

Australia's emissions: what do the numbers really mean?

July 2015

In the current debate in Australia on greenhouse gas emissions reductions, numbers and terms like 'significance' are often used selectively and out of context to justify a lack of action. Numbers need to be tested against the broader picture to tell a more complete story.

Key points

- + Australia's greenhouse gas emissions are significant on a global scale and need to be reduced through modernising and cleaning up our economy.
- + As a wealthy country, Australia has a greater capacity than countries less well-off to implement changes which reduce pollution.
- + Percentage of total global contribution cannot be used in isolation to determine what actions Australia should take to reduce its emissions. Metrics such as emissions per capita and emissions intensity must also be considered to garner an accurate picture of our contribution to climate change.
- + There are many other countries, like Australia, whose emissions contribution is less than 2 per cent of global emissions. But combined they make up more than a fifth of global emissions. Many of these nations recognise that their emissions are significant, and are putting policies in place domestically to limit emissions.

Is Australia's contribution to climate change too small to make domestic action meaningful?

Australia is responsible for 1.4 per cent of global emissions.¹ Looked at in isolation, this figure can make it appear as though Australia's emissions are not significant enough to merit reduction. But this is not the case.

Australia is the 13th highest overall pollution contributor. To put this in perspective, Australia's emissions are right behind Germany's and Germany is the highest emitter in the European Union.² Our emissions are more significant than the UK, Italy or

France for example. Australia also has the highest per capita emissions in the OECD, with 26 tonnes of greenhouse gasses being emitted per person every year.³ Our emissions intensity is also high, at around 640 tonnes per unit of GDP,⁴ primarily due to the energy sector's reliance on coal. As a comparison, the UK, a country with emissions slightly less than Australia's has an emission intensity of around 220 tonnes per unit of GDP.

Total global contribution is not the only metric to consider when measuring the need for climate action. A broader look shows that Australia's contribution to global pollution is disproportionately high in many ways, and therefore requires significant action to reduce emissions. Compared to other countries Australia is also a very wealthy nation with a high level of capacity to reduce emissions. We are also starting behind and have much to do to catch up with the actions of other nations.

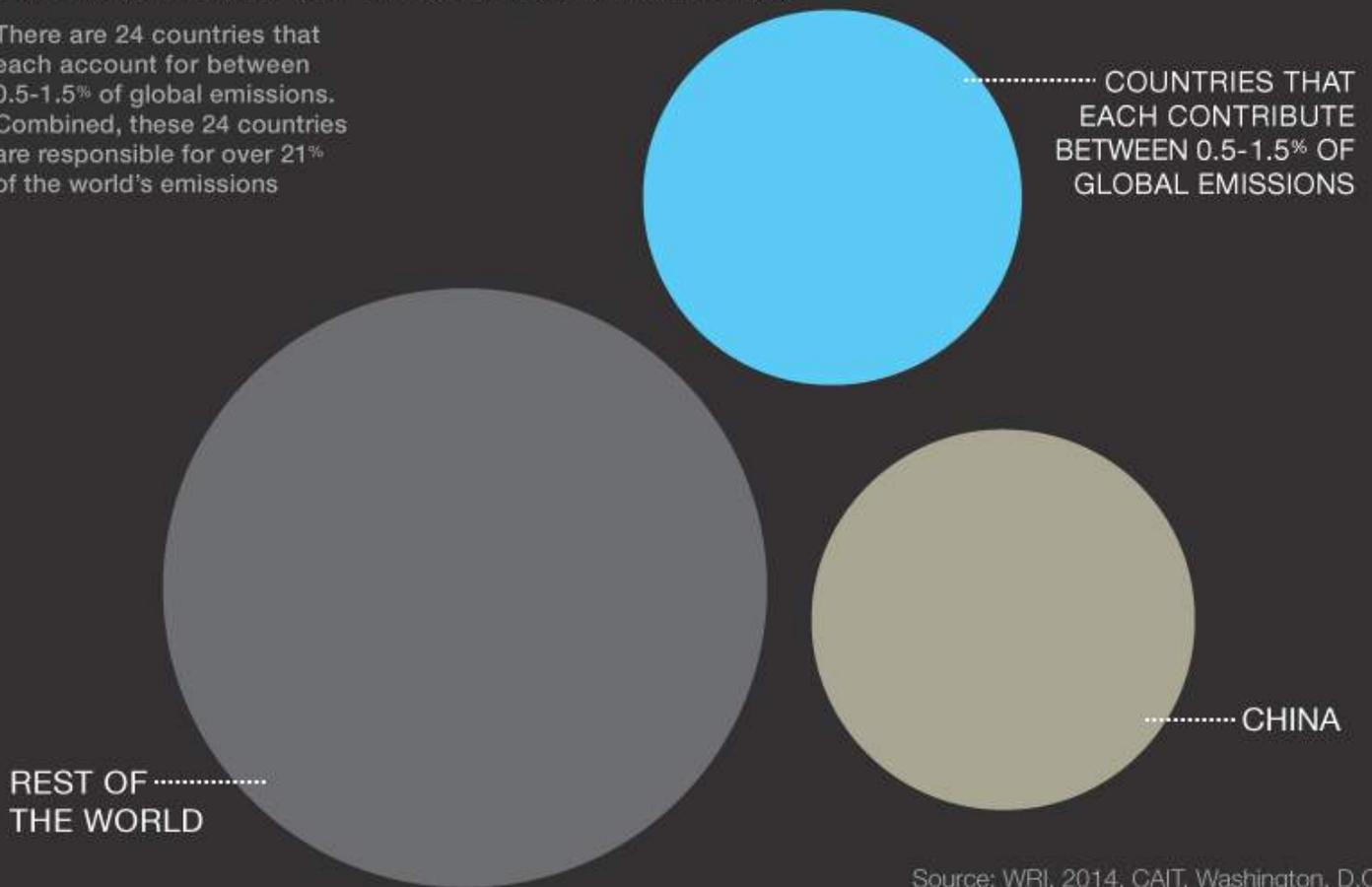
How does Australia's contribution compare to other countries?

There are 24 countries across the world that each account for between 0.5 and 1.5 per cent of global emissions, nine of which are OECD member countries, including Australia. Combined, these 24 countries are responsible for over 21 per cent of the world's emissions.⁵ This equates to the entire emissions of China, the world's largest emitter. In order to keep global warming below the globally agreed goal of 2°C above pre-industrial levels, it is not possible for a fifth of global emissions to keep emitting at the current rate.

Other countries which emit less than 2 per cent are recognising that they need to take action domestically and contribute to broader climate action. See Box 1 below for a short overview of policies in the UK, South Korea and Mexico, all of which have a similar total emissions profile as Australia, but much lower emissions per capita and lower emissions intensity.

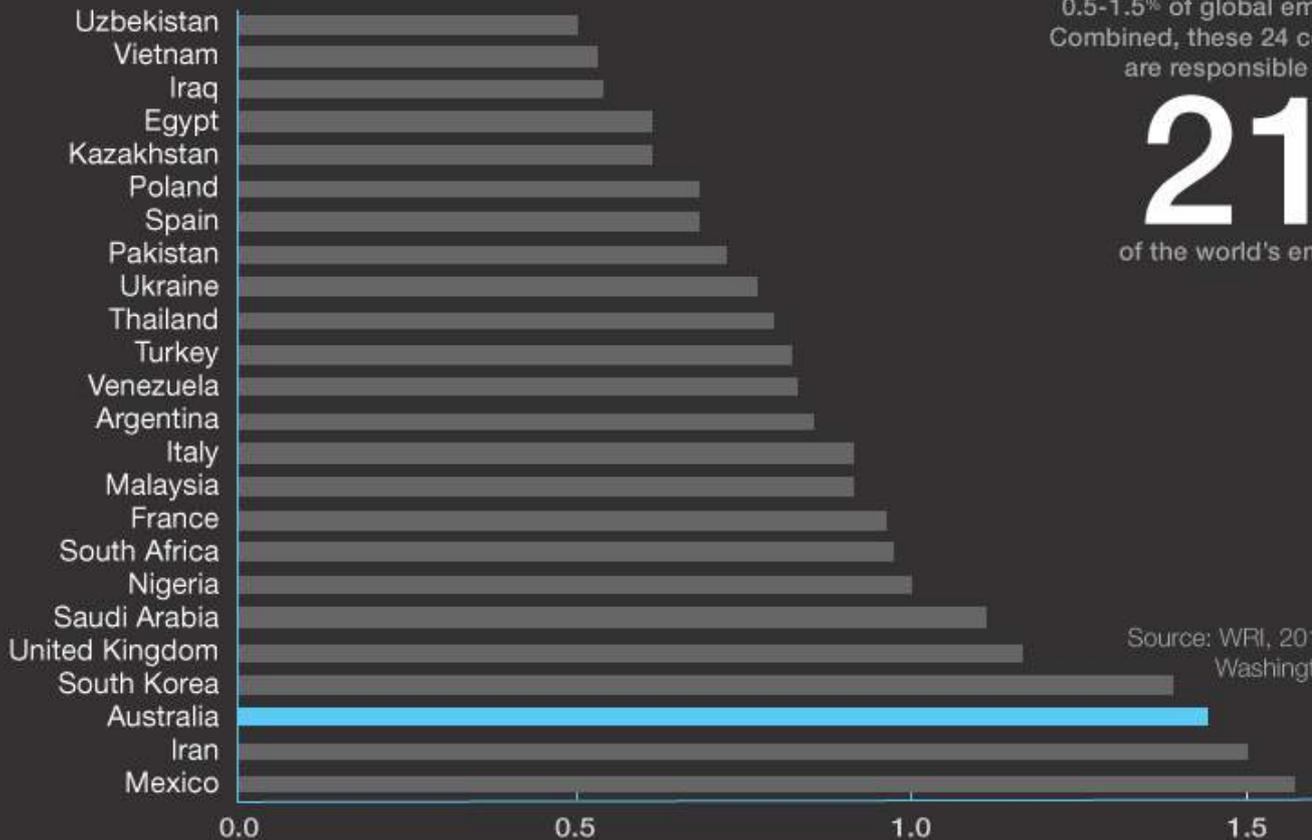
BREAKDOWN OF GLOBAL EMISSIONS

There are 24 countries that each account for between 0.5-1.5% of global emissions. Combined, these 24 countries are responsible for over 21% of the world's emissions



Source: WRI, 2014, CAIT, Washington, D.C.

HOW DOES AUSTRALIA COMPARE?



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Source: WRI, 2014, CAIT, Washington, D.C.

BOX 1: Overview of policies in Australia, UK, South Korea and Mexico.

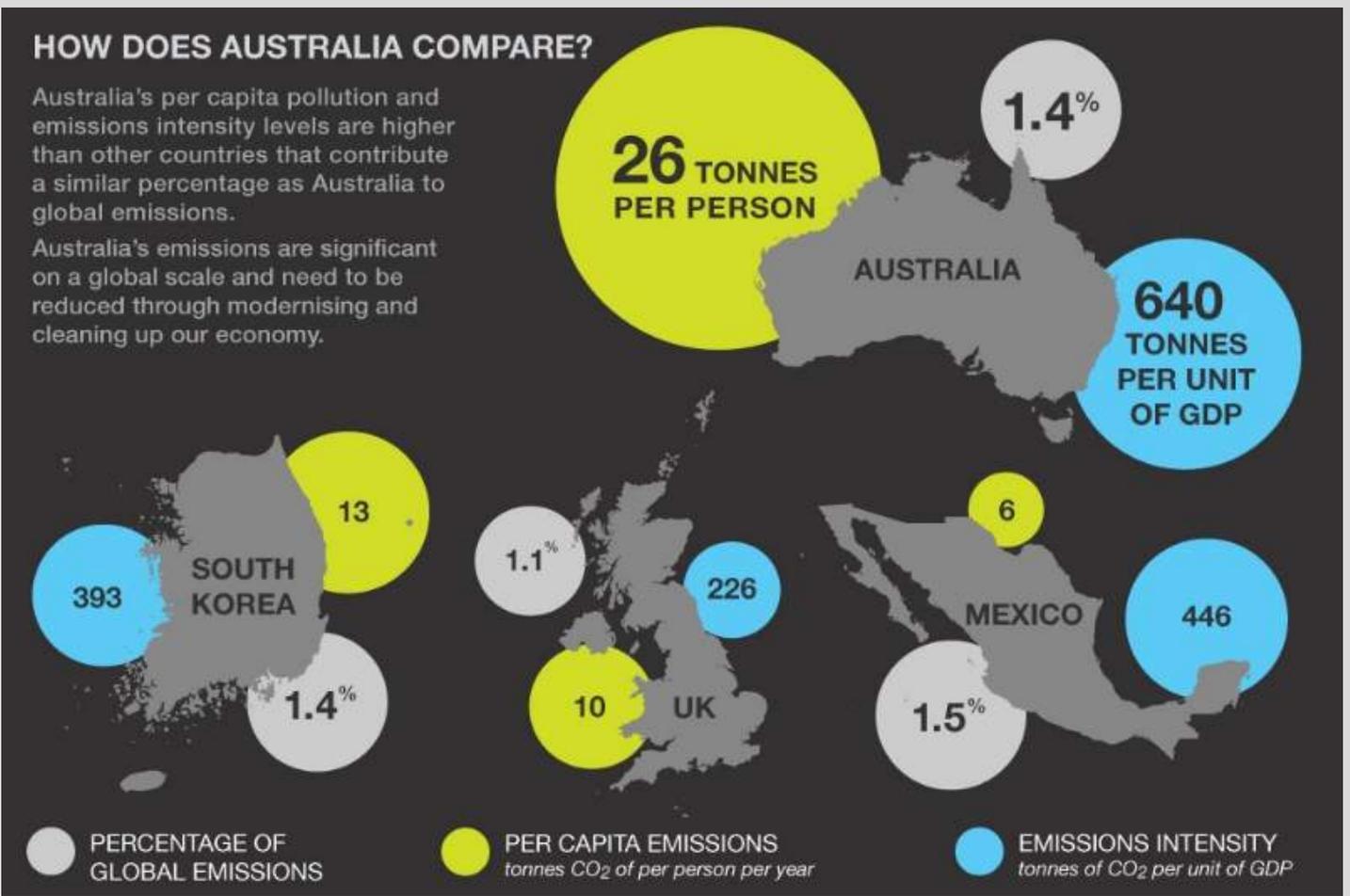
The UK, South Korea and Mexico all have a similar total emissions profile as Australia, but much lower emissions per capita and lower emissions intensity.

Australia

- + Emissions target: 5 per cent below 2000 levels by 2020. Conditional target of up to 25 per cent possible but conditional on international action.
- + Renewable energy target: 33,000GWh of electricity in 2020. Current proportion of renewable electricity is 13 per cent (2014).
- + Emissions trading: Carbon pricing mechanism operated July 2012-July 2014. Emissions Reduction Fund (A\$2.5billion) in place that pays companies to reduce emissions. Carbon price set through reverse auctions. First reverse auction in April 2015, 47 million tonnes of credited abatement purchased at for average price of AU\$13.95 per tonne.
- + Emissions standards: Voluntary standard for passenger vehicles of 222 gCO₂/km.
- + Energy efficiency: State-based targets exist in Victoria, South Australia, NSW and ACT.
- + Forest and farming emissions: national offset market called Carbon Farming Initiative established in 2012, now operates under Emissions Reduction Fund.

UK

- + Emissions targets: 35 per cent reduction by 2020, 50 per cent by 2025, and 80 percent by 2050, all on 1990 levels.
- + Renewable energy target: 15 per cent of energy from renewables by 2020 (includes heating and transport sectors). Scotland has target of 100 per cent of electricity demand using renewable energy by 2020.
- + Emissions trading scheme: Participates in the EU emissions trading scheme, domestic carbon floor price of GBP18 (AU\$37).
- + Emissions standards regulations: new coal stations must include carbon capture and storage. Passenger vehicle standards of 130g/CO₂/km by 2015 and 92gCO₂/km by 2020.
- + Energy consumption targets: 20 per cent below business as usual by 2020 and at least 27 per cent by 2030, as per the requirements for all EU members.



South Korea

- + Emissions reduction targets: 30 per cent below business as usual (BAU) by 2020, and 37 per cent by 2030.
- + Renewable energy target: 11 per cent of the total energy supply by 2030.
- + Emissions trading scheme: launched in January 2015, covers two thirds of the country's emission, the second largest carbon market in the world.
- + Emissions standards regulations: passenger vehicles standards of 153 gCO₂/km by 2015.
- + Emissions intensity target: reduction of 46 per cent by 2030.

Mexico

- + Emissions reduction targets: 30 per cent below BAU by 2020 (conditional on adequate financial and technical support from developed countries), unconditional 22 per cent below BAU by 2030, 50 per cent below 2000 levels by 2050. Peak emissions projected for 2026.
- + Renewable energy target: 35 per cent of electricity by 2024 (current share of renewable energy is 15 per cent).
- + Emissions trading: carbon tax of MEX 10-50 (AU\$1-5) adopted in 2012, applies to producers of gasoline, diesel, propane, butane and coal.
- + Emissions standard: Legislated passenger vehicle standard of 153 gCO₂/km by 2016.

ENDNOTES

¹ All global contribution data in this factsheet is from the World Resources Institute, CAIT (2014) Climate Analysis Indicators Tool: WRI's Climate Data Explorer, WRI, Washington, D.C.

² Germany is responsible for 1.7 per cent of global emissions, according to the World Resources Institute's Climate Analysis Indicators Tool.

³ All per capita emissions data in this factsheet are TCI calculations based on UNFCCC submissions and UN population data.

⁴ All emissions intensity data in this factsheet are TCI calculations based on GDP data from the IMF and emissions data from the UNFCCC.

⁵ TCI calculations based on the World Resources Institute Climate Analysis Indicators Tool data.