Carbon Pollution Projections:

Queensland’s baseline greenhouse gas emissions projections to 2030
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Introduction

The Department of Environment and Heritage Protection has developed a baseline greenhouse gas emissions projection for Queensland between now and 2030.

A baseline projection, also known as a business-as-usual projection, seeks to show an emissions profile in the absence of any new emissions policy measures in order for policymakers to consider appropriate abatement actions.

The baseline projection does not include any Queensland Government election commitments, any future state, federal or international policy measures or any commitments made as a result of the Paris climate change agreement signed by nearly 200 nations in December 2015.

Changes in emissions relative to a baseline projection provide a better indicator of effort than absolute changes, as it shows a comparison between what emissions are and what emissions would be without additional policy intervention.

The objective of this baseline projection is to provide a clear picture of Queensland’s emissions profile into the future in the absence of any new emissions policy measures.
Queensland’s historical emissions have been on an upward trajectory since the mid-1990s but have fluctuated significantly due to the large contribution the land use, land use change and forestry (LULUCF) sector makes to Queensland’s emissions. From 2005 until 2013, emissions were on a downwards trajectory, with Queensland’s emissions gradually falling back to a level experienced in the late 1990s and early 2000s.

Queensland’s total emissions were 161.7 million tonnes (Mt) of carbon dioxide equivalent (CO2-e) emissions in 1990, falling to 130.8 MtCO2-e in 1995 before growing to 160.9 MtCO2-e in 2000, and 190.3 MtCO2-e in 2005. Queensland’s total emissions then reduced to 172.5 MtCO2-e by 2010 and then to 159.2 MtCO2-e in 2013.

These recent historical reductions from 2005 to 2013 have been the result of the following two ‘good news’ stories:

- stabilising emissions in the energy sector (caused by a reduction in emissions from electricity generation) and
- falling emissions in the LULUCF sector (caused primarily by a reduction in land clearing).

In 1990, Queensland emissions from the energy sector were 48.5 MtCO2-e compared to 83.1 MtCO2-e from the LULUCF sector. Emissions from the energy sector grew in each year from 1990 until 2010 when they fell slightly before stabilising at 98.9 MtCO2-e in 2013.

Since 1990 there have been strong fluctuations in emissions from the LULUCF sector but generally the trend has been a reduction in emissions since the mid-2000s. Emissions from the LULUCF sector fell to a low of 15.1 MtCO2-e in 2011 before rising back to 25.2 MtCO2-e in 2013.

The National and State Greenhouse Gas Inventory reports are released two years in arrears with historical greenhouse gas data currently available up to 2013. The 2014 data will be released in mid-2016.
Queensland’s baseline emissions projections

The baseline emissions projection for Queensland shows a projected 35% increase in Queensland’s emissions to 2030—comprising a sharp increase in emissions between now and 2020, followed by a more gradual rise in emissions to 2030. This is in contrast to the gradual decline in Queensland’s emissions over the past eight years (2005-2013) and is largely due to increasing emissions in the energy and LULUCF sectors.

Projected increases in baseline energy sector emissions are associated primarily with upstream Liquefied Natural Gas processing and the large electricity demand associated with gathering and transporting coal seam gas to the processing facilities at Curtis Island, as well as a reduction in the supply of competitively-priced gas for electricity generation and the repeal of the National Carbon Pricing Mechanism. Energy sector emissions are projected to rise from 98.9 MtCO₂-e in 2013 to 135.4 MtCO₂-e in 2030.

The projected increases in baseline LULUCF sector emissions are primarily due to an increase in land clearing. LULUCF emissions are projected to rise from 25.2 MtCO₂-e in 2013 to 42 MtCO₂-e in 2030. Other contributors to increasing emissions are increased transport activity, increasing fugitive emissions from coal mining and gas production and the growth in agricultural production expected in Northern Queensland.

Overall, the baseline emissions projection for Queensland shows that the State’s previous ‘good news’ stories—declining emissions from electricity generation and land clearing—are projected to reverse under a baseline scenario. That is, if Queensland does nothing, our emissions will rise significantly over the next 15 years.

In Paris in December 2015, 195 world leaders agreed to limit global warming to “well below” 2°C. To achieve that goal, global greenhouse gas emissions must reach net zero in the second half of this century and as close to 2050 as possible.
Conclusion

Political and economic leaders, including Queensland’s key political and trading partners, are no longer contesting the science of climate change. Rather, what emerged from Paris was a reinvigorated commitment and consensus to transform the world’s fossil fuel-driven economy and to slow, and then halt, the pace of global warming.

In practice, this means that economies the world over will have to rapidly reduce their greenhouse gas emissions by 2050, primarily by switching to clean energy technologies; using energy more efficiently; and through farmers and land managers embracing opportunities to store carbon in trees and soils.

Queenslanders are the custodians of iconic natural wonders such as the Great Barrier Reef, which supports nearly 70,000 jobs and is under threat from rising global temperatures.

Queensland was once a national leader in state-based pollution reduction measures, which saw our emissions decline from 2005 to 2013. But the downwards trend has since clearly reversed.

If Queensland takes no new steps to reduce its carbon pollution, the baseline scenario projects emissions would rise by 35% by 2030—at the very time emissions need to be reduced.

The Australian Government aims to reduce emissions by 26% to 28% on 2005 levels by 2030, but based on these projections Queensland’s emissions will increase 13% over the same period (or 34% to 2030 on 2000 levels).

The Queensland Government accepts the overwhelming scientific consensus on the causes and consequences of climate change. Understanding the emissions generated is an important step towards developing a strategy for tackling carbon pollution in Queensland.
## Appendix 1—Full modelling results

### Table 1

All results are in millions of tonnes of carbon dioxide equivalent (Mt CO2-e).

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<td>92.0</td>
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<td>98.9</td>
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<tr>
<td>&gt;&gt;Transport</td>
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<td>&gt;&gt;Fugitive emissions</td>
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<td>Total</td>
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Data from 1990-2013 is historical emissions from the National Greenhouse Gas Inventory.

Note: Totals may not sum due to rounding.

› indicates a subsector of the energy sector (the emissions from fuel combustion plus the emissions from fugitives equals the total emissions from the energy sector)

›› indicates a subsector of the fuel combustion subsector (the sum of the emissions from electricity, direct combustion and transport equals the total emissions from the fuel combustion subsector)