitigating and managing the Climate Disaster that world is heading for.

I always remember the extraordinary difficulty Local Government had (and continues to have) in getting Treasury to part with at least a small sum of the Levy on Landfill that brings many, many millions into state coffers every year from the Levy to be spent on the original purpose; to spend it on recycling and diversion of waste from landfill to other environmentally sound uses. Our guest speaker Martin Haese knows this only too well and I'm sure has advocated on this subject on many occasions.

Equally, getting the State to purchase recycled materials such as road base and reconstituted concrete for capital works was such a long row to hoe that we often neared giving up on the process. The State does nowadays purchase some recycled materials but the propensity of public servants to watch their backsides and stick to the safer option of new or virgin materials remains very strong if not entrenched.

Enough of my cynicism, I'll add some ideas to this later on below.

It seems to me that we can look to those things that South Aussies are good at (and often best in the world) and leverage some of those attributes as well as looking at both sides of the ledger when it comes to mitigation (prevention as well as sequestration/scrubbing/capturing). We need to have a better way to audit the input/output balance of CO_2.

Cement manufacture in SA gains 50% of its energy requirements from natural gas (which we are all concerned about) but the other 50% comes from landfill waste which otherwise would be mostly converted to CH_4 some 17 to 22 times worse that CO_2. No, not methane from landfill but actual ground up waste injected/blown into the furnaces to produce nearly as many calories as the gas.

This must be regarded as very well done and just another South Australian innovation. In an ideal world we must continue that inventiveness towards being able to scrub that CO2 and sequester it or change it to prevent its addition to our atmosphere.

We are inventive from time to time (the black box flight recorder, the Hills hoist etc.) but we are most often innovative. We take inventions and ideas and combine them with others to create something new, cutting edge and exciting.

DSTO and the defence industry are one group that takes inventions of others and innovates 'the hell out of it'.

Our wine industry is world famous via the capacity to blend and look beyond our own paddocks not because we have the best grapes in such and such location - innovation.

Our waste management and recycling is the envy of the world with many, if not most countries visiting us to see how we achieve such extraordinary results.

Education is the key to many of these differences between SA and all the rest.

It's not just Jeffries, Peats, Greening Industries SA, KESAB, Container Deposits, Visy, Lucas and Local Governments that all combined with innovative approaches to make it happen. It was the education, subtle and overt, of all the parties, especially year 3, 4 and 5 primary school children that became the glue that made it all happen. That is now generational. That education was carried out by Local Governments and NGO's such as KESAB; mostly all done outside the education system but with their blessing.

If we can extend the education about climate change in a managed and structured way from the Graham Greens of this world to formally elucidate our public servants, school children and the wider population those many inventors and innovators will be supported and encouraged to make a difference in relatively short order. As above, generational change takes us to 2048, a third of the way towards Grahams end scenarios of our heating planet.

The export of education by private and public enterprises is prodigious in SA and if we can harness the ideas and willingness to mitigate climate change in the short term we can then export that around the globe as we have in the manner of waste, container deposits and many other more esoteric ideas now becoming the norm elsewhere.

Given a quality education of all our public servants (Local and State) we need to protect those same individuals to some degree when they try to think outside the box and progress ideas that they may assist with funding. That brings me to capital funding. Grant systems need to be managed so that the State does not sit on the funds by setting hurdles of funding of environmental projects too high so that prospective participants are frightened away or Treasury manages to balance budgets by not utilising legislated or promised drafts of funds by saying there was no decent applications or no applications that met all the criteria.

If those finances become available to test new ideas and/or combinations of ideas we can easily exceed the needs of the SA microcosm of climate control. The funds can be applied to expanding roof top solar and battery networks to ALL housing and industries in SA whether owned, rented or leased. Add to that wind, bulk solar and batteries plus geothermal and then traditional generation can go by the wayside.

Transport remains the difficult task, especially for commercial vehicles, with realistic alternatives still in the embryo stage with quite some way to go. Hydrogen power seems the best alternative in the longer term (without dramatic reductions in battery weights). Road mass, torque, horsepower and load dynamics prevent the translation of commuter vehicle alternatives such as battery and hybrid power into the commercial sector except in a very few niche cases.

In the case of Geothermal (load base) power there seems that a Canadian invention/innovation looks the goods for further investment and development that would fill the gap with a constant power source to support wind solar etc.

https://www.youtube.com/watch?v=gV92QFDb5qQ

This seems an interesting concept particularly in our stable geological location and certainly worthy of consideration by our public servants and energy industry experts.

For scientists such as Graham, is the science “in” to the degree that curricula can be written to use a an education tool that satisfies the needs of educators in the realm of Climate Science and the inexorable heating of our planet through excessive production of CO2.

Equally, are we able to accurately determine and authoritatively detail the embodied energy and net CO2 equivalence in the goods and services that we purchase/acquire so that the general public, business and government can all make better decisions about climate change when it comes to those decisions?

COMMUNITY CLIMATE CONVERSATIONS - FRUGALITY AND HARM MINIMISATION

DR G. MALONE, CULTURAL GEOGRAPHER AND LAND STEWARD, JUNE 2023

Introduction

The average ecological and carbon footprints of individual Australians are four times or more than their global allowance. As a nation state we rate poorly in global equity for resource consumption and polluting byproducts.

Premise

That any climate conversation must include the reality of a reduction in resource consumption by most individuals and the need for a national policy discussion on degrowth (economic contraction). Frugality is key.

The Problem

Climate change is a symptom of humanity's problem, not the cause. The problem is too great a level of consumption, by too big a proportion, of too big a global population. Co2 emissions are a byproduct, or the life-threatening pollutant, caused by profligate consumption. Focusing the conversation on climate change only, overlooks the fundamental cause. Much of the local and global discussion about climate change mitigation is akin to looking at the treatment of a disease in the hospital system rather than the eradication of the disease itself. Much discussion, including that of this Panel, also tends to externalise the problem, 'if government or industry did such and such,' 'if there were financial incentives and subsidies for this or that.' In my opinion the focus needs to be on individual behavior and responsibility, and frugality. For those already living frugaly, impacts would be minimal, and social and economic equity could be enhanced.

Climate Catastrophe is an Issue for Individuals

The contemporary climate catastrophe discussion diverts attention from the underlying cause which can readily be measured in ecological footprints by individuals and nations. This tool has been available for decades. Irreparable harm is being done to ecological systems by profligate consumption and overuse of resources, renewable and non-renewable. Earth Overshoot Day (EOD) 'marks the date when humanity's demand for ecological resources and services in a given year exceeds what Earth can regenerate in that year. We maintain this deficit by liquidating stocks of ecological resources and accumulating waste, primarily carbon dioxide in the atmosphere' (Global Footprint Network). If the global population enjoyed the same standard of consumption as Australians do, EOD this year was 23rd March, EOD for the planet in 2023 is estimated to be 2nd August.

COMMUNITY CLIMATE CONVERSATIONS - FRUGALITY AND HARM MINIMISATION
DR G. MALONE, CULTURAL GEOGRAPHER AND LAND STEWARD, JUNE 2023

Language - Addiction and Harm Minimisation (in Lieu of 'Sustainable')

We are part of a culture and a paradigm that has an addiction problem, we are addicted to profligate consumption and the fallacy of endless growth. Addiction is difficult to cure, and one approach is harm minimisation. What we do under the banner of 'sustainability' may best be, and more accurately, described as harm minimisation. Applying the definition of 'able to be maintained or continued' or 'causing, or made in a way that causes, little or no damage to the environment and therefore able to continue for a long time' or 'do no harm to future generations' is hogwash as it is clearly demonstrable that we cannot meet those definitions. I accept that some practices and resource use can be critically assessed as being 'sustainable,' but at the macro level human practices and resource use is not sustainable. The use of the term 'sustainable housing' for instance is a furphy. The building may be energy efficient but that is totally different to being 'sustainable' in overall materials consumption and size. And the use of the word 'more sustainable' is even more inaccurate and misleading because it is not 'sustainable' in the first place.

Individual understanding and behavioral change is assisted by education, awareness and language. That is why the word sustainable is a falsehood and misleads. It is green wash at its peak. Nothing we Australians do at the macro level is sustainable; our ecological and carbon footprints, housing size etc., etc. clearly demonstrate that.

Role of Government - Regulate to Mitigate

The role of government is to protect its citizens, to educate them, to provide for their health and then to regulate their behavior. And the vast majority of legislation is regulating individual or corporate behavior. It is behavioral change, individual and national, that will mitigate climate change trends and impacts. And behavior change comes from individual responsibility along with education and regulation. Like it or not, we are heavily regulated by the nation state, particularly when it is seen that individual or corporate actions do harm to another. Climate change is causing harm to others, to present and future generations. It will do harm to billions of humans and untold other species and ecosystems. 'Regulate to Mitigate' harm is required. It is the greatest equity issue that faces humanity.

It is my position that governments best provide leadership and education, not broad subsidies, and facilitate change through education and regulation. Subsidies are too often provided to change bad, irresponsible or unthinking behavior. The recent French Government decision to ban short haul domestic flights is an example of the necessary regulation to capture all socio-economic demographics, rather than subsidising train transport. If an individual citizen makes the decision to travel, the full economic and carbon cost needs to be part of the price.

Summary & Need for a Facts Sheet

Be frugal. Expenditure of dollars equates to resource consumption and carbon pollution. Reduce economic activity and harm will also be reduced. Those who already spend less do less harm. Those who spend more do more harm. Without degrowth, a peril greater than climate change caused by resource depletion and bio-systems collapse awaits us in the mid-21st century and beyond. A critical and truthful ecological and carbon footprint 'facts sheet' must be part of climate conversations. Over-consumption needs to be made socially and legally unacceptable. Let's aim to be only three times more than our global allowance as the first step.

G. ROWBOTTOM - PORT AUGUSTA

The main point I thought deserved more attention was the pathway to further reducing our emissions from the use of fossil fuels in our energy systems, principally gas electricity generation and where possible industrial and manufacturing processes. Now this lies in an area where we aren't particularly stuck, at least as far as electricity generation goes, government and industry are taking action. Whilst this action could be ramped up it is an area that is progressing better than areas of transport and agriculture. However, there are a few reasons to perhaps put some attention to it.

The crazy combination of International gas price linking and the last MW in sets the price of the electricity market, and possibly greed, are combining to rob SA (and Aust to a lesser extent) of the benefit of transitioning to renewable energy. Witness the electricity price rises announced in late May. Of course, it is somewhat complex, most electricity is contracted, including our own personal domestic supply, but it is all linked. The key thing for us, as South Australians, is that the average citizen is guaranteed to ask, "if these renewables are supposed to be such a good thing for environment and electricity costs, then how come my bills are going to go up 20-25%? Where is that $275 a year cheaper?" Of course, there is a lot of detail that shapes what is really going to happen to our own costs, or to what degree the $275 or 20-25% even applies to an individual household, but this is sure damaging the progress we have and are making. Notwithstanding that if we hadn't such a share of renewables we would be looking at even higher costs – but given our renewable share is significantly better than other states (except Tas) then how come that isn't reflected in our costs. This I think is very important at the next phase of expanding the community conversation. I am reasonably confident that the government do understand the factors at play and are addressing them in ways they currently can, generally.

However, I do not think the government is doing a good job at explaining what our direction/attention is regarding gas use. They seem to tell environmentally minded audiences they are doing what they can to transition to 100% renewable etc, but seem to tell a different story to the gas industry and their allies – yes we need to have more gas supply they say. I have rarely if ever heard them articulate something like – "Our intention is to continue (and accelerate) the decline in gas use for electricity and other uses where possible to very little – over the course of the next decade or so". I think that is exactly what we need to do, and the public and the industries producing and using gas need to know that. Don't deceive them. Now I do appreciate that gas has provided a lot for Sth Australians over a long period, and we do need it to stay in use, while we transition to that goal of very little gas use. If the case is that due to individual gas reserves being relatively small and quickly deplete, and thus to maintain even our ever decreasing use, we do need to develop some more supply, then OK – but they are not explaining it like that. It seems to be delivered purely as a market forces argument – more supply, less demand, lower costs. Simply the government/s - SA and others should be honest and tell the story on gas future as it is, far too much obscure language and narratives, too much spin depending on audience. One truth here please. However, I concede this should start with confidential discussions between the government and the involved gas companies – perhaps focusing how they can transition away from gas with a viable business model – and then those companies can make their transition announcements public themselves – that has sort of been happening with coal fired power generation, and I think is the path of least resistance.

The other area is gas use for manufacturing and industrial processes – things that we need heat for that we do need to continue to do. There are a few industries that are looking to address that, and of course electrification of those heat sources is one avenue that will do a lot, but there are some other avenues that could be promising (eg the work of 1414Degrees, and Solar Thermal industries, (for example look at Sundrop Farms operation in Port Augusta). What they are calling green steel and green cement are other examples of what we can do.

As to 1.2, it really irks me that those two factors mentioned that are driving up energy costs (International gas price linking and crazy way the NEM has last MW in setting the price for everyone, are both entirely artificial constructs. Are they paying electricity workers making electricity (whether from fossil or renewable) a whole lot more for their efforts? Nope. Do we suddenly need a whole lot more of them to do what they have done for decades? Nope again, in fact here are less of them as renewable energy doesn't need as many operational workers, free fuel kinda helps there. I don't know if undoing either of the factors above is a possibility, but if it is, I think that would be a good idea.
I lament that the vulnerable, elderly and alone, unemployed, and those with disability issues are over represented as customers on the Default Market Offer. I think that should be changed, so that the above groups of people are on a utility supply scheme that has the absolute best rates – and this needs to be able to happen without them needing to do anything to make that happen.

Gary Rowbottom, Port Augusta

The challenge of tackling Climate Change is immense and multifaceted, the complexities of which are impossible to cover faithfully in a single process, such as this Community Climate Panel. While this report covers much that is front of mind for many participants, there are many vital measures which must be acted upon and championed for South Australia to truly 'leave no one behind' in this time of transition to a decarbonised society.

These include:

- Immediate cessation of exploration for fossil fuels, and the issuing of a timeline for all existing concerns to safely end production and be decommissioned within five years, to be performed under close oversight to prevent further pollution and contamination. Divestment of state government assets held in fossil fuel and adjacent industries.

- It is recognised the world over that Indigenous land management systems are the gold standard in sustainability, carbon sequestration, and ecological resilience. It is therefore imperative for all possible state land to be returned to the control and stewardship of their respective Nations for this purpose.

- Recognition and action towards the fact that Climate Change is a global issue, and must be met with a global response – which requires all nations to move collectively, and assist one another wherever possible to decarbonise. We must stop condemning nations which have been slow to transition, and instead ask what we can do to help them with the process.

- The process of decarbonisation will not be a win-win for all individuals in the short term; job losses are inevitable, and retraining takes both time and resources many do not have. To pre-empt this, a Universal Basic Income (UBI) should be implemented, at a level which must remain above the poverty line at all times. As a supplemental action, the abolishment of University and TAFE fees, together with forgiveness of current student debt, will ensure that both mid-career and junior workers have the ability to achieve the higher levels of education required for a world-leading, decarbonised South Australia.
    - UBI has consistently been shown to improve: educational attainment in both secondary and tertiary studies; workforce participation; physical and mental health outcomes; wage growth; food security, and local economic participation. It also reduces: poverty and inequality; homelessness; domestic violence; overall 'welfare spend' budget totals, and the proliferation of 'busywork' across industries, leading to a more efficient economy.

- For South Australia to 'lead the world', we must ensure that the cost of doing so does not include human lives. When actions are taken swiftly, we often make mistakes which harm the most vulnerable of us. It is therefore of fundamental importance that all measures be designed with thorough consultation with disability advocates and the greater disability community at every stage, prior to and including finalisation and implementation.

Thank you for your time.

1. Disclaimer :
(None of what follows diminishes the value of democracyCo's skills in guiding and achieving a report from representative members of the public in such a condensed process).

Like everyone else, I bring to this exercise my own subjectivities and capacities. These include:

- being an older participant, with an imagined audience of my unpersuaded contemporaries in mind
- right-brain dominant, humanities' researcher
- absolute trust in the (left-brain) science, technology and economics research done of emissions' reduction

2. Strengths (of the process)
Demonstration of a public voice of support:

- the tactical/political value of a representative report from the general public that supports in its focus the large data of most of our expert speakers

3. Weaknesses
Deciding to frame the group discussion using Rayner's scaffold

- this contained the course and categories for discussion on well-researched areas of reduction, and their barriers, areas which echoed those of previous speakers
- voting on these seemed like an odd reinforcement of Rayner's, and others', research
- this focus left largely unaddressed the deeper barriers to conversation outlined by Huntley

4. Opportunities
Value of affirming existing expert research in a public forum

- the report gives public legitimacy to the expert voice and the detail of its research findings on the technical ways of reducing emissions
- as well as reinforcing the research of emissions' reduction, it recommends to government, community and individuals ways in which the public would like to see them act on the ideas

5. Threats
Possibility of confirmation bias/group think

- because of the time-limited nature of the panel's process, and the need for strong direction of a large group, the report may be seen to be a paraphrasing of our speakers' thinking

Untapped deeper assumptions

- the deeper values/beliefs/mental models that give rise to Huntley's slide of heated debate rather than considered conversation around the dinner table were largely not dealt with. I wonder whether presenting her group with the 6 topics of the report would achieve a more measured discussion? (For the family group I have in mind it would more likely act as a provocation).

My sincere hope is that, as the Minister said, younger members of the SA voting public are more complex, less binary thinkers who will accelerate the pace of change.

Before I launch in, could I suggest to you to please ask Dr Susan Close to bring the state opposition and the greens onto the stage for this work. If the government wants to maintain a good bipartisan relationship on decarbonisation it's vital they be championed for their support.

A story addition to Item 6 Microgrids.
Stirling is a very green village, to look at. It's a very black village in our carbonised energy use.

As Chair of the local business association I've tried to decarbonise our commercial centre, initially by looking at rooftop solar, much too complex physically and hard to deal with the lessor/lessee investment issues.
So I looked at options to create a local solar farm, this was when I first became aware of the legislative hurdles we would have to jump to connect 100 businesses to a micro grid.

Then I thought, why are we building a solar farm? surely there are farms out there looking for customers? especially those that use 80% of their power during daylight hours.

That is when I started approaching software companies that could build us the app we would need, and that's when I found out what a legislative and legal chasm there is between green energy providers and groups wanting to set up a micro grid, be it a physical or (as in our case) a legal one.

I understand the legislative issues are huge however the benefits are also huge, both in decarbonisation and the buying leverage for groups. I commend the government to the task and offer the Stirling Business Association up as a testing ground.

The freight train in the room!
Not our brief and not chosen as one of the 6 but……. A vital piece of work the state government needs to take on.

Until rail freight is rerouted around the Adelaide Hills we will continue to see increases in road freight through Adelaide. Most major road corridors dealing with interstate freight are at capacity for extended periods of the day.

We need a government prepared to champion a federal project to link Murray Bridge to Two Wells by rail for the following reasons.

- Enabling double stacking of containers through southern SA.
- Release the Hills line for commuter rail transport.
- Take a potential 40% of freight off our road network reducing emissions by similar numbers.
- Protecting the viability of the southern rail network. Currently it is estimated the Adelaide to Melbourne line will become uneconomic within ten years.

South Australia and Australia will never be able to brand itself as a leader in climate action while animal agriculture in this country remains a primary cause of massive environmental destruction.

The catastrophic damage caused by emissions from methane and deforestation is unforgivable in the face of the climate crisis, which a flawed optimistic promise for future carbon neutrality does no justice to. Devastation to our native habitat will grow worse while land is being cleared and used for the purpose of breeding, feeding and killing animals.

The clear and efficient path to reduced environmental impact here is the rapid reduction of livestock production and consumption, which will dramatically reduce emissions and allow for abundant rewilding of land. This action could certainly restore Australia's biodiversity, save wildlife including koalas from extinction, and meet the targets.

The desire for this change is not widespread or nearly strong enough, but I would like it included in the report as it will remain a glaring issue over the century.

S. DOUGLAS-HILL - ADDENDUM RE BIG IDEA 3, WHAT WE BUILD

These topics were discussed in workshop but don't seem to have made it into the notes. I think they add important content and support the overall intention of the recommendations.

Sustainability in Construction and Infrastructure
Action 7
Govt Actions
Add: Enforce or incentivise integration of State residential energy rating systems under the NatHERS scheme and the National Housing Data Portal to enable accurate tracking and measurement of improvements to SA housing stock against a national benchmark.
Add: Implement a Green Builder or equivalent accreditation and certification scheme in State building industry to enable ready identification of skilled Net Zero Home builders and associated trades within industry forums and to developers, regulators and homeowners.

Action 8
Govt Actions
Add: Mandate participation and certification of building professionals and trades in accredited training in best practice Net Zero Home design, specification, construction and energy upgrade practices. Maintain a quality assured register of certified NZH training providers and building professionals and trades.

Individual Actions
Add: Require and specify that only appropriate Net Zero Energy accredited and certified builders and trades engage and contract in home construction and renovation or renovation or upgrade projects.
Add: Specify staged QA inspections and diagnostic activities (e.g. air leakage and thermal bridging) are conducted during the build and on completion by independent QA practitioners.

Action 9
Govt Actions
Add: Resource AGD/Consumer and Business Affairs with appropriate training, guidelines and statutory requirements to provide enforceable Consumer Guarantees in the delivery of homes that meet the level of code compliance, energy performance and low emission materials, specified at design, energy rating and approvals stage.

Community/NGO Actions
Add: Incorporate run-on Consumer Guarantees into all residential construction contracts that protect consumers from poor thermal performance of the building envelope and other inefficient or high emission material or appliance selections or substitutions.

Thank you for inviting me to contribute in a community panel lead by some excellent facilitators.

I am an ordinary South Australian. I see a problem and want to help, hoping you realise we are all in this together.

Climate change hurts. It impacts me, my future, my children's futures, my world, all I know and care about; it impacts us all. We are almost too late. Even if we have to give up something or do something, we have to do our bit.

To engage community, ask for ideas. Follow that then with asking for priorities, challenges, actions, education. I think the community is mostly engaged already on recycling and climate change, pollution reduction, waste reduction, whole of life, and probably more than you might give it credit for. Education changed since YouTube, Wikipedia, Google, Udemy, LinkedIn, Stamford online, etc.

What does South Australia have that is useful to a world in transition from hydrocarbons? Lots! Sunlight. A lot of coast with enormous waves. Minerals. A lot of land. Dry heat. Volcanic, tectonic stability. Hot days with cold nights. Clever, innovative, friendly people. Eco-tourism. Camping in the real world. All of this can be resources as part of our greening economy. Unite the movements of Net Zero, pollution, ozone hole, CFC, smog, lead airborne particulates, acid rain, greening, mother nature, low footprint.

We should strive to export value-add products. We have and can export skills and technology. We can do better as a country than being a mine and a dump.

Design for post-scarcity civilization. Design for excess power generation from environmental sources. Set a vision of unlimited, renewable, low-cost power, maybe even "free".

Imagine the "Sun Cable" project (thanks Cannon-Brookes, Forrest) turned inland, not just yet another non-value-add export. Imagine how competitive that can make South Australians in all export industries.

Direct excess power initially into localised storage with optional 2-way nationwide grid connect.

Promote Whole of life as a mandatory requirement to every product application, patent, business activity.

Promote comprehension of every ingredient in the product cycle, not just coal and CO2. Be very cautious with dangerous pollutants and distribution of the likes of Lithium, Ammonia, Uranium, natural gas, salinity, Mercury, waste, etc.

Promote the innovation of technology that assumes excess power. Tailor batteries tailored to the local environment. Pumped hydro. Pumped geothermal. Liquid metal salt.

Never turn desalination plants off. Pump the output water inland to the thirsty interior. Capture deuterium and tritium via sea-urchin style filters.

Reduce the export of Australian assets and natural resource through the promotion of value-add technology and sovereign manufacturing. We can be more clever with our coal, oil and minerals, than just ship it off at the least-effort, most cost, lowest price rape-and-pillage mining we do now.

Promote innovation within mining sector, which factors in low-cost power. Potassium. Convert ground salinity into something useful.

Utilise excess power for sovereign manufacturing. Solar panels. Mirrors. Activated charcoal or coal. Refined lubricants. Renewable assets. Not just more jobs, jobs that have a long-term good for our state and country.

Educate on the whole carbon cycle. Greening of our country, urban environment. Use of our renewable resources. Sovereign food production.

In case you did not guess, I recommend YouTube channels Isaac Arthur; Just have a think; Honest Government Ads (aka Juice Media).

What

Allow pets on public transport outside the peak hours of 7 am to 9 am and 4 pm and 6 pm weekdays.
Pets are currently uniformly barred from public transport in South Australia[1] (exceptions apply for assistance and therapy animals[2]).

Why

It was widely agreed by the Community Climate Panel that we need, as a state, to encourage the use of public transport.
South Australia has the ability, and the will, to lead the nation with pragmatic approaches to increase the use of public transport via positive nudges
There are estimated to be 28.7 million pets [3] in Australia today with 315,550 dogs and 86, 506 registered cats in South Australia [4].

None of the more than 400,000 South Australian pet owners can travel on public transport when taking their pet to the vet, training classes, dog park or participating in the RSPCA million paws event. Dogs are allowed on trains in Victoria if wearing a lead and muzzle or in a suitable container if smaller [5]. Pets including dogs are allowed on buses in the ACT, NSW, and Victoria. Brisbane allows dogs on the Brisbane River ferries and City Cats providing they are wearing a lead and muzzle or in a suitable container. The dogs must stay on the outside deck and cannot travel during peak hours. NSW ferries allow smaller dogs in containers only.

How

Amend the Passenger Transport Act 1994 (SA) and associated regulations to allow pets to travel on all public transport in SA outside of peak hours 7 am to 9 am and 4 pm and 6 pm weekdays.
Larger pets to be on lead and muzzled and smaller pets to be in suitable containers.

References

[1] Passenger Transport Act 1994 (SA)

[2] Disability Discrimination Act 1992 (Cth) s 9 (2); Equal Opportunity Act 1984 (SA), s 5; Dog and Cat Management Act 1995 (SA), s 5, 21A.

[3]https://animalmedicinesaustralia.org.au/wp-content/uploads/2022/11/AMAU008-Pet-Ownership22-Report_v1.6_WEB.pdf

[4] https://cdn.dogandcatboard.com.au/dcmb/docs/About/AnnualReport2021-22.pdf

[5] https://www.travelnuity.com/pets-on-public-transport-in-australia/

EDUCATION, CULTURE, PSYCHOLOGY AND SUSTAINABILITY - S. FULLER

While the panel was primarily focused on changes to the use of physical resources and the actual emissions they produce there was less discussion about the conditions that lead to these emissions. Every source of emissions created by humans came about because of decisions that humans have made especially over the past 200 years which in turn have been underpinned primarily by 10,000+ years of human agricultural settlement originating in or around the 'middle east'.

Over that time, patterns of behaviour and forms of society developed that were sustained by human innovation and exploitation of natural resources, the biosphere and other humans (eg serfs and slaves). The industrial and agricultural revolutions of the past 200 years have supercharged innovation and exploitation resulting in expanding human populations and their consumption of natural resources while largely ignoring the problems of our waste. The complex needs and wants, expectations, behaviours and decisions of current human populations arise from this history.

As we have known for many decades human activity has led and is continuing to lead to the degradation of the systems that support us. If we are unable to reform ourselves and our behaviours it is likely that a cascade of small and big catastrophes will constrain human existence along with a multitude of other species.

So while it is essential for us to change and reduce our impact on our home, the Earth, we must also find ways to adapt our culture and psychology to current realities. We could choose to adapt by developing an authoritarian system of rule where decisions are made for us and where ecologically destructive behaviours are suppressed, we could find ways to adapt our culture and modify our psychology using democratic forms of organising ourselves or something else.

As SA operates within a democratic system and any form of radical change is unlikely in the near term, if we decide that we should modify our destructive behaviours through psychological and cultural change then we need to take action to do so.

There are many examples of rapid psychological and cultural changes in societies although not all with 'positive' outcomes. In 2 short decades, the German Nazi party successfully transformed a sophisticated, well educated population into a successful industrialised power that supported conquest, enslavement and murder to achieve its ends. It failed because it couldn't manage the destruction that it brought upon itself.

In our state and at this time, we do have the opportunity to change our culture and psychology so that we might meet the challenges of the net zero emissions task and provide an example for others to follow. Such change, which underpins the way that we think, can be brought about by the way we educate ourselves, communicate with each other and organise our lives.

We have much to learn from the Kaurna people on whose land I write this. Their lives were a continuing journey of learning about their country and their culture so that they could live in harmony with the ecosystems of which they and we are a part. Sure, they transformed the landscape and had problems to solve but their way of thinking and acting proved to be sustainable over tens of thousands of years. Every child had to learn the complex interrelationships of plants and animals, the seasons, their belief system, their place in society and the world. With no written language they successfully built a sustainable way of life that was passed down from generation to generation through knowledge and culture. Surely, we can do the same. We must.

Much of our educational and training systems are now dysfunctional and not focused on preparing our people for the net zero task and avoiding the cascade of problems that we are bringing about.

Our schools, colleges, universities, workplaces and communities could be the sites of developing the knowledge and understanding of our world and its problems. They could be the sites where critical thinking skills are embedded in every citizen and where people are empowered by knowledge and truth. They could be the sites where people are inspired, through an essential love and respect of nature and 'country' to develop the innovations and technologies required for the successful transformation of our society to genuine sustainability. Overall, they are not.

The methodologies to transform our educational institutions along these lines have already been developed. However, the resources and political will to implement them have not.

In her remarks to this panel, Minister Close alluded to these methodologies in the school setting but declared that if they were simply another burden on our educators they would fail. This misses the point. If our people are to develop the skills and passion to lead us away from disaster we must transform the systems that impart those skills and the passion. We can no longer sustain a production line that creates consumers whose wants (as opposed to needs) are destroying the biosphere.

We need to imagine a world where we create the greatest level of happiness within the physical constraints of the planet.

The panel agreed at many points through our discussions that education was a high priority to underpin and achieve the 'headline' suggestions for action. However, education has not appeared in the report as a standalone suggestion. This personal report seeks to address this not as a mechanism for direct emissions reduction but as a systemic underpinning of all approaches to emissions reduction.

If adopted the "Education for Sustainability" approach, articulated well in the Sustainability Cross Curriculum Priority of the Australian Curriculum for Reception to Year 10 students and supported by the UN Education for Sustainable Development approach and the Sustainable Development Goals, but equally applying to all other modes of education and training in SA could supercharge a transformation in the thinking and decision making our all South Australians. Currently, we are failing - it need not be this way.

The follow on from this process where individuals and communities are engaged with the net zero task could embed an educational approach where participants are empowered with knowledge and they are welcomed to the shared journey to net zero. There are existing programs and ideas to support it.