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Submission re Climate Change Authority Paper July 2019
Updating the Authority's Previous Advice on Meeting the Paris Agreement

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Introduction
In the wake of the Paris Agreement, the Climate Change Authority performed detailed calculations to determine Australia's share of the International Carbon Budget (2013 to 2050). The Carbon Budget is 10.1 billion tonnes.

The question is - are we on track to meet that budget?

Australia's emissions for 2017-18 were 534 million tonnes of carbon dioxide equivalent and have been rising at 4 million tonnes per year since 2013. A detailed carbon budget based on the actual historic carbon emissions data from 2013 to the present and then following the trajectory of minus 26% in 2020 to 2030 shows the carbon budget will be fully spent in 2032.

This clearly shows that Australia is well off target in terms of meeting its carbon budget, as it will be exhausted 18 years short of the 2050 target.

In other words, because it is not abating emissions quickly enough to meet even its existing target, Australia should theoretically drop to net zero emissions from 2032 once its budget is exhausted. To avoid this obviously difficult scenario, Australia needs to be much more disciplined in reducing its emissions from this point onwards. Otherwise, we are burdening today's younger generations with the imperative to live more restrained lifestyles than we ourselves have been prepared to accept. This is an intergenerational injustice.

Achieving a net zero emissions economy in the long-term

How can the Government assist the positioning of the Australian economy to best take advantage of opportunities associated with the global transition to net zero emissions, while managing any risks? And what are these opportunities and risks?

Australia is blessed with plenty of land, plenty of wind and sunshine, an educated and wealthy population, a stable democratic system and a relatively prosperous economy. Australians are also early adopters of technological changes. All of these factors can underpin new investments in new types of farming, renewable energy, and technological development.

The biggest risks lie in the geo-political space, which will be exacerbated by the conflicts and changes that will occur in our region as the climate continues to heat. We can expect to see more extreme weather, large tracts of land (particularly in the tropics) becoming unproductive or uninhabitable, rising seas impacting on cities and infrastructure, and, probably, water and food wars leading to millions of climate refugees.

Australia has been a major food exporter. This capacity could significantly diminish unless serious steps are taken to responsibly manage our water supplies and river systems, and to develop new heat-resistant species of plants and animals. A shift away from cattle and sheep farming will be more sustainable in the long-term.

The Government's main role is to provide the necessary leadership and medium-long term planning, to identify the costs, to prepare for the changes that will come, for better or worse, and to ensure that Australia is playing its part as a world citizen.

We advocate that governments in Australia actively prioritise providing this leadership, for the sake of its citizens and all with whom we share the planet.

Should particular regions or communities and emissions-intensive trade-exposed industries be assisted in the transition, and if so how?

If the world's emissions are to be brought down in the rapid manner needed, it will be essential to phase out coal mining, preferably in less than 10 years. This will have the added benefit of improving the health of people who live and work in coal-mining communities.

However, there is no excuse for just abandoning these communities. We know that the transition to a more sustainable economy must happen, so the Government needs to take positive steps to encourage new industries (especially high-tech and renewables) in these locations. Otherwise, there will be social unrest and a drift of labour to the cities. The German approach is one example to follow.

If we are serious about mitigation, it is necessary to reduce Australia's emissions from the agricultural sector, because ruminant livestock, particularly cattle and sheep, are a major source of methane, and require large amounts of land and water. Animal products make up a third of Australians' ecological footprint if all the factors are taken into account. However, this means that livestock farmers should be offered training and resources to develop alternative forms of income generation on their land. For example, solar or wind installations could become an additional source of agricultural income, providing for local supply and feeding back into the grid.

Similarly, it is important to halt logging of old-growth forests, but support should be provided to develop alternative means of income generation to communities affected. For example, comprehensive forest management programs are essential to reduce catastrophic forest fires whose frequency, speed, intensity and devastation increase as climate warms. These could provide excellent local employment opportunities (and are often well-suited to local indigenous communities, as well as producing local opportunities for regenerating local ecosystems).

What is the role of prudential regulation and macroeconomic policy in assisting the Australian economy transition?

Existing federal climate mitigation policies are highly inadequate. Our suggestions are outlined below. For supporting references see: https://www.arrcc.org.au/policy-positions

1. Market forces should be regulated.

   Corporate bodies must be prevented from being exploitative of people and the environment, and from fostering rampant consumerism, irresponsible exports and excessive speculation on financial markets. Those who create pollution at home or abroad in the course of making profits must be held responsible for the destruction caused and deterred from such action in the future – a legal point widely recognised in regard to other pollutants and environmental destruction but not yet to GHG emissions.

2. Revised measures of prosperity would make the transition to low-carbon economy easier.

   The goal of unlimited economic 'growth' should be replaced by 'human and ecological well-being'. We need to transition to a culture in which high priority is given to creating lifestyles that reflect ecological sustainability and justice.

Such a transition will require us to re-imagine prosperity in ways other than economic growth. For example, prosperity could be measured in levels of community cohesion; trust (replacing fear and suspicion); social equity (reducing the widening gap between rich and poor); work/life balance; job satisfaction; rates of physical and mental health; and the quality and integrity of our environment. On this basis, much more value would be placed on the substantial societal contributions of parents nurturing children, along with carers and volunteers.

Moreover, such a transition will require us to revise the key factors that currently drive our economies, such as the pursuit of ever-increasing labour productivity, so that we are no longer locked into an economy that must continue to grow in order to remain stable.[xi] Senior economists are now arguing that ever-increasing personal consumption is dangerously unrelated to its environmental and social costs. Prosperity within the ecological limits of our finite planet, generated by a system that gives value to family, health and social well-being, is at the core of an economic rethink. The challenge for our society is to create the conditions under which this is possible.

3. Australia should have a price on pollution

A low carbon society will require a price on greenhouse gas pollution. ARRCC recognises that not everyone will act because they are aware or persuaded that their individual actions can make a difference. Every person does, however, have an interest in how much energy and products cost them. The Federal Government should implement a mechanism immediately that will put a price on GHG emissions, so that consumers pay more for products which involve higher emissions.

This would (a) more truthfully reflect the environmental cost of carbon-intensive products, (b) create clear disincentives to use these products, (c) create incentives to increase energy efficiency and use electricity generated from renewable sources and (d) support local production with less shipping and transportation costs. A price on GHG emissions is the most ethical mechanism because GHG emissions are destructive of ecosystems and should be avoided as much as possible, and any emissions should be at a cost to the emitter.

Low-income households should be provided with assistance to prevent undue hardship.

Transitional phased-down protection for so-called trade-exposed, carbon intensive industries could be put in place but should be kept minimal and phased out quickly.

ARRCC recognises the advice of some economists that market-based schemes (known as emissions trading or 'cap and trade' schemes) can be effective in reducing emissions. However, some caution is needed because, in practice, some emissions trading schemes have not significantly reduced emissions. Auctioning 'permits to emit' suggests that emissions are acceptable and they have a legitimate market value. In contrast, our goal should be to reduce emissions to zero as quickly as possible.

Furthermore, emissions trading schemes are inherently morally corruptible. This is because (a) they enable GHG emissions to be treated as a 'cost of doing business', and so be readily converted into carbon pollution permits - while carbon pollution should be highly restricted, in practice big polluters have successfully lobbied to have large numbers of free permits given to them, thus exempting them from their real responsibilities; and (b) emissions trading often involves an off-shore carbon credit system which allows industrialised countries to outsource emissions reductions to developing countries while making few actual reductions at home.

4. Subsidies and other assistance for high-polluting industries should be eliminated

It is morally wrong that industries contributing so much environmental damage attract billions of dollars in subsidies and other assistance annually. Subsidies and other assistance for fossil fuels distort the market and particularly reduce the competitiveness of renewable energy, which currently receives much less assistance. Government assistance and policies should provide incentives to pursue a low carbon future. In particular, they should favour energy generation from renewable sources, improvements in energy efficiency, and conservation and regeneration of natural ecosystems.

5. Australia should rapidly phase out coal exports

Phasing out coal exports should occur as part of a wider plan to establish renewable energy alternatives. As the world's second largest exporter of coal[xv], Australia profits from the further creation of emissions overseas, which are not officially counted in our already very high emissions per capita. In the shift away from coal, it would be unjust to expect that workers in the coal industry bear the cost of the changes needed by society as a whole, so they should be provided with suitable alternative employment (e.g. wind turbine or battery storage factories), training and opportunities, and transitional income support as necessary.

6. There should be a halt to CSG exploration and extraction

There should be a halt to exploration and extraction of Coal Seam Gas (CSG), other 'tight' (or 'unconventional') and 'conventional' (or 'natural') fossil gases. This is because fossil gas is a fossil fuel and fossil fuels are a primary cause of global warming. Society needs to shift directly to renewable energy sources as quickly as possible if we are to avoid the worst of global warming. Gas being seen as a transition fuel delays this shift. Indeed when fugitive emissions (escaped unburnt and highly potent gas) are taken into the account, gas is little or no better than other fossil fuels and may even be worse, as there is mounting evidence to suggest levels of fugitive emissions from all gas extraction and transmission may be higher than originally claimed.

Furthermore, CSG extraction using hydraulic fracturing ('fracking') has a range of other local adverse impacts. These include:

- loss and fragmentation of habitat for native species, and animals dying because they drink from abandoned toxic ponds;
- pollution of water and soil resources (both on the surface and under the ground), with associated threats to agriculture and food supply;
- damage to local people's health, livelihoods and communities; and

- increased risk of fire, both from gas and its flaring and from drying of local soils and vegetation as a result of clearing, and lowering of water tables.
- fragmentation of and limiting access to and use of farming and pasture lands

Overall, there is serious doubt about the claim that gas from CSG is any better environmentally than coal.

7. Public investment should go into energy generation from renewable sources and energy efficiency as a preference over Carbon Sequestration and Storage (CSS)

We must stop building power stations that burn fossil fuels and instead create the capacity for energy generation from renewable sources as quickly as possible.

We support the views of organisations like Beyond Zero Emissions that, with the political will and prudent investment, Australia could create all its electricity requirements from renewable sources within a decade.

Claims that renewable energy cannot provide 'base-load' power are misguided. Using varied and sufficient sources, and appropriate location, connections, storage and/or dispatching, renewable energy can supply all our electricity needs.

Energy efficiency and generation from renewable sources such as wind and solar is readily available and proven. All that is needed is investment and deployment.

The large sums of money that have been invested worldwide in trying to develop Carbon Sequestration and Storage have resulted in only small-scale projects with limited capacity to sequester carbon, and at very high cost. CSS is no longer generally regarded as a realistic option for large scale reduction of GHG emissions within the next decade, if at all. Furthermore, pursuit of CSS delays the necessary shift from fossil fuels to renewable energy.

8. Policy and regulatory settings and programs should favour renewable energy and energy efficiency

Policies, regulation and programs should provide incentives for households, communities and businesses to install and use renewable energy and to use energy more efficiently. Such incentives can help realise the huge environmental and economic benefits from improved energy efficiency that are not currently being fully taken up, for various reasons, and could go much further. Citibank calculate the global savings by taking action now would be $1.8 trillion by the year 2040, whereas the cost of climate change inaction will be $44 trillion by 2040.

Other incentives can stimulate transformations in the energy sector. For example, generous feed-in tariffs in Germany made its solar industry viable, bringing down the cost of renewable energy so it is more competitive with dirty energy, and created 250,000 jobs. In Australia, the Renewable Energy Target has facilitated the building of locally owned clean energy enterprises with huge benefits to the local communities concerned. Much of this has occurred in regional Australia, with flow-on economic and social benefits to the communities concerned and without the local disruption caused by coal, oil and gas mining, transport and power stations.

As would be expected, we are opposed to imposition of levies and other penalties on households, businesses and community groups that have installed solar and wind power.

9. Australia should legislate for stronger mandatory energy efficiency standards and provide incentives for the use of energy efficient products

Australia wastes energy. We lag behind a range of other countries and that lag is increasing. Strong mandatory energy efficiency standards and incentives for the use of energy efficient products will help us to avoid this waste and over-consumption**.** These must include cars, appliances, equipment, and homes and community, commercial and other buildings.

A national retrofit program for Australian homes and other buildings should be introduced. This is another significant potential generator of local skilled and semi-skilled employment.

As well as through financial incentives, people should be encouraged to change their individual behaviour through comprehensive public awareness campaigns and the inclusion of relevant material in school curricula.10. Forests help reduce climate change by absorbing and storing large amounts of carbon dioxide. Approximately 11 per cent of global greenhouse gas emissions come from clearing, logging and degradation of the world's intact forests. Forests

are also key components in the water cycle and weather systems. They help keep local environments cool and moist, which can reduce the severity of bushfire.

Australia should stop logging old-growth forests and provide support to develop alternative means of income generation to communities affected.

As a nation, Australia should take a leadership role in persuading other countries to protect remaining intact forests globally. For example, Australia should oppose the clearing of forests for palm oil plantations for the production of vegetable oil or ethanol, which have the ultimate purpose of enabling us to continue our high consumption lifestyles.

Sectoral and economy-wide policies

What are the current and projected costs of, and potential for, abatement across different sectors and how does that influence the choice and timing of policy across sectors?

Given that emissions went up in the period 2000-2007 (at an average of 10 million tonnes p.a.), but in the period 2007 to 2013 emissions fell (at 17 million tonnes p.a.) it is salutary to consider what made the difference between these periods. The main difference between the former and the latter periods is that Government policy was moving towards a polluter-pays system for carbon emissions during 2007-13.

One can conclude that even a zero price for carbon has the effect of significantly reducing growth in emissions (in this case by 27 million tonnes p.a.). Government policies since then, (aimed at subsidising the polluters to reduce emissions) have been less than successful (and very much more expensive). Further, emissions are again growing rather than diminishing.

What are the barriers (regulatory and non-regulatory) to realising emissions reductions and are there any additional supporting policies, regulations or government actions that could drive emissions reductions in cost effective ways?

Answers to previous questions are also appropriate here.

Transparency, leadership, vision and forward-planning, together with a serious acknowledgment of the existential nature of the climate threat, are currently all missing in action. These attributes are required if potential investors are going to approach the market with confidence.

Government needs to treat the changing climate as if it were facing a war. The climate is changing from the stability it has enjoyed for thousands of years to a catastrophic situation from which there will be no turning back, over decades instead of over thousands of years. There is no bigger threat facing this country.

How should sectoral policies be linked to ensure efficient economic outcomes and to minimise the cost of abatement across the economy?

Put a price on all emissions. It is the most effective and efficient mechanism. We suggest that the Government start with a very low price (eg $1 per tonne) and see what effect that has.

Should changes be made to the Emissions Reduction Fund to explicitly target multiple benefits (such as environmental outcomes) as well as abatement outcomes?

We already know, from several reviews, that this is an expensive, risky, ineffective and inefficient method of abating emissions. And environmental outcomes should be obvious! The ERF should be wound back at the earliest opportunity.

How should the Government ensure that major infrastructure investments remain resilient to future climate change impacts and policies?

Make sure they're not built close to sea level, and ensure that they are sufficiently robust to withstand the extremes of heat, storms, floods and bushfires that will inevitably impact.

Make sure that the projects are 'fit for purpose' in a changing world. Building dams in an area that is likely to experience chronic drought or airport runways that are only a metre above sea level is short-sighted in the extreme.

Invest in public transport rather than road transport, as public transport can move more people with fewer emissions and can be more readily electrified. A metro rail system carries up to 50,000 people/hour, light rail or bus rapid transport carries 10,000-20,000 people/hour, a bus lane carries 5,000-8,000 people/hour, whereas a lane of freeway carries only 2,000 vehicles or 2,500 people/hour.

Each full standard bus can take more than 50 cars off the road while a full train can take more than 600 cars off the road. Depending on the rail infrastructure, rail corridors can carry between 10 to 20 times the capacity of freeways. Furthermore, reduced private cars on the road means that less space is needed for road and parking infrastructure. All this space for infrastructure for private cars costs money and is simply unproductive land.

Air travel, particularly for short-haul journeys, has a large environmental footprint and is growing dramatically. The Melbourne-Sydney-Brisbane corridors are amongst the busiest in the world. Replacing these trips with travel by high-speed electric train would reduce emissions of greenhouse gases and other pollutants in equivalent times.

ARRCC supports a high-speed rail network connecting Melbourne, Canberra, Sydney and Brisbane. Beyond Zero Emissions proposes that it could be partially or completely powered by solar thermal energy. Again, such a development would reduce our greenhouse gas emissions and increase Australia's resilience to oil shocks.

For supporting references, see https://www.arrcc.org.au/policy-positions.

Supporting innovation, finance and new industries

What role should the Government play in enabling the development and uptake of low-emissions technologies and development of associated industries?

Governments need to encourage sunrise industries, and to provide the essential infrastructure and skills that will be necessary if these industries are to flourish. This means grants, loans and an encouraging regulatory environment so the technologies created in Australia can be developed and marketed domestically. Current policy settings mean that such industries are more likely to be established overseas.

What role is there for Government in developing an enabling environment to support increased flows of green finance?

Provide realistic policy certainty and remove the subsidies and rebates which have been enjoyed by the fossil fuel sector to the detriment of new industries.

International context

What role should international units have in Australia's response to climate change, and how should risks around availability, cost and quality be managed?

This is another risk that we shouldn't contemplate, because we should be rapidly winding back our own emissions.

What role should carryover from earlier commitment periods play?

None. It is dishonest accounting that is neither ethical nor internationally accepted. It sends a terrible message to other countries. And, most importantly, Paris is now about an international carbon budget from 2013 onwards, not about historical arrangements.

The Australia Institute Australia has exposed the fact that Australia is attempting to use a "Kyoto Carbon Credit loophole" to our escape responsibility for real, honest mitigation. In behaving this way, Australia is neither doing the right thing, nor do we earn the respect of other nations, nor do we create a safer climate.

Should the Government facilitate the import of international units or export of Australian Carbon Credit Units?

Australia should play its full part in reducing its own emissions rather than relying on others to pick up our slack. On the margins, it might be useful to do some small trading as a price discovery mechanism. Any money spent on abatement within Australia will stimulate Australia's economy. There is a useful analogy here with what has been happening with Australia's recycling of plastics.