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Submission in response to the review of the Climate Change (State Action) Act.

1. Introduction.

My qualifications are in physics. Following a career as an occupational hygienist, I moved to Tasmania where I have a small energy consulting practice and work as a volunteer in community organizations. Energy has long been of interest to me, and my last two decades as an occupational hygienist were spent in energy industries, mainly working for ExxonMobil.

While the community organizations I am involved in have an energy connection, the views in this submission are my own.

2. Overview.

Preventing dangerous climate change is essentially about ceasing to use fossil fuels. While land use and related emissions cannot be ignored, we would not be in our current predicament were it not for the carbon dioxide and methane emissions associated with the use of fossil fuels. Getting off fossil fuels as quickly and as graciously as possible is the main game when it comes to mitigating climate change.

We need leadership. The good ship Tasmania is steering straight at the fossil fuelled climate iceberg, and our elected representatives need to show leadership and turn the ship around. I admit that the idea of phasing out fossil fuels is scary. The alternative – to live on a planet with runaway climate change – is even more scary. We need to stop refusing to notice the climate change elephant and to look it in the face and to come to terms with what we must do. I am convinced Tasmania is up for this challenge. We can acquire and apply the skills needed; we

can solve problems and develop affordable approaches; we can work together to do this. What we need is leadership, and that is the role of the Tasmanian Government. The role of legislation is to focus that leadership towards actions that must be taken and away from actions that are no longer acceptable.

3. Questions raised in the Discussion Paper.

3.1 Question 1: What are the critical challenges?

Mitigation. The critical challenge for mitigation is to phase out the use of fossil fuels as quickly as possible.

Adaption. The critical challenge is to harden our infrastructure against extreme weather events as well as changes in weather patterns. For example, rainfall is expected to be more concentrated in fewer (but more intense) events. This change puts pressure on water storages: irrigation storages, hydroelectricity storages, and even household rain water tanks. It also puts pressure on stormwater infrastructure and flood mitigation measures, as we have recently experienced.

3.2 Question 2: How successful has the Act been?

The Act has been a failure. No progress has been made with phasing out fossil fuels over the life of the Act. There has been no ban on exploration for fossil fuels in Tasmania, and I understand that a new coal mine has opened during the life of the Act. The Government continues to talk about increasing the use of natural gas. Tasmania is increasingly looking to tourism as one of its main economic activities into the indefinite future, even though tourism is totally dependent on fossil fuels, particularly aviation fuels. I see no discernible impact of the Act in Tasmania's energy use patterns.

Even worse, investment decisions, both public and private, are still being made on the assumption that future fossil fuel use will be unconstrained. Such investment decisions will lock in failure.

3.3 Question 3: What amendments may the Act require?

I will cover the major features here; additional amendments will come in response to other questions.

The Act needs to be recast to:

- Place the phasing out of fossil fuels – with specific targets – as the central mitigation strategy.
- Require both State and Local governments to make investment decisions consistent with the phasing out of fossil fuels. For example, when those governments replace vehicles, this provision should require them to purchase a replacement with significantly better fuel economy than the vehicle it replaces. It should be illegal for those governments to purchase any gas-fired equipment, unless biogas is used instead of fossil gas.
- The Act should require owners and operators of the gas distribution network and larger gas fired equipment to measure, publically report on and reduce their methane leakage emissions.
- The Act should require the preparation of fossil fuel phase-out plans for communities and enterprises most strongly impacted by the phase-out. The Fingal coal mining region is the prime example; a plan is needed to phase out the use of coal in Tasmania while protecting the workers, their communities and the enterprises currently using the coal.
- The Act should also establish a strong adaption framework which requires infrastructure to be designed in accordance with a specified level of extreme weather. It may be necessary to design for events further away from the statistical median than is the current practice; we have seen in the last 12 months how expensive extreme weather can be for Tasmania. The philosophy should be to “build it right the first time” by increasing the allowance for extreme weather events.
- The Act should include a specific climate impact assessment process which is triggered by government investments over a specific amount and government approvals of proposals from the private sector.
- The Act needs to set up Tasmanian Government administrative arrangements so that no longer will we see government energy policy effectively ignoring climate change and vice versa.
- The Act should include a mechanism through which community groups and organizations (e.g. Land Care groups, NRM groups, Councils, District Progress Associations, schools) can publically sign on to specific mitigation and adaption targets, can receive guidance and some support, can share experiences, and have their achievements publically celebrated.
- The Act needs to bind the Crown. The word “government” in this section (Question 3) includes the Tasmanian Government, all Tasmanian local governments, Tasmanian Government Business

Enterprises, and to the extent possible under law, Commonwealth instrumentalities located in Tasmania.

3.4 Question 4. How can the Act provide a narrative to protect Tasmania's clean and green image?

The most important step is by being clear, specific and stringent. Focus on "emissions reduction" needs to be replaced with a clear focus on reducing fossil fuel use, except where non-fossil fuel emissions are involved.

More broadly, the Tasmanian Government need to take courage and to break away from the bipartisan lack of leadership that has characterised climate change policy in most Australian Governments. Moving the focus to the need to phase out fossil fuels is the key. Terminology such as "reducing emissions", "low carbon future" and "de-carbonizing the economy" need to be replaced with phrases such as "phasing out coal, oil and gas". The introduction of amendments to the Act into the Tasmanian Parliament would be a great opportunity for the Premier to make a statement which commences with this kind of direct message:

My fellow Tasmanians, our society has arrived at a key moment in our history. The science is clear: climate change is real, it poses great risks to our children and our grandchildren if we do nothing. We are already seeing changes in our climate, and our scientists tell me that more changes are already locked-in. These changes are not positive. We need to face up to the truth: we are doing this to ourselves through our use of fossil fuels. That's right, every time we use petrol, diesel, natural gas, coal, aircraft fuel or marine diesel we are adding to the load of carbon dioxide in the atmosphere which is changing the climate. So that is our challenge: we need to stop using those fuels. We need to phase out our usage of petrol, diesel, gas, coal and so on. This is an enormous challenge. Currently, almost everything we do involves transport fuelled by one of those fuels. The good news is that if we start now, we have years, more than a decade, to phase out those fuels. The bad news is that the longer we delay, the faster we will need to make the change, the harder the change will be to make, and the worse our climate is likely to become.

Tasmanians need to know that the future will not look like the recent past.

3.5 Question 5: How important is it for the Act to support national and international targets?

The Act needs to provide leadership. Current Australian national targets are manifestly inadequate. Current international targets are just the sum of all the voluntary national targets, and these, too, are inadequate to guard us against a 2°C rise, let alone the 1.5°C aspiration that Australia signed on to in the Paris agreement. The Act should embody Tasmania's contribution to a much more ambitious target for Australia (thus also contributing to our "clean, green" image),

and a more ambitious target for Australia will feed in to international targets via the Paris agreement process.

3.6 Question 6: Should the Act recognise the possibility of 2°C of warming?

Yes, but it should place more emphasis on the 1.5°C target than on the 2°C target.

3.7 Question 7: What should the Act include to help build resilience to climate change?

All the adaption measures in this submission should be included to help build resilience.

3.8 Question 8: How can the Act facilitate action across all sectors of the Tasmanian community?

Some of the specific actions already mentioned are intended to work to that end. The clarity and directness of communication about the need to phase out fossil fuels will be a good start, as will the development of specific government supported transition plans for the communities and enterprises most strongly affected by the phase-out. I envisage a network of working groups for specific industries or communities which will develop voluntary transition plans in addition to the mandatory ones, so the Act should have a mechanism in which a group or business can register itself as part of the Act's community support arrangements. Registration would give some support and access to technical expertise, and would bring public reporting obligations.

3.9 Question 9: To what extent should Tasmania rely on the LULUCF emissions reductions to meet targets?

Not at all. Relying on these reductions (which could be temporary) just clouds the central requirement to phase out fossil fuels. In particular, it does not influence investment decisions being made now that are based on the assumption of unconstrained access to fossil fuels in the future. A few years ago the International Energy Agency warned us that we needed to stop making investment decisions based on fossil fuels by 2017 if we were to stay within the 2°C target.

3.10 Question 10: What should our 2050 emissions reduction target be?

I think we should set a target of net negative emissions to be achieved before 2050 – say by 2040. Importantly, the reductions need to be quality ones, and not “achieved” because of an unwelcome industry downturn.

3.11 Question 11: Should our targets include emissions from the import and export of electricity?

Emissions from the import of electricity should be included. I would prefer to see us not claim credit from mainland emissions reductions due to our exports – there is the potential for double counting if we do that.

3.12 Question 12: Other types of targets?

Yes, we need to have sectorial and differentiated targets, most of which should be expressed as fossil fuel use reductions. The electricity sector should be expected to have a faster fossil fuel phase-out than other sectors in the economy. Targets for smaller (in terms of the number of players) sectors such as coal could arise out of the transition plan development process, although a minimum progress rate for each sector should be set in the Act.

Energy efficiency targets are an exceptionally good idea. The potential for energy efficiency to reduce emissions is very large, and the more efficient our use of energy, the easier it will be to transition away from fossil fuels.

3.13 Question 13. How willing would my business or community group be to pledge to reduce emissions?

I am making this submission as an individual, and so I will answer for my two person household. The answer is “yes”. We do not use gas, our air travel is very limited and partly offset through purchased offsets, and over a year our household PV system exports sufficient emissions free electricity to the grid to offset the electricity we import. Our main emissions are thus through liquid fuel use in our vehicles, and I have been tracking those emissions since 2011, when they were 5.6 tonnes of CO_{2-e}. They rose over the next few years to peak at 7.8 tonnes in 2014. We purchased a PHEV in late 2014 to reduce our emissions, and that purchase plus a reduction in regular travel reduced our emissions in 2015 to 3.9 tonnes. It will be challenging for us to make further emissions reductions, and in that we are no different from most of the Tasmanian community. I do have a rural property on which I grow trees, but consistent with my response to question

9, I have not included the carbon sequestration from my plantations in the above estimates.

3.14 Question 14: What are the appropriate decision-making principles?

They are:

- The use of best available science.
- Clarity of communication with Tasmanians.
- Encouragement of and support for community initiatives, plus the sharing of achievements and disappointments.
- Consultation, consultation, consultation.
- Inter-generational equity.
- Tasmania's position as an environmental brand leader.

It seems clear that the Tasmanian Climate Change Office will need significant additional resources to enable the approach envisaged by this submission.