

Thank you for the opportunity to comment on **Updating the Authority's Previous Advice on Meeting the Paris Agreement**. I have concerns about a number of aspects of climate policy, which I believe is totally inadequate to address the crisis that we face, which demands urgent action. I recognise that to make the changes we need will require losses, but that not to make changes, or to delay them, or to respond inadequately, has costs far greater.

My comments follow the headings in the consultation paper. Some of these remarks, especially on International Context, have also been included in a submission by Climate Change Balmain-Rozelle.

## 1. Achieving a Net Zero Emissions Economy in the Long Term

### 1.1. Coal in the future

The transition away from Australia's reliance on thermal coal, for both power generation and for export revenue, is inevitable. Many developed countries, e.g. England and Scotland, are closing the last of their coal-fired power stations; others like Germany and Spain have begun an orderly approach to ending mining. Corporations, and nations such as Norway, are divesting from fossil fuels, so the market for our coal will fail possibly quite suddenly, and we need to be prepared for this.

Some communities, especially in Queensland and New South Wales, depend on the coal industry for well-paid employment. At the same time, other industries, such as tourism and agriculture, retreat or fail to develop because of the pollution these industries cause. And health costs in these areas for air-borne pollutants have to be borne by the state as a whole.

The budgets of these states depend on coal for royalties, and they will need to consider diversification before the coal industry collapses. If subsidies, for example the Federal diesel fuel rebate, were repealed, these funds would be available for building new training and industry opportunities.

**I urge the Authority to recommend the immediate formation of a Just Transition Authority, to include representation from state and local governments, owners and unions, to plan a future beyond coal for both states and communities.**

### 1.2. Emissions-Intensive Trade-Exposed industries

Industries that create excessive carbon emissions will have less of a place in our long-term future. As with the coal industry, the transition will need to be gradual but, unless alternative ways of operating can be found, it should begin immediately.

Previously, when a carbon tax was introduced, such industries received a degree of exemption. An alternative such as an emissions intensity trading scheme within a sector could be a way of incentivising more carbon-efficient processes at the expense of more carbon-intensive processes.

Almost all industries agree that the absence of an energy policy since the demise of the carbon tax has made investment decisions difficult, adding market risk of uncertainty where it should not be. The National Energy Guarantee, one of a series of plans to provide some business certainty, did at least address the issues, and has already undergone considerable scrutiny.

**I urge that an energy policy, both ambitious and scalable in its emission targets, be introduced as soon as possible.**

## 2. Sectoral and economy-wide policies

### 2.1. Industry sector

#### ***Fugitive emissions from CSG***

Fugitive emissions produced during the mining of coal, conventional gas and especially unconventional gas are the fifth largest source of greenhouse gases (10%) in Australia (Climate Council, [Australia's Rising Greenhouse Gas Emissions](#), 2018). Emissions have increased by 42% since 2005, as the gas export industry has grown.

Assessing the carbon emissions from the gas industry is very difficult, although some argue that when fugitive emissions from mining are combined with emissions on burning, the effect is as great as that of coal.

Even if it is not exactly equal, there can be no doubt that gas, and particularly unconventional gas, is not a “resource” we should be relying on for the future. To reduce Australia’s emissions, the federal Government should not be encouraging export gas production by providing any support for infrastructure such as gas pipelines in the Queensland and the Northern Territory.

#### ***Emissions from hydrofluorocarbons***

Industrial processes are a significant source (6%) of greenhouse gas emissions, which have been rising since 2005 (Climate Council, [Australia's Rising Greenhouse Gas Emissions](#), 2018). Ozone depleting substances have in some cases been replaced by greenhouse gases such as hydrofluorocarbons. We note that the import of these substances is being restricted, which will lead to a gradual reduction over time.

**Government could support research and development into substances used in industry that are less carbon polluting by offering grants or other incentives.**

#### ***Subsidies***

The IMF estimates [Australia spends \\$29bn annually subsidising fossil fuels](#), considering particularly the health costs of local air pollution. The Australia Institute has previously priced it at \$10 billion per year, of which the Fuel Tax Credit Scheme represents a \$5billion boost to industry, the majority not to farmers, as was originally envisaged, but to the mining industry.

**I urge that diesel excise exemptions be removed, especially from the mining industry, as it is inappropriate to be subsidising the use of a polluting fossil fuel as we try to reduce emissions.**

**I also urge that the externalities of the health effects of coal mining and coal-fired power generation be built into the pricing of coal through levies that reflect this true cost to the community.**

Finally, it is almost impossible to price the use of land that is degraded by the mining industry, for example in the loss of species habitat, and, even more particularly, the

pollution of above ground and underground water. These are literally priceless – but to allow these resources that belong to future generations to be used up represents a subsidy from Australians to industry.

## **2.2. Electricity Generation Sector**

As new renewables are introduced, making up more of the electricity generation sector, major adjustments are needed. This should not mean replacing “baseload” power with further baseload power as coal-fired power stations age and close. Instead a forward-thinking system will recognise and encourage microgrids in some (particularly isolated) areas, while building in storage to complement the variable power of wind and solar.

### ***Pollution from coal- and gas-fired power stations***

Existing fossil fuel power stations have been allowed certain levels of pollution. A steady stream of reports finds more and more health harms attributable to such pollution, especially from coal. Environmental Justice Australia has analysed National Pollution Inventory figures (which are often estimated by industry rather than measured independently), and found that toxic emissions are “soaring”. They found in 2017 that [coal fired-power stations are responsible for an annual health bill of \\$2.6 billion](#).

To allow power stations to pollute without penalty is illogical and unacceptable. Rather, these external costs should be paid by industry, which would better level the playing field between the costs of power from fossil fuels and from renewables.

### ***Wind and solar***

Australia is likely to achieve its 2020 Renewable Energy Target, thanks to policies set before 2013 by the previous government.

At the national level, the RET, complemented by investments from the Clean Energy Finance Corporation and grants from the Australian Renewable Energy Agency, have driven increased investment in renewable energy such as wind and solar. These policies, along with the now abolished Carbon Pricing Mechanism, have driven significant growth in renewable energy and reduced reliance on brown coal over the last decade and have helped to reduce emissions from the electricity sector. The cost of renewable energy technologies has fallen significantly over a similar timeframe, driven by economies of scale, global cost reductions and greater experience in installations.

(IRENA 2017, cited Climate Council, [Australia’s Rising Greenhouse Gas Emissions](#), 2018)

However, these abundant resources should continue to be developed to the maximum to replace power from fossil fuels. 100% renewable energy must be our goal, and wind and solar, supported by storage, will play the largest role in this mix.

### ***Nuclear***

Proponents of nuclear power claim that is a suitable substitute for baseload coal-fired power, and even describe it as “clean”; because its carbon impact (to operate) is minimal. In fact, it is not only expensive and carrying safety and security risks but very inflexible. Construction would be slow as well as costly compared to the construction of solar or onshore or offshore wind farms.

**I urge you unequivocally to reject nuclear power as an option.**

## **Storage**

With [21% of Australia's power now produced from renewables](#) (Clean Energy Council, 2018 figures), and more likely to come on line in the next year, increased storage is essential to complement these sometimes variable sources. (Hydropower and bioenergy, which are dispatchable, represent about 40% of this sector).

I suggest that, with the cost of solar panels considerably reduced in the last decade or so, that subsidies for rooftop solar should not be eliminated, but instead switched to incentivise new systems to include battery storage.

To support large-scale solar, both battery storage and pumped hydro schemes will be needed. It seems likely that Snowy 2.0 will play a significant role from 2024 in providing fast-start backup power. However, the supply from clean renewables must continue to expand so that this scheme is not storing power produced by fossil-fuel burning sources.

The potential for pumped hydro schemes was indicated in 2017 in an award-winning [study by the Australian National University](#), which identified 22,000 sites across the country that could be suitable for pumped hydro energy storage. This is an area worthy of further research.

Electricity storage will not be achieved by one technology, as different time frames – from coming online near instantaneously in an emergency to overnight or longer buffering of variable energy production – are needed. The Clean Energy Finance Corporation is an appropriate body to invest in initiatives as needed, and ARENA, which should be adequately funded, to support technologies worthy of further R & D.

## ***Demand management***

Barriers exist in state, and I understand federal, regulations to using price mechanisms to shift energy demand to when renewables offer a plentiful supply. Appropriate pricing can in turn encourage appropriate technologies, so that, for example, it is cheaper for residential air conditioning to be automatically or remotely activated mid-afternoon to cool or heat homes when solar power is in plentiful supply, rather than being activated in the evening when consumers return home.

**I urge the CCA to advise the Federal government, in consultation with COAG, to remove regulatory barriers that are leftovers from an era designed to support generation dominated by coal-fired power.**

## **2.3. Transport Sector**

### ***Hydrogen fuel***

The development of a hydrogen fuel industry, powered by renewables, should be supported, as hydrogen fuel has the potential to replace fossil fuels in areas where greenhouse gas emissions are proving otherwise difficult to displace: air and sea travel.

It also has potential for Australia to use its abundant wind and solar power to cheaply compete in this industry.

Green hydrogen has been defined by the Clean Energy Council in its [Submission to the Clean Energy Taskforce](#), 2019 as “hydrogen produced [only] via electrolysis where the electricity

comes from renewable energy sources and power purchase agreements using renewable energy”.

**I urge the government to support the development of a green hydrogen industry.**

### ***Electric vehicles***

The introduction of electric vehicles would seem to be inevitable, and as long as they are powered by green electricity, desirable. In fact, if Australia does not take firmer action soon, we run the risk of becoming a dumping ground for the outdated technology of other nations.

A simple and appropriate way of encouraging this trend is to adopt best practice vehicle pollution standards which recognise both carbon as well as particulate pollution.

**I urge the Federal Government to adopt European standards on vehicle pollution.**

### ***Public transport***

If the economic benefits as well as burdens of our transition to a clean future in transport are to be distributed fairly, all levels of government need to spend more on public transport.

Following the [Climate Council recommendation](#), **I urge that at least 50% of all Federal, State and Territory Government transport infrastructure spending be directed to public and active transport.**

## **2.4. Waste Sector**

Clearly we could reduce emissions from waste by reducing consumption of new goods, but the Authority may consider that to recommend this is beyond its brief! Introducing a packaging tax would be a suitable way, however, to reduce excess packaging, restoring a balance between what is convenient for industry and what is healthy for our environment.

Although the waste problem is always best tackled at source, disposal issues are still important. Food and other organic waste going to landfill is of major concern because of the methane emissions under anaerobic conditions. Diverting food waste from landfill is an area where all levels of government should co-operate as it is an expense at each of these.

Providing a market for material made from recycled plastics, for example, by mandating preference or inclusion through procurement policies, is another area where all levels of government should co-operate. Producing recycled materials from waste, *where this can be powered by renewable energy*, is an industry that could provide jobs in regional centres as coal mining winds down, and where cheap power can give Australia an advantage.

## **2.5. Agriculture and Land Use Sector**

Although emissions from agriculture are significant (13% of Australia’s emissions, according to the Climate Council, 2018), reductions in this area are difficult to achieve – and difficult to measure as they are variable, for example, with drought. The Climate Council reports, based on figures from the Clean Energy Regulator in 2017, that “most of these projects [funded under the Emissions Reduction Fund] have not yet delivered any emissions reductions”.

In the meantime, Queensland and NSW especially have continued to expand land clearing, and by changing regulations made it easier to do so. [Over 1 million hectares were cleared between 2012 and 2016 in Queensland](#), according to the Statewide Landcover and Trees

Study. In NSW, [land clearing rose by more than 50% in 2016-17, the year before the introduction of native vegetation laws that make deforestation easier](#).

While land clearing is generally regarded as a state issue, a Federal government that was serious about climate change should sit down with State counterparts to address the unsustainability of this form of “farming”.

Sequestration of blue carbon in aquatic systems such as mangroves or sea grass has potential, and deserves further investigation, especially considering the enormous length of our coastline.

**I urge the authority to ensure that funding of research into “blue carbon” is allowed under, for example, ARENA, and supported by grants, for example, in universities and research institutions.**

### 3. International context

#### 3.1. International Units

In principle the use of international units to meet Australia’s emission reduction targets seems reasonable – greenhouse gas emissions reduced in any part of the world are a valid contribution to the global emissions task we face. These international units could be generated by a variety of activities, such as renewable energy efficiency programs; methane or natural gas recovery; or sequestration on land through reforestation or afforestation.

While in some cases it may be cost-effective to offset emissions in Australia by purchase of international units, we have concerns about the validity of the trading schemes, particularly the additionality, compliance and longevity of carbon farming. [The carbon market in Australia is heavily exposed to biological sequestration, particularly low upfront cost forest regeneration projects](#) – if this is standard practice in Australia, it is unlikely that many truly transformative projects are being adopted as a result of international market trading.

International units may also be derived from afforestation, reforestation or an avoidance of deforestation, all of which are difficult to satisfactorily determine. In a poorly designed scheme, or a fraudulently administered one, we may actually see a negative impact: for example, if Brazil clears its rainforests now, will it become eligible to sell units for reforesting in the future, thus profiting from release of carbon?

**I urge the need for extreme rigor in assessing these aspects before allowing the purchase of international units to become part of our response to reducing emissions.**

I further note that, for well-administered schemes, we can expect in future the price of such units to rise, as the low hanging fruit is taken up by others.

Finally, Australia should be rigorous in searching out abatement measures at home and ensuring that international units do not “let us off the hook” by avoiding or postponing reductions we can make ourselves.

#### 3.2. Carryover credits from earlier periods

**I urge that the Authority recommend that Australia should retire all carry-over credits from the Kyoto Protocol.**

Not one gram of CO2 or other greenhouse gas will be saved by relying on this accounting method when we need to make real reductions urgently. Yet currently the government plans to claim about 370 million tonnes of carbon-dioxide equivalent by this method.

Australia's special treatment in the first phase of the Kyoto Protocol meant that exceeding our targets was possible on paper, even while our emissions have continued to rise since 2013.

Countries such as New Zealand, Britain, Germany, Sweden, Denmark, the Netherlands, France and the EU as a whole have ruled out relying on such carryover credits. I find it morally reprehensible that Australia should instead align itself with Russia and the Ukraine in "gaming the system". By insisting upon claiming these credits to make its (already weak) reductions target, Australia not only fails to make the contribution that we owe, as one of the highest per capita emission producers in the world; we set an example that undermines the whole Paris agreement as others are encouraged to follow suit.

### **3.3. Australia's relationships with its Pacific neighbours**

While I acknowledge that this is a political issue rather than a technical one, I am concerned that Australia's standing in the Pacific is reduced by its failure to plan for a transition from coal, both as a domestic power source and as an export industry.

A loss of credibility in the Pacific, where island nations face an existential threat from rising sea levels, has negative strategic implications for Australia.

**I urge that Australia becomes a leader in emissions reduction in the region and among developed nations.**

Angela Michaelis

NSW

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