

Action on Climate Required Now!

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In Australia, Europe and other parts of the world, we have already experienced impact from extreme and unpredictable weather such as:

- An increasing trend in extreme rainfall in south-eastern Queensland and eastern New South Wales (1)
- Serious rainfall deficiencies in parts of southern Australia for the period starting December 2021 and Northern Territory (2)
- Heatwaves happen regularly and to arrive earlier in Europe (3)

Severe extreme weather is partly because of its geography; however, it is also the impacts of climate change. Climate change has been increasing since the 1800s, when humans started to massively burn of fossil fuels (coal, oil and gas), more deforestation and increased other damage to natural systems (4). Burning fossil fuels releases gases from the ground into the atmosphere. These gases make a blanket around the Earth, trapping heat (i.e., Greenhouse effect).

Action on climate requires us NOW to transform the systems that underpin our ordinary living, including power generation, buildings, industry, transport, land use, and agriculture - as well as the implementation of technological greenhouse gases (GHG) removal more sooner and climate finance (5). But,

- By how much?
- How can we achieve the change?

"The State of Climate Action 2021" identifies 40 indicators across key sectors that must transform to address the climate crisis, and assesses work to be done by 2030 and 2050 to deliver a zero-carbon world in time, in order to limiting global warming to 1.5°C by the end of century. Of the 40 indicators assessed, none are on track to reach 2030 targets, 3 has zero progress, 3 is heading in the wrong direction and 9 are insufficient data to evaluate (5). Limiting global temperature rise to 1.5°C is still possible, but it will require an action NOW together with supportive policies, innovations, strong institutions, leadership, and shifts in social norms to enable the change (5).

What is the position in Australia? Global net anthropogenic GHG emissions were 59±6.6 GtCO₂-eq in 2019, about 12% higher than in 2010 and 54% higher than in 1990 (8). These emissions (Figure 1) are linked with expanding populations and climbing living standards. Australia is the world's 15th highest GHG emitter (8th highest per capita), contributing about 1% of global emissions (Figure 2-3). Australia could do better if we gave climate action the higher priority. Power generation as an example, the unit costs of several low-emission technologies have fallen continuously. Costs of energy of the renewable energy technologies could compete with fossil fuels in many places (8); however, more than 70% of power generation in Australia by burning fossil fuels, in which 51.4% is by means of coal (Figure 4-6). According to the assessment, Australia was the worst per capita coal power emissions, which is around twice those of the United States and Japan (9). Therefore, we need in shifting Australia's electricity system to renewable green energy sources NOW.

Without an effective price on GHG gas emissions today, future generations will pay for it. In Australia, to reduce emissions rapidly, we needed: (a) bipartisan support at the federal level and (b) public understanding that a clean economy is in our best interests (10). Climate action could be an opportunity and not a cost (10). The merits of a low-carbon economy in sectors such as renewable energy, buildings, transport and manufacturing would generate more than one million new jobs, revitalising Australian manufacturing and improving air quality (11). Institutions around the world are driving innovation and climate solutions for levels of GHG gases in the atmosphere stop climbing and start to steadily decline. Many of the solutions have benefits for reducing poverty, increasing equity, and protecting endangered species and ecosystems as well (12). We are urgently needed to speed up to mitigate climate change for the future.

Figure 1
Global Green House Gas Emissions % (2021)

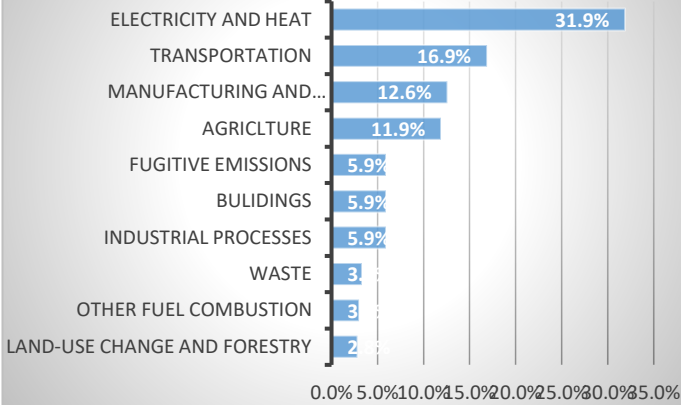


Figure 2 : **Greenhouse Gas Emissions by Country (2019)**

Country	Mt	Per capita (tons)	Rank
China	9,876.5	7.1	32
United States	4,744.5	14.4	11
India	2,310	1.7	98
Russia	1,640.3	11.4	16
Japan	1,056.2	8.4	21
Germany	644.1	7.8	25
South Korea	585.7	11.3	17
Iran	583.5	7	34
Indonesia	583.4	2.2	88
Canada	571	15.2	6
Saudi Arabia	495.2	14.5	10
South Africa	433.6	7.4	28
Mexico	419.4	3.3	72
Brazil	411	2	92
Australia	380.7	15	8

State of Climate Action 2021 - Systems Transformations Required to Limit Global Warming to 1.5 °

<https://worldpopulationreview.com/country-rankings/greenhouse-gas-emissions-by-country>

Figure 3
Australia Green House Gas Emissions % (Dec 2020)

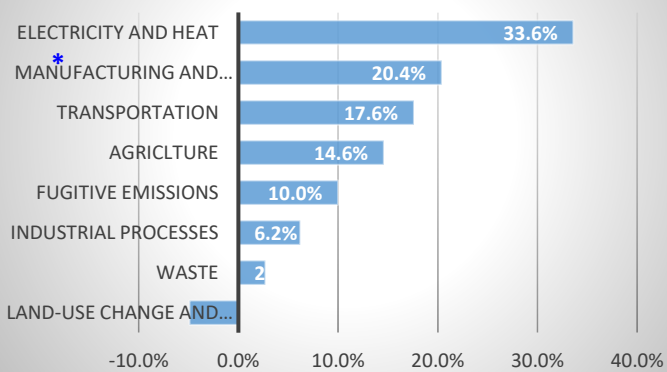
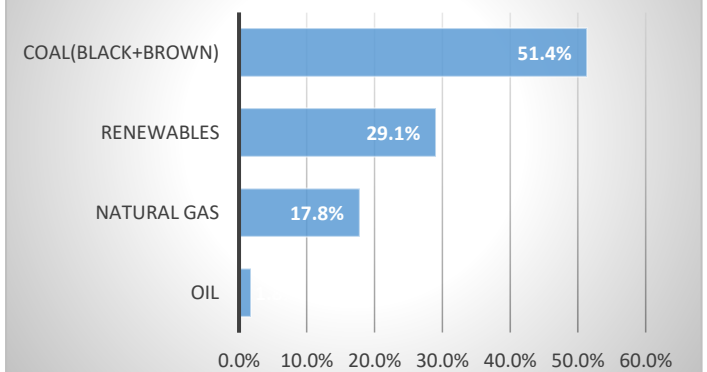


Figure 4
Australian Electricity Generation - Fuel Mix (2021)



* Including manufacturing and construction, buildings and other fuel combustion figures
<https://www.csiro.au/en/research/environmental-impacts/climate-change/climate-change-qa/sources-of-ghg-gases>

<https://www.energy.gov.au/sites/default/files/2022-04/Australian%20Energy%20Statistics%202022%20Table%20-%20-%20Publication%20version.pdf>

Figure 5
Australian Electricity Generation, Fuel Mix, by State (2021)

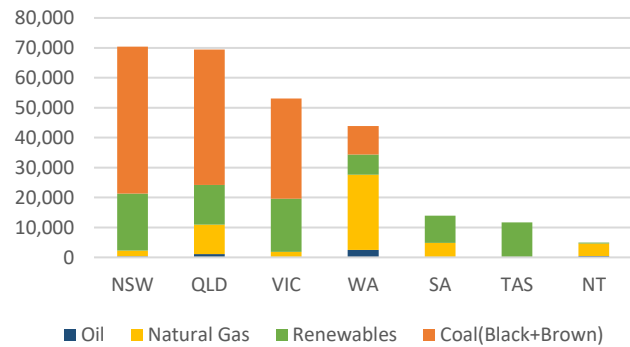
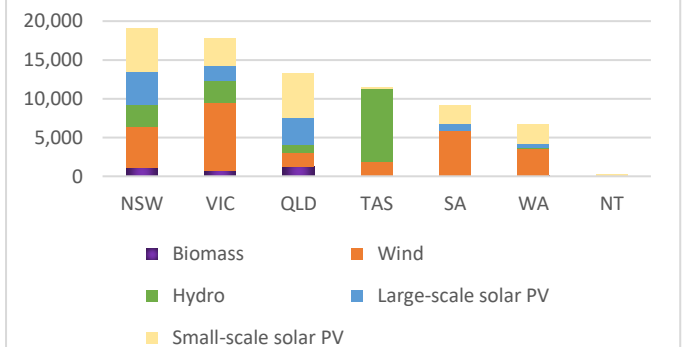


Figure 6
Australian Renewable Electricity Generation Mix, by State (2021)



<https://www.energy.gov.au/sites/default/files/2022-04/Australian%20Energy%20Statistics%202022%20Table%20-%20-%20Publication%20version.pdf>

<https://www.energy.gov.au/sites/default/files/2022-04/Australian%20Energy%20Statistics%202022%20Table%20-%20-%20Publication%20version.pdf>

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- (3) 'Marker of climate change': Europe swelters in record-breaking June heatwave - <https://www.sbs.com.au/news/article/marker-of-climate-change-europe-swelters-in-record-breaking-june-heatwave/pt91lhyrr>
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- (6) What are the sources of Australia's greenhouse gases? - <https://www.csiro.au/en/research/environmental-impacts/climate-change/climate-change-qa/sources-of-ghg-gases>
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- (12) Project Drawdown updates world's leading set of climate solutions - adding 11 new solutions for addressing the climate crisis - <https://drawdown.org/news/insights/project-drawdown-updates-world%E2%80%99s-leading-set-of-climate-solutions%E2%80%94adding-11-new>