

Opportunities to prosper in a post-COVID, low emissions world

By BRAD ARCHER, Chief Executive Officer - Climate Change Authority

As we continue the fight to keep the coronavirus under control, governments have begun looking beyond the immediate emergency health and economic responses and towards longer term stimulus measures to support Australia's economic recovery.

In the Climate Change Authority, we are principally concerned with another highly profound problem – that of global warming. However, responding to the challenges of the pandemic and climate change come together in the Authority's recent research report *Economic recovery, resilience and prosperity after the coronavirus*. The Authority sees a “win-win-win” opportunity for economic recovery, resilience and prosperity.

The Authority found there are economic stimulus measures that could help jump start the economy, build our resilience to future shocks and position Australia to take full advantage of our clean energy resources and emerging low-emissions technologies – thereby positioning us to prosper in a world shifting to net zero emissions to avert the worst impacts of climate change.

A triple-win stimulus package could stimulate a virtuous cycle for Australia's future. The more prosperous our economy,



the greater our capacity to enhance our resilience, and the greater our resilience the better placed we are to maintain our prosperity in the face of difficult challenges.

I am grateful to have had the opportunity to meet with Freight & Trade Alliance (FTA) and the Australian Peak Shippers Association (APSA) to help the Authority understand the impact of COVID-19 on international supply chains and transport, and how these organisations are thinking about the long term challenges associated with the global response to climate change.

Worldwide, there is a growing focus on emissions associated with the production, transport and use of goods. As the world decarbonises, a significant competitive advantage will accrue to sellers of goods that can demonstrate a zero or low carbon footprint, and broader environmental sustainability credentials, right across their product life cycles. For both attracting investors and consumers.

For example, Australia's second largest superannuation fund, First State Super, has announced that in response to climate risks, it will reduce emissions in its listed equities portfolio by at least 30 per cent by 2023, seek a 45 per cent reduction by 2030 and divest from businesses that derive more than 10 per cent of their revenue from thermal coal mining. And a coalition of institutional investors, with more than US\$16 trillion in assets under management, has launched the Net Zero Investment Framework for Consultation, intended to assist investors to align their portfolios with net zero emissions by 2050.

Countries are also considering trade measures, such as tariffs, to discourage goods which embody a high emissions content. The European Union is currently consulting on the design of a 'carbon border adjustment', which it intends to introduce no later than 1 January 2023.

International civil aviation and maritime bunker fuel emissions are by convention not included in any individual country's total greenhouse gas emissions. Australia's national emissions total includes emissions

from the direct combustion of fuels within Australia for transportation by road, rail, domestic aviation and domestic shipping (which account for just under 19% of Australia's emissions). Figure 1 shows both domestic and international sources of transport emissions for Australia. There are clear upward trends in domestic transport emissions and international aviation emissions.

The economic impacts of countries' responses to COVID-19 have caused a significant reduction in global emissions, including in the transport sector. One study has estimated that more than half of the world's population reduced their regular travel by more than a half. However, this reduction is likely to be temporary. And this, obviously, is not the way we want to reduce emissions!

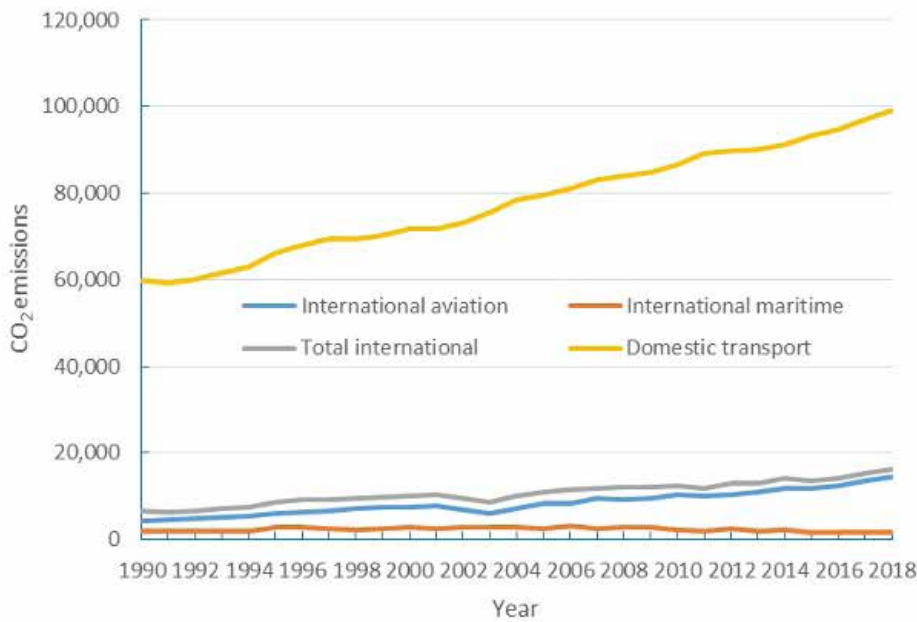
The leading global civil aviation and maritime associations are taking significant, proactive steps towards reducing the carbon footprints of their respective sectors.

The international civil aviation sector accounts for about 1.3% of the global CO₂ emissions and this was trending upwards prior to COVID-19. In response, the International Civil Aviation Organisation (ICAO) is implementing its Carbon Offsetting and Reduction Scheme for International Aviation, targeting (prior to COVID-19) carbon-neutral growth in the sector from 2020. The strategy relies on efficiency improvements of current technology and using emissions offsets to achieve carbon-neutral growth.

Beyond these activities, the most promising candidate for aviation abatement is the introduction of biofuels or low-emissions synthetic jet fuels. These candidates are well-understood technologies; however, they face technical and economic challenges to deployment at sufficient scale.

The International Maritime Organization recently estimated the share of international shipping emissions in global anthropogenic emissions at about 2%. Its greenhouse gas strategy incorporates

Figure 1: Australian Transport CO2 Emissions (kilotonnes)



Source: Australia National Inventory Submission 2020 (UNFCCC Common Reporting Format tables) <https://unfccc.int/documents/228034>

a target of reducing emissions from international shipping by 50 per cent by 2050 compared with 2008 levels. Shipping faces challenges in replacing the current dominant fuel—very heavy oil—at scale, primarily due to its very low cost.

Lower emission alternatives include currently available but higher cost fuels like liquefied natural gas (LNG) or potential alternatives such as hydrogen or ammonia. The IMO's current efforts are focusing on improving ship design and efficiency.

Developing renewable and sustainable transport fuels

Five leading Danish companies operating in international transportation and logistics have joined forces with a multinational energy company and the City of Copenhagen to develop an industrial-scale production facility to produce sustainable fuels for road, maritime and air transport.

Copenhagen Airports, A.P. Moller - Maersk, DSV Panalpina, DFDS, SAS and Ørsted announced on 26 May 2020 they have formed a partnership that brings together the demand and supply side of the sustainable fuels market, with a vision to establish a new hydrogen and e-fuel production facility as soon as 2023. When fully scaled-up by 2030, the project could deliver more than 250,000 tonnes of sustainable fuel for buses, trucks, maritime vessels, and airplanes every year and reduce annual carbon emissions by 850,000 tonnes. (<https://www.maersk.com/news/articles/2020/05/26/leading-danish-companies-join-forces-on-an-ambitious-sustainable-fuel-project>)

In Australia, the CSIRO on 4 August 2020 released its report Opportunities for hydrogen in commercial aviation. Prepared in collaboration with Boeing, the report outlines pathways for the use of hydrogen and hydrogen based fuels within commercial aviation, identifying opportunities that could be realised over the next 5, 10 and 30 years.

The efforts of the ICAO and IMO to reduce international aviation and shipping emissions will have flow-through impacts for domestic aviation and maritime emissions. These agreements should lead to the availability of more efficient aircraft and ships, which could be incorporated into Australian domestic operations. The Australian Government is supporting both international agreements.

However, it is not just a case of Australia waiting for clean technologies and supply chains to emerge. We have a very significant opportunity to contribute to their development and for our economy to benefit directly.

Australia has a range of initiatives underway that could position us very well as the aviation and shipping sectors, and the global economy generally, transition to a low emissions future. These include the National Hydrogen Strategy, which aims to remove market barriers, efficiently build supply and demand and accelerate our global cost-competitiveness. Its stated measures of success include Australia becoming a top three exporter of hydrogen to Asian markets and that we have a robust, internationally accepted scheme for certifying the origin of our hydrogen.

The Australian Renewable Energy Agency is developing a bioenergy roadmap, intended to help inform the next series of investment and policy decisions in the bioenergy sector. The roadmap will examine the role the bioenergy sector can play in accelerating Australia's transition to clean energy.

And the Australian Government will release its first Low Emissions Technology Statement later this year. This will prioritise technologies for inclusion in the Government's investment portfolio for reducing emissions – to help accelerate their development and deployment, in partnership with the private sector and like-minded countries.

In the Climate Change Authority, we are embarking on a body of work to explore how Australia can take advantage of the opportunities presented by growing low carbon trade and investment. We intend to examine:

- how we can classify and map the low carbon economy
- how climate policy, financial regulation and public investment can promote investment in the low carbon economy
- the challenges and opportunities for Australia presented by the global shift towards net zero emissions and possible policy responses from a trade and climate policy perspective.

COVID-19 is presenting challenges for Australia, and most countries around the world, that we have not seen the likes of since World War II and the Great Depression. In Australia, its emergence followed an unprecedented bushfire season and prolonged drought, which have already taken a significant toll in many communities. Taking an optimistic view, there are many opportunities we can seize to grow our economy and build a more resilient and prosperous Australia as we emerge from the impacts of the coronavirus.

