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24 November 2020

BREAZE Inc. Submission to the House Standing Committee on the Environment and Energy in respect of the Climate Change (National Framework for Adaptation and Mitigation) Bill 2020 and Climate Change (National Framework for Adaptation and Mitigation) (Consequential and Transitional Provisions) Bill 2020

On behalf of Ballarat Renewable Energy and Zero Emissions (BREAZE Inc.), we thank you for the opportunity to have input into this important issue.

BREAZE Inc. is a volunteer run incorporated association formed in 2006 with the goal of achieving net zero emissions by 2030. BREAZE Inc. aims to facilitate, encourage and educate the wider Ballarat community towards this goal, via advocacy, installation and provision of renewable energy sources and improved energy efficiencies across the residential, commercial, industrial, agricultural and transport sectors.

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Introduction

As a group representing regional Australians committed to living sustainably and reducing greenhouse gas (GHG) missions, BREAZE strongly endorses the Climate Change (National Framework for Adaptation and Mitigation) Bill 2020 as an initiative that will enable Australia to better address the rapidly evolving threat of climate change.

The devastating losses of the Black Summer of 2019/2020 - human lives, homes, livelihoods, habitat and native species - underscore the urgency of concerted government action on climate change, action that must be informed and led by the latest climate science, and must be independent of partisan politics and lobbyists. The establishment of the Independent Advisory Committee will go a long way in bringing the transparency so desperately needed in developing policies to manage the climate emergency.

Advice from the Intergovernmental Panel on Climate Change (IPCC) is that we have a bare decade in which to contain global warming to 1.5ºC, the best case global scenario.[1] It is imperative that the Australian Government fully complies with and betters the commitments made at the 2015 Paris CoP21 and sets a Net Zero emissions target for 2050, along with a systematic plan including interim 5 yearly targets that will set a trajectory by which to decarbonise the economy by 2050.

[1] IPCC (2018) *Special Report: Global Warming of 1.5ºC*. Retrieved from https://www.ipcc.ch/sr15/chapter/spm/

Australia's current Intended Nationally Determined Commitment (INDC) under the ParisCop21 (2015) - a 26 to 28% reduction in emissions by 2030 on 2005 levels[2] – is quite inadequate and needs to re-assessed, since it would leave us on track to reach a calamitous increase of 4ºC of global warming by the end of the century.

Australia's Climate Council assesses the target required to comply with the 1.5ºC target as inadequate.

> On its own, just reaching net zero in 2050 is nowhere near enough. To meet the goal of limiting global warming to 1.5 degrees, the whole world will need to reduce emissions by 7% per year every single year between 2020 and 2030. Even limiting global warming to well below 2 degrees would require annual global reductions of greenhouse gas emissions of 2.6% per cent per year.[3]

In much contemporary public commentary we are seeing a tacit expectation that temperature increases will plateau but there is little scientific basis for this assumption. Some of the extreme weather of recent years has occurred in the absence of an El Nino - present observations and events may be profoundly understating the consequences of the presence of large amounts of additional heat in the atmosphere. The Covid-19 pandemic has demonstrated the limited capacity of government to protect us from unanticipated and unprecedented events, underlining the need for considered and independent policy management and forward planning, of the kind articulated in the Climate Change Bill.

The government's current 26% emission reduction target by 2030 (on 2005 levels) would leave us on track to deliver a calamitous increase in global temperatures to 4 degrees. In response to coronavirus we have seen economic stimulus measures that have served to limit the worst of the social upheaval that would have resulted from mass unemployment and a crash in property values due to Covid-19 impacts. However, the scale and escalating nature and inter-relationships of climate change impacts mean that no amount of cash stimulus after the event will be sufficient to avoid the collapse of basic societal norms such as the right to work and access to safe housing.

Public Opinion

For BREAZE members, like many regional Australians, the prospect of a repeat of last year's Black Summer bushfires looms as a very real fear – a nightmare that communities are currently ill-equipped to deal with. As the climate warms, regional Australians are facing increased threats like this, with climate scientists, fire fighters and the Royal Commission established after the 2019-2020 Black Summer bushfires, all warning that worse is to come.

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[2] Commonwealth of Australia (2015) *Australia's Intended Nationally Determined Contribution to a new Climate Change Agreement.* Retrieved from https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Australia/1/Australias%20Intended%20Nationally%20Determined%20Contribution%20to%20a%20new%20Climate%20Change%20Agreement%20-%20August%202015.pdf

[3] Climate Council (2020) *What does Net Zero Emissions Mean? https://www.climatecouncil.org.au/resources/what-does-net-zero-emissions-mean/*

Climate Change has become a national security issue presaging an era of more frequent and increasingly ferocious extreme weather events –droughts, floods, storms, and heatwaves as well as bushfires – increasing every year as the climate warms. There are so many variables that it is difficult to anticipate what is coming. The threat of runaway warming is too alarming to contemplate in this context.

In late October, The Australia Institute published its *Climate of the Nation* (CoN) 2020 Report.[4] Australia's longest running survey of public opinion on the topic of climate change, the CoN Report found that: 80% of the public think climate change is happening; 82% of the public are concerned that it will bring more bushfires; and 83% support phasing out coal-fired power plants. These figures show that the overwhelming majority of Australians are worried about climate change and want government action to address it. Of course what kinds of actions and by whom are the prescient questions to ask next. Clearly climate scientists must be heard, and those involved in R&D in the renewable energy sector, along with key economic agencies, energy analysts and regulators. Among the key elements of the Bill, it is very pleasing to see, community engagement, which will be critical to developing accessible and effective messaging and communications on the reasons for and the nature of actions undertaken in terms of mitigation and adaptation.

Expert Advice

Expert advice needs to take a front and centre position in determining the right course for action on climate change. Climate science and climate modelling must be constantly referenced in ascertaining the current state of climate. The fact that most scientific forecasts to date have erred only in being too conservative in their predictions of the effects of global warming, evidences the importance of constant monitoring – of key indicators of climate change and how communities are travelling in terms of its effects. Alongside the need for five yearly targets, regular consultation is foundational for any effective national renewables transition and decarbonisation plan.

Fortunately, in addition to global agencies such as the IPCC and the International Energy Agency (IEA) Australia has a wealth of expertise in those fields of research critical to developing informed climate management policy and planning. The key Australian agencies embodying that critical expertise are the Bureau of Meteorology (BoM), the CSIRO, AEMO, the Clean Energy Finance Council and numerous climate think tanks that draw on cross-disciplinary research to develop practical economistic strategies:

- An IEA report[5] released in April 2020, notes global energy demand contracted 8% in the first quarter, a ten-fold greater impact than the GFC is forecast. The April 2020 report notes that 'gas demand could fall much further across the full year than in the first quarter, with reduced demand in power and industry applications,' and that 'renewables demand is expected to increase because of low operating costs and preferential access to many power systems,' with low carbon sources 'extending the lead established in 2019.'

[4] The Australia Institute (2020) Climate of the Nation 2020. Retrieved from https://www.tai.org.au/sites/default/files/Climate%20of%20the%20Nation%202020%20cover%20[WEB].pdf
[5] IEA (2020) *Global Energy Review.* Retrieved from https://www.iea.org/reports/global-energy-review-2020

- Monash University-based, climate think tank, Climate Works March 2020 report, *Decarbonisation Futures*[6], provides a detailed sector by sector breakdown of how emissions reductions can be achieved to keep global warming within 1.5ºC in keeping with the Paris CoP21, noting "government figures project national emissions will decline by 16% on 2005 levels by 2030." The report warns the costs of not setting adequate targets include "missed opportunities in technological investment."

- The transition to low emissions renewable energy requires ongoing development of the distributed grid. In its *Renewable Integration Study* released in April 2020[7], AEMO reported that with the right regulation and market mechanisms the National Energy Market could be 75% sourced from renewables by 2025.

- The Clean Energy Council's report, *A Clean Recovery*, released in May 2020, focuses on the job creation potential of renewable energy, and includes amongst its recommendations building 21st century energy infrastructure including a smart distribution network and an EV charging network, along with accelerating and supporting large-scale clean energy investment to make Australia a clean energy superpower.[8]

- Climate think tank, Beyond Zero Emissions (BZE) released its *Million Jobs Plan* in June. Drawing on the success of its NT 10GW Vision, which built a coalition of business, capital, community and government to change the NT's economic direction, this is a cross-sector analysis of how a renewables-led recovery can cut emissions and reinvigorate the economy, leveraging private investment to reinvigorate Australian manufacturing and spur growth in green industry – green steel, green aluminium and green hydrogen.[9]

Recent reports from these agencies indicate that rapid transitioning of the national grid to renewable energy is both imperative and also practicable, with appropriate ancillary firming technology and storage required for the distributed grid. In addition to being clean, it is widely acknowledged that the economics of renewable energy are superior to fossil fuels, where operating and maintenance costs remain high. The nation requires climate and energy policies that provide clarity and certainty to investors to accelerate this transition for the sake of current and future generations. Renewables, solar and wind, are projected to reduce in costs compared to every other form of energy generation including gas, as evidenced in the CSIRO *GenCost 2019-20 Report*.[10]

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[6] ClimateWorks (2020) *Decarboniation Futures*. Retrieved from https://www.climateworksaustralia.org/resource/decarbonisation-futures-solutions-actions-and-benchmarks-for-a-net-zero-emissions-australia/

[7] AEMO (2019) *2019 Electricity Statement of Opportunities* p. 124. Retrieved from https://aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/NEM_ESOO/2019/2019-Electricity-Statement-of-Opportunities.pdf

[8] Clean Energy Council (2020) *A Clean Recovery*. Retrieved from https://www.cleanenergycouncil.org.au/advocacy-initiatives/a-clean-recovery

[9] BZE (2020) Million Jobs Plan. Retrieved from https://bze.org.au/wp-content/uploads/BZE-The-Million-Jobs-Plan-Full-Report-2020.pdf

[10] Graham, P; Hayward, J, Foster, J and Havas, L (2020) - See fig 4-1 to 4. Retrieved from https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/Inputs-Assumptions-Methodologies/2019/CSIRO-GenCost2019-20_DraftforReview.pdf

BoM/ CSIRO Climate of the Nation Report 2020
There can be no more compelling evidence of the need for urgency in strong action on climate change than the findings of the *State of the Climate 2020* [11]report released this November by the Bureau of Meteorology and the CSIRO. The first two key points detailed in the Report Summary are a sombre warning, reflecting Australia's heightened vulnerability.

- *Australia's climate has warmed on average by 1.44 ± 0.24 °C since national records began in 1910, leading to an increase in the frequency of extreme heat events.*
- *There has been a decline of around 16 per cent in April to October rainfall in the southwest of Australia since 1970. Across the same region May–July rainfall has seen the largest decrease, by around 20 per cent since 1970*

Cost of Inaction

While much has been made of the costs of climate action, these tend to pale alongside the costs of inaction on anthropogenic climate change. A study by the Melbourne Sustainable Society Institute found that mitigation of emissions is the most cost efficient course of action —when the cost of climate change is taken into account.[12]

Further evidence of the premium Australians will pay for inaction on climate change can be found in a recent Climate Council report, that found that climate change would wipe $571 billion from property values by 2030, much of it from coastal erosion caused by rising sea levels.[13]

Children born today will be forced to carry a cost of up to $131 billion dollars per year by 2100, according to a 2018 analysis.[14] But figures like these actually understate the true cost as they ignore the escalating costs associated with natural disasters caused by climate change.

By contrast, according to the Deloitte study[15] effective action on climate change could add an estimated $680 billion to the economy and boost GDP by 2.6% by 2070 along with an

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[11] BoM and CSIRO (2020) *State of the Climate 2020.* Retrieved from https://www.csiro.au/en/Showcase/state-of-the-climate

[12] Kompas, T; Keegan, M and Witte, E (2019) *Australia's Clean Economy Future: Costs and Benefits*. Retrieved from https://sustainable.unimelb.edu.au/__data/assets/pdf_file/0012/3087786/Australias_Clean_Economy_MSSI_Issues_Paper12.pdf

[13] Steffen, W; Mallon, K; Kompas, T; Dean, A and Rice, M (2019) *Compound costs: How climate change damages Australia's economy. Retrieved from https://www.climatecouncil.org.au/wp-content/uploads/2019/05/Costs-of-climate-change-report.pdf*

[14] Kompas T, Pham VH, Che TN (2018) *The Effects of Climate Change on GDP by Country and the Global Economic Gains from Complying with the Paris Accord, Earth's Future*. Retrieved from https://doi.org/10.1029/2018EF000922

[15] Philip, Pradeep, (2020) *A new choice: Australia's Climate for Growth*; Deloitte Touche Tohmatsu Limited. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-dae-new-choice-climate-growth-051120.pdf?nc=1

additional 250,000 jobs. In other words, climate change action can drive a stronger economy in an increasingly competitive global arena through the latter half of this century.

Of course the costs of climate inaction are not just financial. Indeed the social and human costs are far more significant than the monetary ones.

- The pollution from the emissions that are the underlying cause of climate change constitute a major public health hazard. Doctors for the Environment (DEA) note that the most vulnerable groups to the effects of climate change on health are children, the elderly and those with certain pre-existing medical conditions, pregnant women, people living in rural and remote areas and Aboriginal and Torres Strait Islander people. Apart from heatwaves, which in the last one hundred years have killed more Australians than any other natural event, the health risks linked to climate change include: increased risk of infectious diseases such as dengue fever and Ross River virus, increased risk of food-borne infections due to increased growth of pathogens such as salmonella Campylobacter and E. coli, and air pollution which triggers 3000 deaths annually, contributing to lung cancer, asthma, heart disease and stroke. Exposure to prolonged high temperatures leads to higher rates of heat-related illnesses, such as dehydration, heat exhaustion, heatstroke, and worsening of existing health conditions, such as heart and kidney disease, and potentially death.[16]The financial costs of burning coal in Australia have been calculated at $2.6 billion per year.[17]

- Climate change and its impact on the nation's mental health will be front and centre for the remainder of the century without immediate action. In the coming decades parents will bring children into the world with trepidation and uncertainty. The universal joy of childbirth will be checked and subdued because of projections that climate change inaction could cost 880,000 jobs ($3.4 trillion) over the next 50 years, according to a report from Deloitte. These are similar levels of economic impacts as those experienced due to Covid-19 which has been widely acknowledged as the most dire economic calamity to hit Australia since WWII, but by comparison represents a new normal and a worsening trend. Many have felt an acute sense of loss due to Covid-19, but the report found that increasing temperatures would lead to the loss of iconic summer events on a permanent basis due to extreme heat. The traditional Boxing Day cricket would need to be abandoned as well as all tennis matches, which are already facing extreme heat rulings, would need to be played indoors.

- Rising temperatures and extreme weather events arising from climate change – more frequent and extreme droughts, floods and bushfires will endanger our food and water security. State of the Climate 2020[18] reports that in southwest Australia since 1970, April to October rainfall has declined by approximately 16 per cent while May-July rainfall has declined by 20 per cent. In Southeast Australia there has been a decline of around 12 percent in April to October rainfall since the late 1990s. Along with the likelihood of more frequent and more extreme droughts this raises the prospect of severe challenges for Australian food producers in the future.

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[16] Climate Commission (2011) *The Critical Decade: Climate Change and Health*. Retrieved from http://www.climatecouncil.org.au/uploads/1bb6887d6f8cacd5d844fc30b0857931.pdf.
[17] DEA (2016) Climate Change and Health in Australia. Retrieved from https://www.dea.org.au/wp-content/uploads/2017/02/DEA_Climate_Change__Health_Fact_Sheet_final.pdf
[18] Op Cit. p. 2

- The rising frequency of these extreme weather events is also imperilling our natural environment with the 2019-2020 Black Summer bushfires destroying thousands of hectares of eucalypts and native grasslands, lives and habitat of many native species. The 2020 Royal Commission detailed the environmental impacts of the fires:[19]

    - 24 million hectares were burnt
    - Nearly three billion animals were killed or displaced including endangered species
    - 82 per cent of the Greater Blue Mountains Area in NSW- 'an area recognised and protected under the EPBC Act for significant ecological and heritage value' – was burnt.

- Additionally in tandem with land clearing, the increased heat and bushfires is taking an unsustainable toll on our unique and iconic native species – Australia currently has the highest rate of extinction in the world. Wildlife and ecology experts have predicted serious, long-term, adverse effects on biodiversity. Section 16:13 of the Royal Commission report noted:

> *Over 330 threatened species and 37 threatened ecological communities protected under the EPBC Act were in the path of the bushfires,[14] and we heard estimates that the number of animals killed 'greatly exceeded' one billion.[15] Additionally, we heard that species and communities, not currently listed as threatened under national environmental law, may now be threatened, as the consequences of the season are better understood.*[20]

- There will also be widespread displacement due to the impacts of climate change with many Australians having to move as homes or livelihoods are affected, and also many people from across neighbouring regions – in the Pacific Islands and from other low lying parts of the Asia Pacific region.

What's Needed

The Climate Change (National Framework for Adaptation and Mitigation) Bill 2020 is urgently needed legislation. The Bill addresses outstanding problems regarding the formulation of climate policy that successive Australian governments have failed to resolve. Most importantly, the Bill will set a Net Zero emissions target for 2050 and establish the pathway by which the nation will meet that Net Zero goal, with interim 5 yearly targets informed by the latest findings of climate modelling and up to date contemporary circumstance.

Through the provision for annual national risk assessments and five yearly adaptation plans the Bill provides avenues for keeping climate policy planning abreast of economic, environmental and social developments.

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[19] Binskin, M (2020) The Royal Commission into National Natural Disaster Arrangements Report – see 16:11 page 354. Retrieved from https://naturaldisaster.royalcommission.gov.au/publications/royal-commission-national-natural-disaster-arrangements-report

[20] Ibid p. 355.

The proposed Independent Advisory Commission provides a means of holding partisan politics and vested interests at bay. Given the lamentable and divisive history of Australian climate policy, this is a critical and admirable component of the Bill. It is vital, if Australia is to act in concert with the International community in fighting climate change, to effectively pull our weight, that government listens to public concerns about climate change, so clearly evident in The Australia Institute's *Climate of the Nation 2020* Report. For this reason it is also vital that members of parliament are permitted to freely represent their electorates and are given the right to follow their own conscience when voting on this Bill.

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