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Dear Sir/ Madam

RE: Consultation on the Tasmania's Climate Change Act review.

Thank you for accepting a late submission from AMA Tasmania.

The science on which our concerns about the impacts of climate change are based is extensive and familiar to those reviewing this act, so will not be referenced in detail, suffice to say that we believe that government decision making should be guided by the overwhelming scientific evidence about climate change and the need to reduce carbon emissions in the health sector by 80% by 2030 and to net zero by 2040 and more broadly to net zero by 2050. The interconnection with health is also well-established. It is the questions of how to proceed that we will address, along with particular areas of concern.

1. To what extent should climate change considerations (e.g., greenhouse gas emissions, climate change impacts, climate resilience) influence policies and decisions by State government agencies and government business enterprises?

The AMA has declared Climate Change to be a national and state Medical Emergency. Indeed, it is a global emergency and the starting point for the new Act should be in declaring Climate Change as an emergency that will affect every part of our lives. There is no 'business as usual' option. In this case, every aspect of government would be obliged to consider and disclose climate change risks and plan for mitigation and adaptation in all decision making at every level, in every portfolio.

All Government decisions that do not adequately reflect the seriousness of the climate challenges ahead are, and should be, open to future litigation for failure to protect Tasmanians, as the scientific evidence underlying the harms already unfolding are quite clear. The science is clear on the impact of oil, coal and gas on the environment and the importance of investing in trees.

Climate change impacts as well as technological changes need to be considered by Government agencies and GBE's, particularly when it comes to substantial public monies being invested into what potentially will become stranded assets, such as the Marinus cable, as battery technology makes the need for cables obsolete in the foreseeable future.

2. How important is it to you that the Tasmanian government systematically assess and disclose the main risks associated with projected climate change?

In medicine, we know we cannot make good management decisions without assessing the problem first. Once we have understood the pathology, we also need to communicate the level of risk and engage the patient on the necessary treatment steps. The same is true here. We know we are facing a health and environment climate emergency, with a grim prognosis, so assessment and honest reporting are essential to facilitate the decisions that need to be made. As doctors, we ask people if they are willing to make changes to the way they live for the sake of their health; the more serious the issue, the more likely patients are to embrace change even when it is tough.

It is critical for the government to continue to assess and disclose the main risks associated with climate change as that allows for better planning and provides the impetus for immediate action where appropriate. As the adage goes, 'knowledge is power'. The more open and transparent we are about the challenges and solutions, the more the community will be educated on the need for change and come on the journey. The handling of the COVID-19 crisis shows how a community will reward its leaders, when they suffer restrictions or changes to their way of life, if they understand the reasons for and risks of not doing so.

Every major project in the private and public sector should have a climate change risk assessment as part of its process of approval. For example, while the Marinus Link Cable may on the face of it look good for climate change as we can export more clean power onto the national grid and act as the nation's battery by being able to turn on and off our hydroelectricity, the cost of this infrastructure financially and environmentally may not stack up against the real risk that the cable technology will be obsolete in the near future as people invest in their own battery technology to store wind or solar energy closer to home. Without transparency, confidence in government decision making is lessened and fears that other motivations for government supporting private investment in potentially unnecessary wind farms, arise.

Arguably, the population of Tasmania would be far better served by government investment going into industries that can provide jobs using our electricity in the state, such as pyrolytic plastic recycling or turning biomass waste into biochar. Health and economic well-being are connected and adding debt for stranded assets to our small population would add to our future difficulties. Here is a quote from the Tasmanian Inquirer <https://tasmanianinquirer.com.au/news/gutwein-directed-hydro-tasmania-to-enter-into-a-loss-making-deal-utility-says/>

"Two of Tasmania's publicly-owned power utilities have revealed they could lose tens of millions of dollars on power purchase agreements with wind farm owners. It has prompted questions about why more information about the contracts is not publicly available, and how government agencies that are supposed to operate as commercial businesses came to sign deals that could leave electricity consumers out of pocket."

This does not lead to confidence in open and transparent governance such as we need to navigate the difficult steps needed. This Act is a chance to ensure that we can take the best available steps.

3. How might the Act provide you with confidence that successive State governments will continue to act to contain/reduce Tasmania's emissions and build climate resilience?

Strong and clear legislation would help to build confidence that for many in the community is lacking in government being committed to addressing climate change in a meaningful way and not just with platitudes. To do this, the Act needs to have real teeth (that is penalties for non-compliance) and set targets for reducing emissions to net zero at a minimum by 2050. It cannot be there as 'Greenwash'. If this could be provided it would indicate a sense of vision of the importance of acting to protect our people and place. This would provide clarity for investment, fostering low-carbon and environmentally sensitive projects and

discouraging and at some points penalising high emissions or environment damaging practices, or failure to meet mandated targets.

4. How might the Act drive further decarbonisation of the Tasmanian economy (e.g. via setting/legislating targets for sectors of the economy, potentially including interim targets)?

Carbon emission reduction targets need to be set in legislation for all sectors to be taken seriously by government and business and to give certainty about the future direction expected to be taken by government and business. Interim targets guide investment over a period of time and ensure that people are taking consistent action to reduce emissions and not leaving it to the last moment to comply with a target.

The act will also drive decarbonisation only if it is seen to have real power. This would be greatly enhanced by declaring a general Climate Change Emergency. Our coal, gas and oil all need to stay in the ground and more trees planted than harvested in any given year - this is the reality of taking decarbonisation seriously.

A good example of this can be seen in our current very poor Australian fuel and emissions legislation. Because there is no legislated requirement for high quality fuel, [Australia ranks 66th in the world and the worst among developed nations](#) in terms of the quality of fuel we use. Its record on fuel efficiency and emissions standards is worse. <https://www.theguardian.com/environment/2019/nov/16/wrong-turn-why-australias-vehicle-emissions-are-rising> . And because there is inadequate legislation for decreasing vehicle emissions, there is no incentive among car importers to bring cheaper electric vehicles or cleaner fossil fuel vehicles to Australia, leaving us well behind in the decarbonisation process. Many ordinary Tasmanians will be forced to buy petrol or diesel vehicles that are out of step with where we need to go and we will have a landscape of small-scale stranded assets. Speeding up the electrification of transport in Tasmania would also mitigate the risk of supply interruption of fossil fuels. Tasmania is never going to be at the top of any urgent re-supply list and has a tiny reserve. Positive incentives and compensation for stranded transport assets should be built in now for a graduated successful switch over in the next relatively few years. Continuation of supporting transition to electric fleets by both government and other big purchasers such as hire car businesses is an excellent mechanism for increasing supply and legislated targets should be implemented. <https://www.climatechangeauthority.gov.au/reviews/light-vehicle-emissions-standards-australia/summary>

Vehicle emissions are a substantial contributor to air pollution, as well as to climate warming. One in five of all deaths globally in 2018 was attributable to the air pollution from fossil fuels. Further air quality impacts come from using gas for domestic heating and cooking and burning wood. Smoke from domestic wood burning around some centres such as Launceston has been shown to contribute 80% of air pollution in winter. <https://eprints.utas.edu.au/226/> . Research undertaken at the Menzies Centre showed a substantial decrease in mortality in Launceston following an intervention to decrease wood-heater use in Launceston. <https://menzies.utas.edu.au/news-and-events/media-releases/2013/reduction-in-air-pollution-from-wood-heaters-associated-with-reduced-risk-of-death> This demonstrates the power of public health measures. The same evidence exists for tackling smoking. The most effective strategies have been price increases and public health strategies like banning smoking in restaurants and pubs.

5. If the Act were to espouse principles that would guide consideration of climate change by government, its agencies and business enterprises, what might they be?

- 1) All emissions and waste contributions need to be assessed and disclosed. All government activities, agencies and business enterprises need to be mandated to make these assessments, make them public and commit to plans to reduce both, or offset them with valid and auditable offset strategies at least in the interim.
- 2) Other jurisdictions have mandated moves towards a genuinely circular economy with minimum waste. For example, in Australia we sent more than 7 million kilograms of construction waste to landfill in 2014-15. In contrast, San Francisco has introduced strict civil and criminal penalties to curb the city's

construction waste stream. No construction or demolition debris can be taken to landfill or put in the garbage. This puts the responsibility on industry to conserve resources. This model if phased in would see every sector of society adapting and moving away from current levels of waste.

- 3) This should be a goal for the health sector as well, with progressive targets to move away from single use plastics and metals. As a first step there should be mandated audits of waste. A great deal of work has been done in this area, for example by Health Care Climate Action group, who have prepared a Road Map for Health Care Decarbonisation. <https://healthcareclimateaction.org/fact-sheets/> As with food packaging, there should be a legislated framework to move away from single use plastics. In hospitals where this has been done rigorously, it has been found that re-using and recycling has actually been cheaper financially without even considering the environmental benefits. As these measures become necessary, design improvement will follow. <https://www.abc.net.au/news/2019-07-13/war-on-waste-hospital-waste-australia-recycling/11306376>.
- 4) Mandating recycling with targets would also foster innovation and investment in various new technologies including for example quite small scale options that would allow for domestic and business waste to be recovered into oil, aluminum and 3D printer feedstock. <https://www.abc.net.au/news/2018-03-17/waste-could-become-fuel-source-in-big-australias-future/9550082>
- 5) Tasmania has the potential of moving rapidly to electrification of its transport system. This will require commitment to the development of the necessary infrastructure and access to affordable electric vehicles with incentives, and not punitive tax barriers such as those being put forward in Victoria. We have to move to a low carbon world and international punitive sanctions for unwilling participants are already on the global table and Tasmania will not be immune.

6. Within the context of global agreements to action to reduce greenhouse gas emissions, what do you consider to be the main roles of the Tasmanian government and how effective do you believe the government has been?

One issue that needs to be addressed is to stop talking about 'net zero' using LULUCF counting. This can make it sound as if we have done all we need to do because we are already there, but it is an accounting trick based on recovering from earlier extensive carbon loss by the clearing of native forest. Our actual emissions are going up, and they need to go down. The Government should require emissions audits and transparent declarations of actual emissions and waste, and commit to reductions in every sector.

The Government has not shown enough leadership in reducing emissions and despite relying on LULUCF accounting for part of its net zero claim, has not done enough to preserve our marine or land environments. It continues to pour public money into forestry and now into large private wind farms without proper public scrutiny and has even supported exploration for new coal. Our young people are justifiably upset about this and are likely to be looking for accountability in the future as the harms accrue.

The alternative would be exploring and backing new industries with more long term jobs like plastics recycling or production of small scale wind, solar and hydro generators along with microgrid development eg <https://www.anewenergy.co/>

7. What would Tasmania be like in 10 years 'time if it was a national or international leader in climate change responses?

There would be robust accessible real time information about current emissions and waste. There would be real time transparency around political donations and lobbying pressures to guard against real or perceived corrupt decision making. Hospitals would be re-using and recycling a substantial proportion of their waste. There would be no clearing of old-growth forests. Agriculture would be using best practice regenerative farming techniques including returning biochar from waste biomass to the soil and adding seaweed to animal feed for methane reduction. Electric vehicles would be used exclusively across government and the community supported in its transition to running cars on renewable energy alone. Distributed electricity networks would be connecting domestic solar and wind resources, reducing the risks and costs of major

power line grids and making hydroelectricity available for job-producing industries in Tasmania, along with peak demand support, without increasing household costs. The marine environment would be demonstrating some rehabilitation and fish farming would be predominantly, if not exclusively on land. There will be an alternative route north that does not have to cross Macquarie St to ensure community safety in times of bushfires.

There will have been a substantial investment in social housing and infrastructure to deal with the rising population. A focus on community well-being to increase resilience to disasters and acceptance of newcomers will have been supported by better medical and especially mental health resources. Community gardens and other centres of connection as well as free warm indoor spaces for young and old to congregate would abound. All businesses and households would have had energy use and waste production audits and have targets for reducing both.

As disasters occur, whether fire, flood, storm or terrorism there would be well-planned and resourced emergency management plans ready to implement. Infrastructure would be keeping up with increasing numbers of climate refugees, along with health and particularly mental health services.

8. What would you consider to be an appropriate long-term greenhouse gas emissions or emissions reduction target for Tasmania (in terms of date and level of emissions or emissions reduction)?

Given Tasmania has the benefits of largely renewable energy supply, the focus needs to be on emissions and waste reductions. Major downward movements in both needs to occur by 2030 based on the accumulated science. This is so soon that serious reduction targets must be implemented as soon as possible.

9. What (if any) value do you think targets for specific sectors of the economy would offer, including for the sector itself? If you agree with the concept of sectoral emissions targets, which sectors should have emissions targets? Why?

Specific targets are essential for meaningful impact. Target sectors include transport, health, construction, mining, forestry, agriculture and aquaculture and public buildings. Targets will spread the responsibility for change and provide certainty for investment. Innovation has repeatedly accompanied targets in other jurisdictions. There is little benefit in unenforceable targets and voluntary participation. In the health sector evolving practice standards for accreditation have dragged busy, change-resistant practitioners towards better run and safer services.

10. What key factors should influence Government decisions to set State, sectoral and/or interim targets?

Climate change related harms are the biggest risk to health, dwarfing even the current pandemic. Our health system is struggling with current demand yet our population is rising quite steeply and climate change is going to continue to drive this. A future investment in health that was holistic, fostered better communication and utilisation of existing resources and adapted to a lower carbon future, would provide real benefits. The costs of not taking this opportunity seriously would be large, right across the community.

11. What do you consider to be the main risks and opportunities for Tasmania as it continues to transition towards a low/zero carbon economy and society? What risks and opportunities may arise if Tasmania transitions more slowly/more rapidly?

Change is going to come. We can either turn to face the challenges and prepare for them and prepare our society for them, or we will be forced to try to catch up, having allowed the consequences to worsen. Global emissions are the sum of all emissions and all emissions have to fall to have a chance of avoiding imminent disastrous tipping points, if we still can. 40% of all emissions are produced by countries that contribute less than 2%, but clearly they still all have to do their bit, or nearly half of the problem would be unaddressed. Tasmania would be best to adapt actively and plan to support its citizens for what is coming. New

technologies have already arrived with potential for benefit in Tasmania, if they can be identified and fostered. Some require different ways of doing things, like using microgrids for local energy sharing, that is already possible but needs to be facilitated. There is a societal risk with high levels of incoming migration that needs to be managed, as existing communities have to adapt and accommodate.

12. What do you consider to be the main roles for State government in supporting Tasmania's low/zero carbon transition?

The most substantial and in our view best role would be to declare a Climate Emergency. Every sector should have mandated requirements for auditing and declaring emissions and waste production and be required to find ways to reduce these, or if necessary to offset them. This could be done with paying for the protection of ecological reserves such as those already identified by the Tasmanian Land Conservancy, as an example, but on a bigger scale, and including marine or waterway conservation.

13. What do you consider to be the main roles for State government in supporting Tasmanian communities, infrastructure, economic activities and environments in becoming more resilient to projected climate change?

Below are a number of areas of concern that come under the umbrella of the Act.

Public health

1. **Safety of shelter** - in Tasmania homes are at risk from fire and from inundation and storms, all worsened by climate change.

- Capacity for maintaining communications despite loss or damage to infrastructure like power lines or mobile repeater towers needs consideration for disaster management.
 - Planning regulations for new homes and developments need to cater for mitigating risks of extreme weather events including run-off and exit routes. No new developments should be allowed to have excessive concrete areas exacerbating storm runoff and heat traps. Adequate green spaces and trees need to be prioritised.
 - Safe evacuation pathways - all traffic south of Hobart has to cross Macquarie St to move north or reach a major hospital. This is an unacceptable vulnerability.
- **Housing supply, homelessness and arrival of unconnected immigrants** - housing stock is not keeping up with demand largely driven by climate refugees moving here, increasing homelessness and decreasing social connection
- Urgent government action to increase social housing and plan for the future of the projected increase in population. The population of Tasmania grew by 27,000 or 6.19% between 2018 and 2020, with the relatively steep increase in 2019 not sustained in 2020 because of the Coronavirus pandemic but likely to be rising steeply again. Between 2018 and Feb 2021 there have been 8,842 house building approvals. In 2016 average dwelling occupancy was 2.31 - at this rate there is a housing shortfall for 2,846 people. Some houses may not have been built, some may have replaced houses, and some may have been empty. As poorer people are forced to out of their rental accommodation, traditionally they have had to accept living further away from centres. However this is a very finite resource. Today (1/5/2021) there are fewer than 10 rental properties of any kind available on realestate.com from Huonville south, not one with more than 3 bedrooms and three are single bedroom units.
 - The influx of people into Tasmania is no longer driven by returnees with family connections. Many are coming as voluntary climate refugees or for other reasons and have no established social networks.
 - All other services including health will be under increasing demand.

<https://profile.id.com.au/tasmania/population-estimate?BMID=30>

- **Air quality.**

- Vehicle emissions are a substantial contributor to air pollution, as well as to climate warming. One in five of all deaths globally in 2018 was attributable to the air pollution from fossil fuels. Further air quality impacts come from using gas for domestic heating and cooking and burning wood. Smoke from domestic wood burning around some centres such as Launceston has been shown to contribute 80% of air pollution in winter. <https://eprints.utas.edu.au/226/>. Research undertaken at the Menzies Centre showed a substantial decrease in mortality in Launceston following an intervention to decrease wood-heater use in Launceston. <https://menzies.utas.edu.au/news-and-events/media-releases/2013/reduction-in-air-pollution-from-wood-heaters-associated-with-reduced-risk-of-death>
- Wild fire smoke has not been thought to be a big problem with transient exposure for most people. However with the prolonged exposure to smoke during the summer of 2019 fires and the year before the Tasmanian fires represent increasing future risks. Increased presentations for respiratory causes such as exacerbation of asthma, chronic obstructive airways disease and emphysema have been noted during high smoke periods. The Medical Journey of Australia notes: 'Bushfire smoke alerts, real time air quality data and forecasts, and related health protection advice can help to reduce population exposure to hazardous air pollution, by enabling individuals, particularly those more sensitive, to plan their daily activities accordingly'. This highlights the need for increased air quality monitoring capabilities at state and territory level, including fixed monitoring sites, portable equipment and low cost sensors that can be rapidly deployed in a bushfire emergency. The Climate Act could set out a pathway for establishing monitoring and reporting standards and provision of real-time advice. The AirRater App developed at the Menzies Centre has already been developed but could be much better used if included in smoke management planning. (One finding was that there were windows of better air quality through the day, such as in the early morning, that allowed for safer exercising or seeing to outdoor chores.) And further: 'Managing the health impacts of fire smoke should be integral to landscape fire planning and bushfire emergency response. Close collaboration between health, education, environmental, fire management and emergency response agencies is essential for achieving the best overall outcomes for population health and wellbeing.'
<https://www.mja.com.au/journal/2020/212/8/bushfire-smoke-urgent-need-national-health-protection-strategy>

- **Quality, safety and supply of drinking water.**

- Phosphate rich run-off increasing risk of toxic algal blooms.
- Population pressure demands outstripping water storage capacity during dry periods needs to be planned for. Legislated improvements in regenerative farming and water use should be considered.

- **Food availability and affordability**

- Good health requires good nutrition. Climate change is likely to impact on both the production and distribution of food and promote an increased reliance on pesticides and herbicides as insects and diseases spread. Tasmania has a Food Security Council and their recent document is an excellent resource.

Mental Health

- Response to the loss, grief and trauma associated with extreme weather events
 - Drought
 - Floods
 - Storms
 - Fires
 - Heat waves
- Eco-anxiety - this is an increasingly prevalent condition, particularly in young people.
- Inadequate current services. There needs to be an increase in provision of inpatient beds and psychiatric support at every level, from primary to tertiary expertise. The Reform process promises to provide better

community early intervention as compared to the current system but does not take into account the need for more services in the future because of the impact of climate change.

Heat and weather-related conditions

- Heatstroke
- 5% increase in Emergency Department presentations on heat wave days (recent PhD conclusion)
- Increase in domestic violence
- Worsening of existing conditions such as respiratory and cardiovascular conditions)
- Injuries and burns
- Smoke exposure
- Displacement and homelessness
- Thunderstorm asthma
- Infectious diseases via spread of insect vectors and food-borne diseases and toxins.

Allergens

- More allergens related to higher levels of carbon dioxide, warmer temperatures and more rainfall.

Those most at risk:

- Those already disadvantaged are likely to bear the brunt of climate related difficulties.
 - People with pre-existing health conditions
 - Older adults
 - People who are economically disadvantaged
 - People who are socially isolated
 - Children
 - First Nation people

With more people likely to be suffering from health and mental health conditions associated with climate change, there will be more people relying on insurance and disability schemes, that are already on the edge of unproductivity and affordability.

Farming.

- Agriculture makes a significant contribution to emissions and a climate change plan should incentivise research and development into strategies that mitigate these impacts. Seaweed as both a potential carbon sink and as a feedstock addition for cows that can reduce methane production could make Tasmania a world leader.
- Agriculture produces a great deal of waste biomass. Decomposition produces methane, which is 25 times more warming than CO₂ and a significant contributor to emissions. Australian innovations like the pyrolytic charring of biomass without oxygen produces biochar which is effectively a carbon capture, that can be returned to the soil to improve it, added to animal feeds and used for water purification, and the heat from pyrolysis can be put back into energy with only water as an emission. The paper: 'Policy support for biochar: Review and recommendations' 2108 notes:

'Significant evidence has accumulated demonstrating that soil biochar amendment has many environmental benefits; however, adoption has been slow. This raises the question of how to align the environmental benefits with commercial motivations to drive more widespread implementation. Here, we examine the role that government policy can play in accelerating production and use at commercial scale. We identify three types of programs that can support biochar production: commercial financial incentives, nonfinancial policy support, and research and development funding.

Key recommendations include improving policies that allow for the monetization of environmental benefits and avoided costs, recognizing soil as a resource through national preservation policy, and developing a

broadly accepted set of product standards for biochar.’
(<https://onlinelibrary.wiley.com/doi/full/10.1111/gcbb.12582>)

Aquaculture

- Environmental impacts of fish farming need to be managed with better regulation to combine protecting the already stressed marine environment and provide food and jobs. Strategies to achieve all three exist and the legislative framework needs to be provided. The determinants of health include a healthy environment as a basis for a healthy society.

Thank you once again for accepting a late submission from AMA Tasmania. We appreciate the opportunity to be part of the consultation process and urge for the review to recommend strengthening of the Act.

Yours sincerely



Dr Helen McArdle
President AMA Tasmania