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Prime Minister and Cabinet Taskforce

Setting Australia's post-2020 target for greenhouse gas emission

Sent via email:

Dear Sir/Madam,

Re: Australia's Post 2020 Emission Reduction Targets

On behalf of its members, the Biofuels Association of Australia (BAA) appreciates the opportunity to provide input into the senate inquiry into Australia's Transport Energy Resilience and Sustainability.

As background, The Biofuels Association of Australia ('BAA') is the peak industry body representing biofuel producers, marketers, retailers and others with the purpose of providing leadership and facilitating the building of a sustainable and economically viable Australian biofuels industry, consistent with national and community interests and environmental standards. Formed in 2006, the BAA is proud to have major Australian industry participants as members, providing valuable input and insight across the supply chain.

The BAA works closely with its members and broader stakeholders to identify opportunities to advance the uptake of biofuels in Australia's liquid fuel market, and to lead the way in helping to educate consumers about biofuels, their use and benefits. An Australian biofuels industry has broad societal benefits in the areas of economic development, health, environment, innovation and energy security and again we have provided a brief summary of these benefits attached in Appendix 1 for your reference.

The BAA would like to offer the following comment in response to the Questions raised in your issues paper of March 2015.

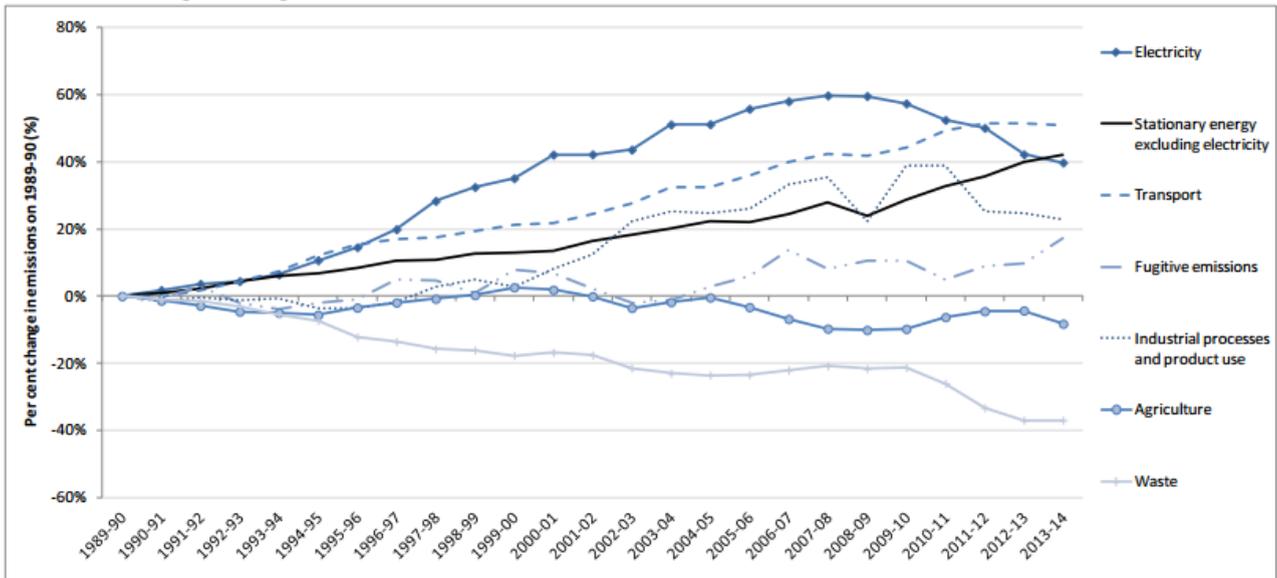
1. What should Australia's post-2020 target be and how should it be expressed? In responding to this question you could consider the base year (e.g. 1990/2000/2005), the end year (e.g. 2025/2030), the type of target and why the suggested target is preferred.

The BAA believe that it is important that Australia plays its part in full in the challenge of reducing GHG emissions and effecting a reduction in total carbon emissions consistent with achieving a 450ppm CO₂^e concentration outcome equivalent to a 2°C increase in global temperature, as suggested by the IPCC and endorsed by the UNFCCC based on the current science of the day.

Australia's target should be set in absolute terms and be consistent with achieving the global 450ppm target. Measurement should continue to be done on a quarterly basis and the position stated as a rolling aggregated 12month result. Individual targets should then be broken up on a sectorial basis for each of the major polluting sectors of our economy.

Transport currently accounts for 17.2% of all CO₂^e emissions in Australia and this has increased 49.7% in absolute terms since 1990. This increase is very high in comparison to the global average of 11.6% and the BAA believes it reflects the lack of strong policy in the fuel sector.

Across the world over 60 countries have taken positive action to support the development and adoption of biofuels as a means to reduce emissions from the transport sector. Australia on the other hand has only one state that has mandated the use of biofuels and due to the considerable pressure from fossil fuel sector has been hampered in achieving the goals set out in the legislation.



Source: Department of the Environment.

Figure 1: Percentage change in GHG emissions by sector in Australia, 1990-2014

BITRE forecasts that emissions from the transport sector will continue to grow under the current policy regime.

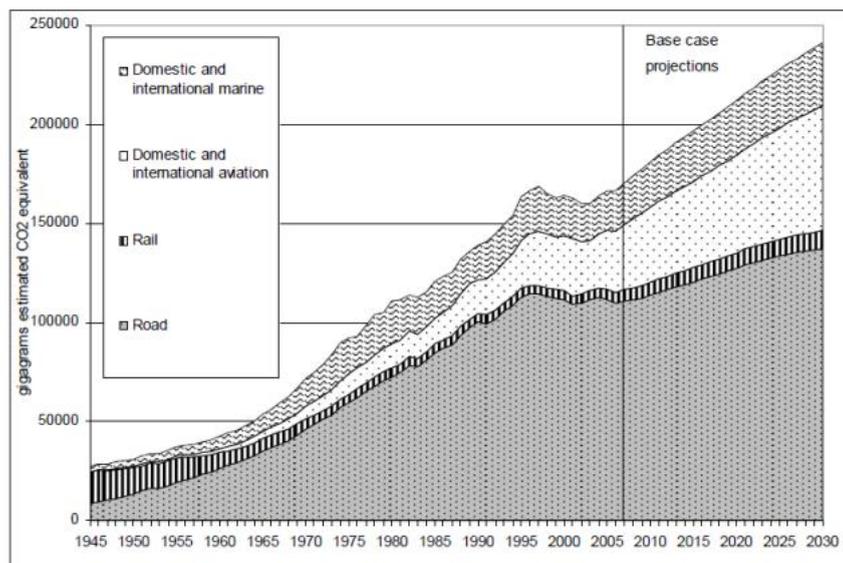


Figure 2 Total GHG emissions, all Australia transport by mode (Sources: BITRE)

RECOMMENDATION: That targets for GHG reduction are set for each of the Australian polluting sectors with the goal of achieving an aggregate position consistent with the 450ppm CO₂e IPCC target.

2. What would the impact of that target be on Australia? In responding to this question you could, for example, consider the impact on our economy, jobs, business and the environment.

Over the past 30 years Australia has been slowly losing its manufacturing industries. Many of these manufacturing industries have been in the high-energy old world economy and as such have reduced local demand for energy but unfortunately also significantly reduced employment.

Renewable energy and low carbon energy however is one of the next generation industries sweeping the world. Setting targets to promote the production of these types of energy in Australia will deliver significant benefits to Australians outside of making our contribution to reducing the impact of climate change and the benefits associated with that activity. Australia is going to continue to be dependent on liquid fuels until at least 2050 due to the sunk cost of the fuel industry's infrastructure and the time it would take to change out the Australian vehicle fleet to an alternative fuel media if it became available.

Biofuels represent a here and now opportunity for carbon abatement and also could make a significant contribution Australia, particularly in rural and regional areas. If 5% of Australia's fuel supply was replaced by locally produced biofuels, the BAA estimates that:

- The biofuels industry would create a further 13,500 jobs in regional Australia
- Balance of payment position could be improved by approximately AUD\$2.2 Billion
- Approximately 3 million tonnes of CO₂^e would be abated per annum
- A platform for research and development in a next generation industry of clean fuels would be provided
- Much-needed value added opportunities for agriculture and forestry would be created.

3. Which further policies complementary to the Australian Government's direct action approach should be considered to achieve Australia's post-2020 target and why?

Most countries around the world have heeded the calls of the IPCC and World Energy Council to take direct action in providing direct subsidies to the biofuels industry to allow it to compete with lower cost fossil fuels. Mandates have been the most used tool by governments to effect emission reductions in the transport sector.

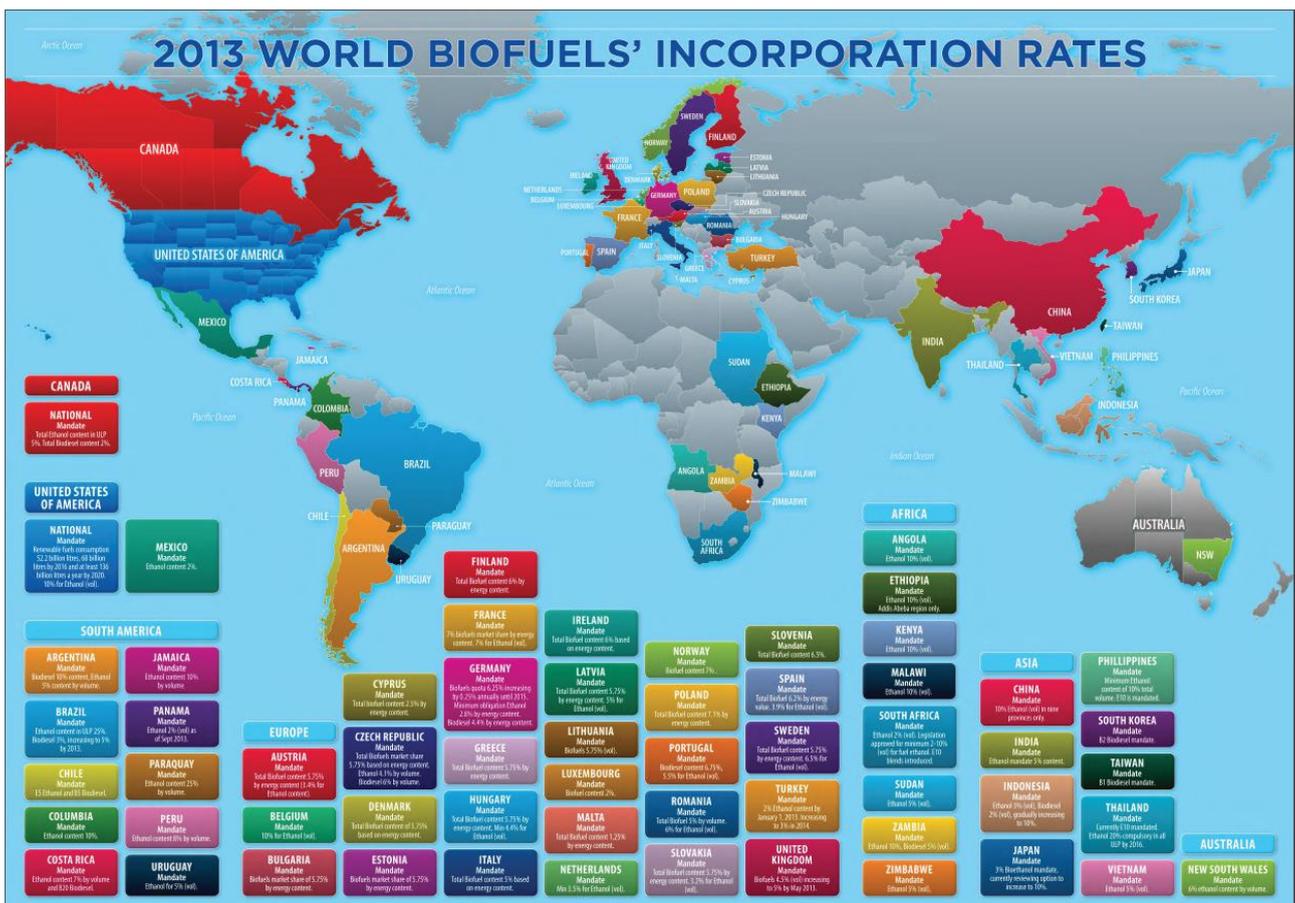


Figure 3: Countries that have biofuel mandates

Given the cartel nature of operation and the tightly held fuel distribution assets, mandates have been widely accepted as the best mechanism in devolving new fuels to the consumer. In the EU, unleaded petroleum has been widely replaced with E10 as the base fuel on offer. As the EU standard for ULP has a low sulphur content of 20ppm or below, this fuel is also recommended by the manufacturer for use in 95RON vehicles. This change has lowered the cost of premium fuels in the EU. In Australia, OEMs do not recommend the use of E10 in 95RON vehicles only because the base grade blend fuel may have up to 150ppm sulphur and have a

negative effect on the catalytic converters.

With over 90% of our fuel being imported into Australia, we could align our specification with the World Wide Fuel charter and also offer E10 as an acceptable fuel for 95RON vehicles lowering the cost of fuel for consumers.

The BAA also believe that policies focused on improved fuel economy and vehicle compatibility with low carbon fuels should also be included as part of a suite of policies aimed at lowering the emissions from transport going forward. In the EU all imported cars are to be compatible with E20 by 2020. As a consequence OEMs are now designing engines to take advantage of the higher octane these fuels produce which greatly offsets any energy density loss resulting in the fuels.

We trust that the BAA's submission provides an understanding of the industry's views in relation to the issues raised by this inquiry and we thank you for the opportunity to contribute to this important debate. The BAA would appreciate the opportunity to discuss the matters raised in further detail with you, and we hope that this may be possible in the coming weeks.

Yours sincerely,



Gavin Hughes
CEO
Biofuels Association of Australia



Garry Mulvay
Chairman
Biofuels Association of Australia

Appendix 1: Benefits of an Australian Biofuel Industry

Economic Development

Today more than 98 percent of the energy used in Australia's transportation industry still derives from fossil fuels. With Australia facing significant change in terms of the make-up of industries that once drove our economy, the burgeoning biofuels industry is a relatively new player, which if fostered can contribute future investment and jobs.

The BAA recently commissioned Deloitte Access Economics to undertake a study on the economic contribution of the Australian Biofuels Industry. The interim results of this report show that, net of the Cleaner Fuel Grants and Ethanol Producer Grants paid, the industry generated an economic contribution of approximately \$427 Million and provided for about 3,180 FTE jobs as a result of the industry's activities and that this could grow to \$554 Million and 4,002 FTE jobs should the industry utilise its installed capacity. Given that the biofuels industry represents just 1% of fuel sales, we believe this demonstrates the significant economic potential that this industry has to contribute to Australia's future.

The Australian biofuel production supports investment and jobs in regional Australia in communities including: Barnawartha, Largs Bay, Picton, Nowra, Maitland, Dalby, Sarina, Cressy and Tom Price. A number of projects are under consideration for the future and Australia's biofuels demand and policy settings will be key factors influencing their commercialisation. Additionally, the BAA believes that there is an opportunity for a domestic biofuels industry to provide an alternative revenue stream for the agri-sector, allowing it to strengthen its resilience to ever changing environmental and economic conditions.

Energy Security

An established biofuels industry can contribute to energy security as blending extends Australia's fuel reserves. Indeed, energy security concerns have driven many countries to introduce policies to actively encourage the development of their biofuels industry. Biofuels capability in Australia is also an area being closely watched by Defence personnel, particularly as our US allies are moving to significantly increase the use of renewable fuels in Navy vessels. Interoperability is a key factor to consider for the Australian Navy, as often shared supply chains are used for fuel.

Health benefits

Ethanol and biodiesel blends can have a beneficial impact on air quality, and therefore human health, due to the reduced pollutant gas emissions relative to fossil fuels. Air quality, particularly in and around our major cities, ports, tunnels and airports could be improved and there is opportunity for increasing uptake of biofuels to have a positive impact on health outcomes and reduce national and state health budget costs. The Australian Medical Association noted in its submission to the 2013 Senate Inquiry into the "Impacts on Health of Air Quality in Australia" that the costs associated with motor vehicle emissions alone are estimated to be between \$600 million and \$1.5 billion per annum.

Given the recent determination that there is no safe level of exposure to diesel particulate emissions, the case for change is becoming even more compelling. The OECD recently published a report at the International Transport Forum that showed with the adoption of tighter fuel standards and the greater adoption of biofuels the mortality rate had fallen by 4% globally. Unfortunately however in Australia our rate had increased by 60%, which underlines the need for the adoption of cleaner fuels in Australia.

In particular, a significant risk to human health is posed by vehicle particulate emissions, especially fine particles known as PM2.5. Many economies have taken direct action in setting their fuel standards to limit particulates through requiring biofuels to be part of the standard fuel blends.

A CSIRO and Orbital study in 2008, "Evaluating the Health Impacts of Ethanol blend Petrol", concluded that there would be a "health benefit to Sydney and Urban Australian population (Sydney, Melbourne, Brisbane and Perth) arising from a move from ULP to ethanol blends in spark-ignition vehicles", noting that the "overall quantified health benefit of using ethanol blends is overwhelmingly dominated by reductions in particulate matter".

Overall, the BAA believes that the net public health benefit of using blended fuels is positive and should be a significant consideration when analysing future policy settings to advance the uptake of biofuels in Australia.

Environment

The environmental benefits of biofuel use have been widely documented. The reduction in greenhouse gas emissions resulting from the use of biofuels and biofuel blends is closely aligned with the Government's "Direct Action" approach to climate change.

While there have been concerns due to the use of food crops as feedstocks in some countries, in Australia producers are using environmentally sustainable feedstocks from waste streams such as used cooking oils, tallow, wheat starch, molasses and sorghum. These feedstocks do not impact the affordability or availability of food within Australia.

Whilst the notion of first and second generation fuels once was central to the debate, 'Advanced Biofuels' has finally become the centre of attention, requiring fuels to be defined by their potential for lifecycle GHG abatement and their conformance to a set of sustainability criteria. Indeed, the issue of sustainability is of paramount concern to the Australian industry, and the BAA is the lead participant in Australia's involvement in the development of an ISO Sustainability Criteria for Bioenergy.

Technology and Innovation

The biofuels industry is an incubator for innovation and is the basis on which to foster new technology and R&D. Our local producers are constantly looking for ways to improve the efficiencies within their processes, via research into new enzymes or treatments to improve the yields and quality of the biofuel they produce.

Looking to the future of advanced biofuels, several Australian Universities and CSIRO have active research programs and many are at the forefront of research into new feedstocks, such as algae, cyanobacteria, sorghum, lignocellulose, pongamia and mallee. Importantly, the issue of how to manage biomass aggregation to allow cost effective processing of these feedstocks into fuel is also a critical area of required study. Leveraging Australian industries that already aggregate biomass of course is a short pathway to piloting these new technologies.

The development of a sufficient supply of renewable feedstocks is of particular interest to the aviation industry, both in Australia and globally. The key challenges remain the cost and availability of feedstocks and refining capability. The global industry is keen to find ways of producing sustainable quantities of renewable jet fuel, at an acceptable cost. This is an area where there is strong customer demand for the product, and globally, many countries are urgently looking at ways that they can take advantage of what could become a significant industry in future. Australia is well positioned to take a lead in the development of pathways to renewable jet fuel and this is evidenced by investment in local initiatives such as the Australian Initiative for Sustainable Aviation Fuel (AISAF) and Queensland Sustainable Aviation Fuel Initiative (QSAFI), along with partnerships between companies such as Qantas and Shell, and Virgin Australia, Brisbane Airport Corporation and SkyNRG (Brisbane Bio port).

For Australian biofuel production, increased investment in the development of advanced, renewable economically viable feedstocks is critical to the growth of the industry.