

Will Australia make it to Paris 2030?

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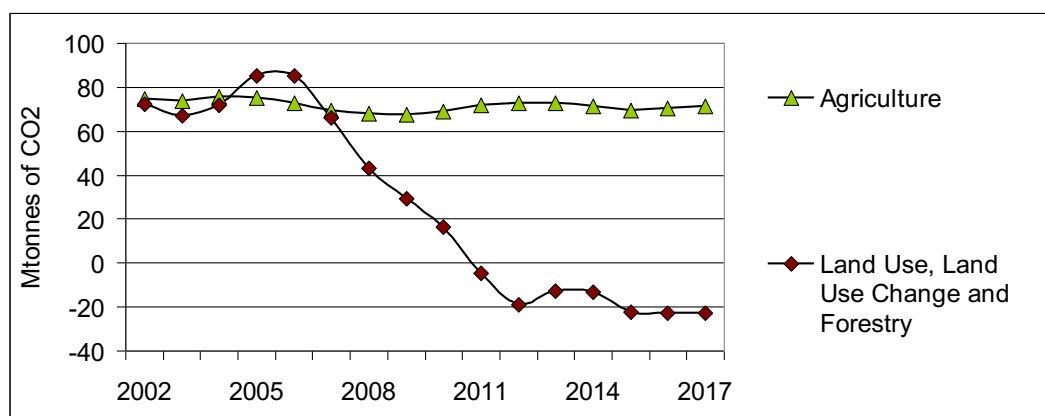


Figure 1: Emissions for changes in land use and forestry and from agriculture.

In 2005 Australia emitted 608 million tonnes (Mt) of CO₂ – equivalent greenhouse gases. To achieve a 26 to 28% reduction we must cut emissions to an average of 444 Mt.

Due to accounting changes to land use and forestry, Australia could claim a fall of 104 Mt of CO₂ from 2005 to 2012. The emissions from cutting down trees were no longer to be accounted immediately but could be written off over longer periods of years. A most interesting change was for forest fires to be treated as Acts of God and not counted in national emissions. An external issue is whether God is anthropogenic.

Forest and peat fires are a major source of atmospheric CO₂. Consider that during the 1997 - 98 El Nino, Indonesia alone was estimated to have produced the equivalent of between 13 - 40% of the annual global fossil fuel emissions and the total estimate for the El Nino was 50% from forest and peat fires.

The changes for Australia are shown in Figure 1 along with the emissions from agriculture. The emissions from agriculture show no changes over the years of land use changes. This may be the result of enteric emissions of methane being some 90% of the agriculture CO₂ equivalent emissions.

The changes in land use and forestry appear to have plateaued from 2012 to 2017. So for this analysis no changes are assumed after 2017. A reassessment would be necessary if there are new government regulations on land use.

The changes in emissions from the sources identified in the Commonwealth Department of Environment and Energy statistics shows that the only significant reduction in emissions has come from electricity generation apart from land use changes. The trends for the period 2005 to 2017 show a grouping of 3 sources, waste, agriculture and industrial processes with no significant trend. Fugitive emissions have shown a rise for the period 2015 to 2017 and this may be a result of new LNG developments that may further increase these emissions. Finally stationary energy (not electricity) and transport show continuous increases that exceed the decreased emissions from electricity generation. These trends are plotted against average annual emissions for 2005 to 2017 in Figure 2.

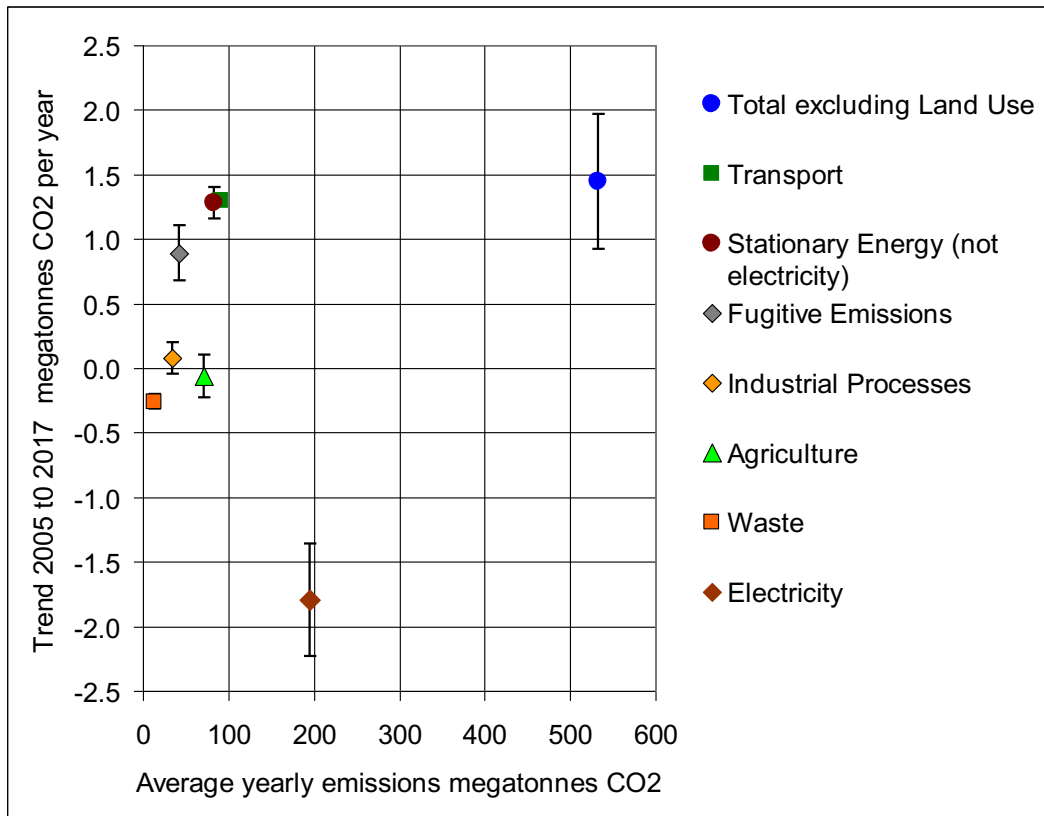


Figure 2: Annual trends in megatonnes of CO₂ – equiv. Emissions plotted as related to their annual average emissions.

So extending these trends to 2030 will give a measure of the reductions to be faced to meet the target figure of 444 Mt of CO₂ – equiv. This can be seen in Figure 3

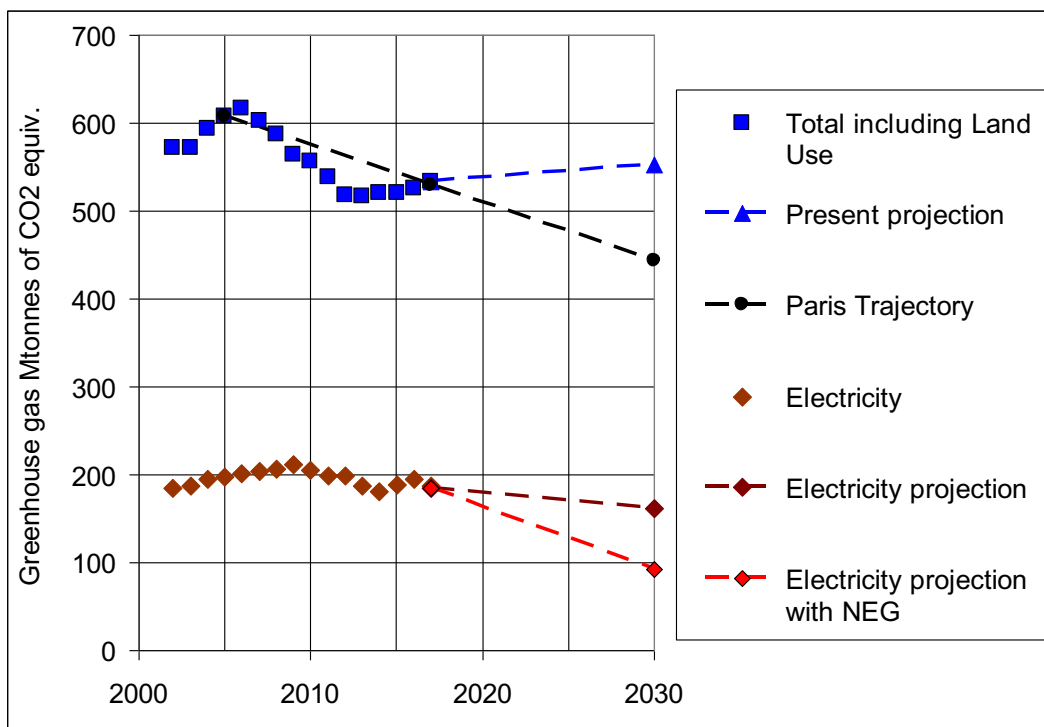


Figure 3: Annual emissions in megatonnes of CO₂ – equiv. and projections to 2030 – see text below.

From 2005 to 2017, government policies have only led to changes in electricity generation and perhaps land use. The projections here will only look at electricity and agriculture combined with land use.

The trajectory with no further changes leads to total emissions of 553 Mt in 2030, a difference of 109 Mt from the target of 444 Mt. For electricity, the projected fall in emissions is included in the projected total emissions, so the adoption of the NEG target of halving the 2017 electricity generator emissions removes a further 69 Mt of emissions. The final shortfall is then 40 Mt of emissions to close the gap.

The final question is then how will this difference be made to disappear. It seems that further regulation in agriculture may be the direction of government policy. A reduction in sheep and cattle numbers would reduce the methane emissions which at present are about 60 Mt of CO₂ equiv. gas and this might then give rise to land use changes with a reduction of emissions with the changes in land use absorbing more CO₂.

Government policies have been unsuccessful in reducing emissions while causing substantial domestic and industry damage in the economy. Policies for agriculture will threaten another major revenue stream for the country. We might be better not to finish in Paris unlike the *Tour de France*.

*All estimates of CO₂ emissions mentioned above are "CO₂ and Equivalent Greenhouse gases".