



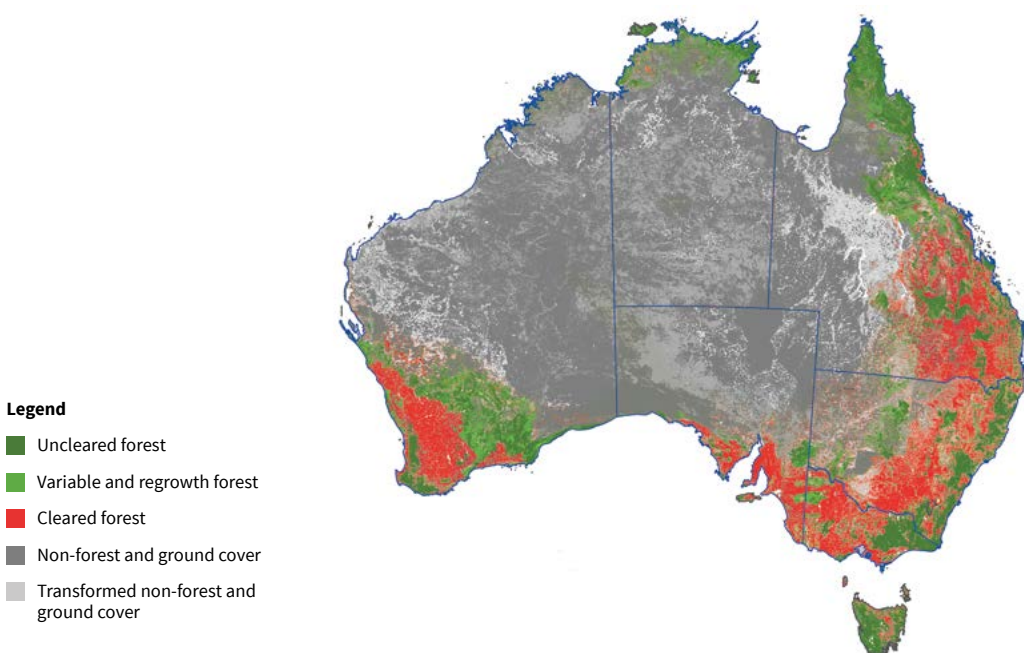
# Climate Change and Australia's Tree Clearing Crisis





## Key Points

- In the wake of the Paris Agreement and the global commitment to limit warming to no more than 1.5 degrees, the Australian Government can no longer afford to ignore the rapid increase in tree clearing that is releasing millions of tonnes of greenhouse gases into the atmosphere every year. This increase threatens to undermine our ability to reach our pledge to reduce greenhouse gas emissions to 26–28% below 2005 levels by 2030, let alone any more ambitious targets that may be set in the future.
- Australian greenhouse gas emissions from Land Use, Land Use Change and Forestry (LULUCF) – the sector that includes tree clearing – almost doubled between 2012–2015 from 13 Mt CO<sup>2</sup>e to 23 Mt CO<sup>2</sup>e, while emissions from almost all other sectors declined. This follows the substantial weakening of state tree clearing regulations in Queensland.
- Australia’s greenhouse gas emissions from tree clearing could spiral further out of control. In Queensland, New South Wales, Western Australia, the Northern Territory and Victoria, clearing laws have either been recently weakened or are currently facing rollbacks.
- Projections by CO2 Australia indicate that the cumulative emissions from tree clearing from 2016 to 2030 are likely to be between 673 and 826 Mt CO<sup>2</sup>e without substantial policy change. By way of comparison, this is the equivalent of operating at least three to four extra dirty Hazelwood coal fired power plants for this same period.
- The centrepiece of the Australian Government’s climate policy is the Emissions Reduction Fund (ERF), which to date has spent the majority of its funds in LULUCF emissions abatement. \$2.55 billion has been allocated to the ERF to purchase greenhouse gas abatement, of which \$1.2 billion was spent in 2015 to purchase 92 Mt CO<sup>2</sup>e worth of abatement at an average price of \$13.12/tonne. Of this, 51 Mt CO<sup>2</sup>e has been in the LULUCF sector.
- Emissions from tree clearing in Queensland in 2013–14 were 36 Mt CO<sup>2</sup>e. At this rate, it will take just 18 months for tree clearing in Queensland alone to negate the entire LULUCF abatement achieved to date by the ERF.
- Effective regulation is far more cost efficient than using the ERF to deal with tree clearing emissions. CO2 Australia predicts land clearing in Australia will produce 44–55 Mt CO<sup>2</sup>e a year until 2030. That would cost \$580–720 million a year in abatement at the current ERF auction price or 43–53% of the entire remaining budget of the ERF.
- The Australian Government should immediately take action to ensure appropriate, nationally consistent laws and regulations are put in place to protect Australia’s forests and woodlands; develop a national monitoring and timely reporting system in line with the Queensland Government’s system; and incentivise transformation of the land sector from a carbon source to carbon sink.



**FIGURE 1. Australia’s cleared and converted forests and woodlands, 2014.**<sup>1</sup> This map shows the scale of forest and woodland clearing since the arrival of Europeans in Australia, with about 40% cleared\* (covered by red and light green). The definition of “forest and woodland” refers to at least a 20% crown cover and vegetation reaching (potentially) at least two metres in height. This defines the areas where emissions or abatement currently count towards our Kyoto targets. It must be noted that the light grey areas do include sparser woody vegetation that have also been and continue to be extensively cleared or modified and also involve significant emissions that we understand the Australian Government will begin to account for.

## Background

Tree clearing is a significant contributor to Australia's greenhouse gas emissions while also adding to species and biodiversity loss. When forests and woodlands are bulldozed or left to decay, trees stop performing their vital function of taking carbon out of the atmosphere. Vast quantities of carbon dioxide and other greenhouse gases are released, exacerbating climate change.

Australia has historically had one of the highest rates of tree clearing of any developed country.<sup>2</sup> However, between 2006–2012, legislative reform by Queensland and New South Wales governments led to a reduction in tree clearing. This is the primary reason Australia was able to meet its commitments under the Kyoto Protocol's first commitment period, between 2008 and 2012 (alongside highly favourable accounting rules which allowed us to increase emissions more than many other countries).<sup>3</sup>

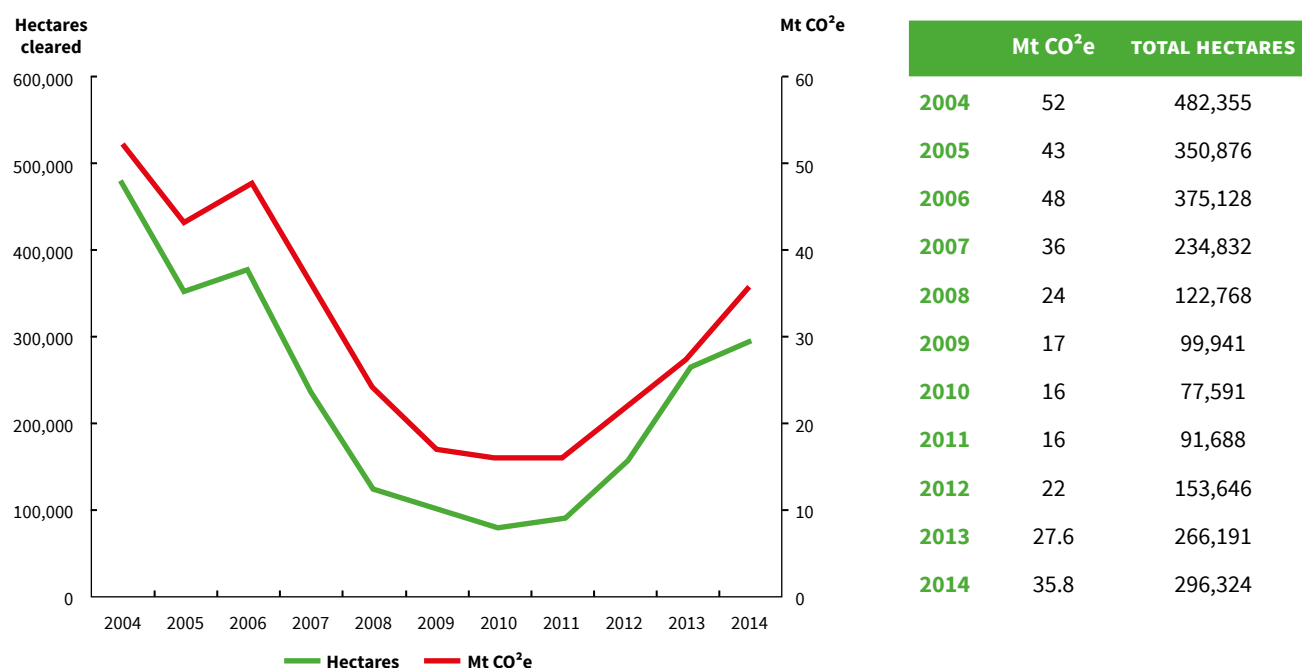
This downward trend appears to have been short-lived, with clearing rates rising again and emissions from Land Use, Land Use Change and Forestry (LULUCF) (which includes tree clearing emissions) growing more than 11 times faster than emissions from any other sector. To date, this has been principally driven by the former Newman Government's legislative and regulatory rollbacks in Queensland, resulting in tree clearing rates doubling since 2012.

Even if the Palaszczuk Government restores these laws, fierce opposition from the National Party means long-term policy uncertainty will continue. And the turmoil extends beyond Queensland — in New South Wales, Western Australia, the Northern Territory and Victoria, clearing laws have either been recently weakened or are currently facing rollbacks. In addition, there is a wave of new, large agri-business proposals across northern Australia and Western Australia that involve substantial tree clearing.

Despite the most recent trends, there has been little national policy attention to this issue and no coherent national plan to deal with the rapidly growing problem. This is exacerbated by questions surrounding the veracity of the Australian Government's tree clearing data (see Box 1).

This report has been compiled by the Wilderness Society, drawing on figures published by the Australian Government, state governments and a recently commissioned report from land carbon experts CO2 Australia, "*Tree Clearing in Australia: Its Contribution to Climate Change.*" The findings show that without urgent action, tree clearing will undermine Australia's ability to meet our obligations under the Paris Agreement and wipe out abatement achieved through the ERF.

### Queensland tree clearing and emissions 2004–2014



**FIGURE 2. Tree clearing and emissions in Queensland from 2004–2014.**<sup>5</sup> In the absence of Australian Government tree clearing data from 2013 onwards and with questions around the Australian Government's data overall (see Box 1), this figure is the most illustrative of the upsurge in tree clearing and emissions, with table data also supplied. This is particularly pertinent as Queensland is consistently the single largest contributor of national tree clearing rates and emissions. NOTE: 2014 denotes fiscal year 2013–14, and so on.

### BOX 1. Tree clearing data — Australian Government (NIR) vs Queensland Government (SLATS)

There are significant discrepancies between the Australian Government’s tree clearing data and that of Queensland. Queensland’s data generally shows much higher clearing (see Figure 2) and emissions, particularly in recent times.

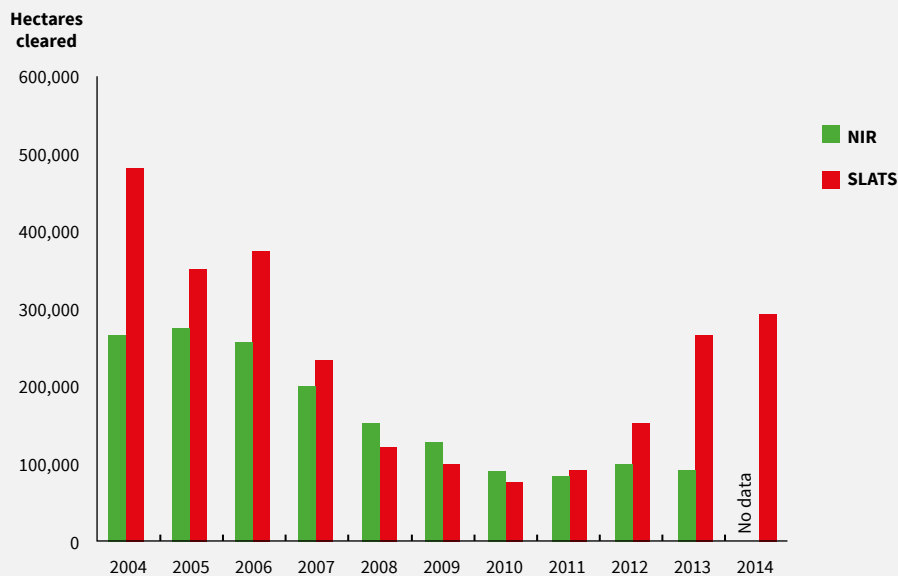
Both datasets are derived from analysis of “Landsat” satellite imagery and apply the “Kyoto forest” threshold of including vegetation with a crown cover over 20%.<sup>6</sup> The difference is likely due to methodologies. The Australian Government data is based on desktop analysis, while the Queensland Government complements desktop analysis with extensive field validation. There have also been questions raised around the Australian Government’s detection of change of land use.<sup>7</sup>

The Australian Government has not published tree clearing data after 2013; from this point onwards all tree clearing data is bundled into general LULUCF figures and is not disaggregated (the figures include revegetation, forest management, grazing land

management and cropland management). There is an urgent need for reform and transparency in this space. This should include an immediate and clear explanation from the Australian Government for these discrepancies (previous explanations have proved incorrect<sup>8</sup>) and more importantly, a robust and transparent single national system to remove errors and confusion.

IMAGE (RIGHT): Northern Territory savanna | Glenn Walker

#### NIR vs SLATS tree clearing data 2004–2014



**FIGURE 3. Australian Government (National Inventory Report — “NIR”) and Queensland Government (Statewide Landcover and Trees Study — “SLATS”) clearing data compared.**<sup>9</sup> This figure shows data from 2004, when major amendments were made to the *Vegetation Management Act 1999*, to 2014, where the most recent data (SLATS) is published. Both sets of figures include the clearing of forests and woodland for the first time combined with the re-clearing of regrowing forests and woodlands. NOTE: 2014 denotes fiscal year 2013–14, and so on.







# Key Issues

## 1. Australia's greenhouse gas emissions from tree clearing have skyrocketed since 2012.

Since 2012, Australia has experienced a significant rise in tree clearing and related greenhouse gas emissions. This is due to the upsurge in clearing largely driven by the former Newman Government's weakening of enforcement and compliance under the *Vegetation Management Act 1999*, as well as the significant weakening of the legislation itself (see Figure 2). Following these changes, during the 2013–14 fiscal year, almost 300,000 hectares were cleared in Queensland alone,<sup>10</sup> a doubling of the tree clearing rates from 2011–12.

The LULUCF sector (which is where tree clearing emissions fall) was also by far the fastest growing in terms of emissions in the Australian economy from 2012–2015—almost doubling over this period (from 13 Mt CO<sub>2</sub>e to 23 Mt CO<sub>2</sub>e) and growing 11 times faster than any other sector.

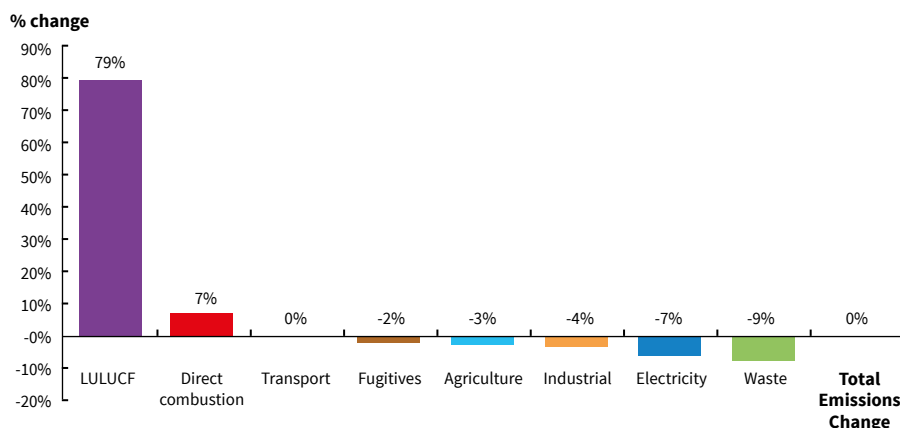
## 2. Tree clearing policy is in turmoil at the state level, suggesting this trend is likely to continue.

In the last 20 years, efforts have been made to reduce Australia's globally high rates of tree clearing through legislative reform at a state and territory level. However, tree clearing laws remain contentious in all states, with ongoing significant annual clearing and periodic “policy ping-pong”, which has resulted in a chaotic range of approaches that offer no certainty that clearing rates will decline in the long term.

### Some key observations include:

- Although reforms were made in many states and territories in the 2000s to reduce tree clearing rates, laws in Queensland, New South Wales, Western Australia, Victoria and the Northern Territory have either already been recently weakened or are facing rollbacks by the current government.
- Furthermore, in most cases, states and territories don't even provide sufficient monitoring or reporting to understand current clearing rates. Apart from New South Wales and Queensland, states and territories do not report on their clearing rates and associated emissions—and in New South Wales and Queensland, these reports are sometimes released several years too late to provide up-to-date information on trends.
- Given the issues associated with the Australian Government's own modelling of tree clearing rates and emissions (see Box 1), this suggests that Australia lacks a comprehensive national analysis and credible projections for the sector with the fastest-growing emissions.
- There is a wave of new, large agri-business proposals across northern Australia and Western Australia that involve substantial tree clearing, including: 500,000 hectares proposed in the Great Western Woodlands for agricultural expansion<sup>12</sup> of Western Australia; 33,000 hectares proposed across Western Australia and the Northern Territory as part of Stage 2 and 3 of the Ord Irrigation Scheme;<sup>13</sup> a possible 53,500 hectares proposed for the Fitzroy region of Western Australia for agricultural expansion;<sup>14</sup> and a total of 115,000 hectares of “High Value Agriculture” permits in Queensland.<sup>15</sup>

### Change in sector emissions from 2012 compared with 2015



**FIGURE 4. Change in sector emissions from 2012 compared with 2015.** This figure uses the Australian Government's latest emissions projections and sector categorisation (December 2015).<sup>11</sup> It shows that compared to 2012, LULUCF emissions have grown by 79%. In terms of Mt CO<sub>2</sub>e, the change is 13 Mt CO<sub>2</sub>e in 2012 to 23 Mt CO<sub>2</sub>e in 2015. It is important to note that this doesn't represent the stand-alone emissions from tree clearing, as other sources and sinks of carbon emissions are included in this LULUCF calculations.

## Assessment of State and Territory Tree Clearing Regulations

	KEY ISSUES	POLICY CERTAINTY	DATA QUALITY	DATA AVAILABILITY
<b>QLD</b>	<ul style="list-style-type: none"> <li>According to state monitoring, clearing rates have been rapidly increasing between 2012 and 2014.</li> <li>The Newman Government weakened state laws and compliance and monitoring which has resulted in a significant rise in clearing.</li> <li>Although the Palaszczuk Government has committed to restoring these laws, such changes are likely to be opposed by the LNP, creating policy uncertainty moving forward.</li> </ul>	✘	✔	✘
<b>NSW</b>	<ul style="list-style-type: none"> <li>State laws successfully reduced tree clearing between 2006 and 2013, however the Baird Government is planning to abolish the <i>Native Vegetation Act 2003</i> and replace it with a new law that is likely to significantly increase the amount of clearing that can be undertaken without a permit.</li> <li>An exemption for so-called “invasive native scrub” has put 4,445,272 hectares of native vegetation, including regrowth forest, at risk since 2006.</li> </ul>	✘	✘	✘
<b>WA</b>	<ul style="list-style-type: none"> <li>233,082 hectares was approved for clearing between 2005–2015, yet there is no reporting by the WA Government showing tree clearing or emissions trends.</li> <li>In 2013, the WA Native Vegetation Regulations were relaxed to allow up to five hectares of clearing at a time without a permit, and reclearing of regrowing forests up to 20 years old.</li> </ul>	✘	✘	✘
<b>NT</b>	<ul style="list-style-type: none"> <li>Changes to provisions under the <i>Pastoral Land Act</i> commenced on 1 January 2014, making permits easier to obtain and able to be approved for up to 30 years.</li> <li>No publicly available reporting on tree clearing trends and emissions exists.</li> </ul>	✘	✘	✘
<b>SA</b>	<ul style="list-style-type: none"> <li>There have been no recent significant changes to clearing laws.</li> <li>No publicly available reporting on tree clearing trends and emissions exists.</li> </ul>	✔	✘	✘
<b>VIC</b>	<ul style="list-style-type: none"> <li>In 2013, changes to Victoria’s clearing laws and guidelines weakened the objective from a “net gain” to “no net loss” in biodiversity.</li> <li>Victoria’s clearing laws are currently under review.</li> <li>No publicly available reporting on tree clearing trends and emissions exists.</li> </ul>	✘	✘	✘
<b>TAS</b>	<ul style="list-style-type: none"> <li>No publicly available reporting on tree clearing trends and emissions exists.</li> <li>Tasmania is the only state that has recently strengthened clearing laws.</li> </ul>	✘ <sup>*</sup>	✘	✘

<sup>\*</sup>*strengthened*

**Policy certainty** means: has there been a policy change within the last term of government, or is there a planned policy change to tree clearing laws in the term of government?

**Data quality** means: does the state produce high quality reports on tree clearing rates and emissions?

**Data availability** means: is data covering the previous year made publicly available on an annual basis?

(NOTE: Key information above is drawn from CO2 Australia, 2016a. *Tree clearing in Australia: Its Contribution to Climate Change: Supplementary Technical Report*. Melbourne.)

### 3. Carbon emissions from tree clearing are wiping out the impact of the Australian Government's climate policies.

The centrepiece of the Australian Government's climate policy is the ERF, which purchases carbon credits ("ACCUs") at the lowest available cost through reverse auctions. \$2.55 billion has been allocated to the ERF, of which \$1.2 billion was spent in 2015. Currently, there is no commitment or guarantee of further funding.

To date, the ERF has purchased 92 Mt CO<sup>2</sup>e worth of abatement at an average price of \$13.12/tonne. Of this, 51 Mt CO<sup>2</sup>e has been for vegetation methods such as avoided deforestation and regrowth of a native forest. For comparison, the latest figures show that emissions from tree clearing in Queensland in 2013–14 were 36 Mt CO<sup>2</sup>e. At this rate, it will take just 18 months for tree clearing in Queensland alone to negate the entire LULUCF abatement achieved to date by the ERF.

These results suggest that the ERF has very limited if any real capacity to secure net abatement of emissions in the LULUCF sector (including tree clearing) over the long term. CO2 Australia predicts tree clearing in Australia will produce 44–55 Mt CO<sup>2</sup>e a year until 2030.<sup>16</sup> That would cost \$580–750 million a year in abatement at the current ERF auction price, or 43–53% of the entire remaining budget of the ERF.

The most cost-effective way to reduce emissions from tree clearing is to ensure states and territories have stronger laws and regulations that protect vegetation from inappropriate clearing and/or include some sort of strong Australian Government oversight. The ERF may offer a useful tool to incentivise positive changes in the land sector that can't be achieved through regulation, but current policy turmoil and regulatory changes at the state and territory level are completely undermining the ability of the fund to reduce Australia's net emissions.

### 4. The Australian Government must act now to reduce tree clearing emissions if we are to meet our targets under the Paris Agreement.

At COP21, Australia was one of 196 countries that agreed to the landmark Paris Agreement in 2015. In doing so, the Australian Government pledged to reduce its greenhouse gas emissions 26–28% below 2005 levels by 2030 (with regular reviews to allow for more ambitious target setting) and signed up to global goals to limit warming to no more than 1.5 degrees and reach net zero global emissions by the second half of this century.

Analysis by CO2 Australia demonstrates that if no action is taken to reverse the upward trend in tree clearing emissions, meeting even the Australian Government's low emissions reduction commitments under the Paris Agreement will prove significantly more challenging.

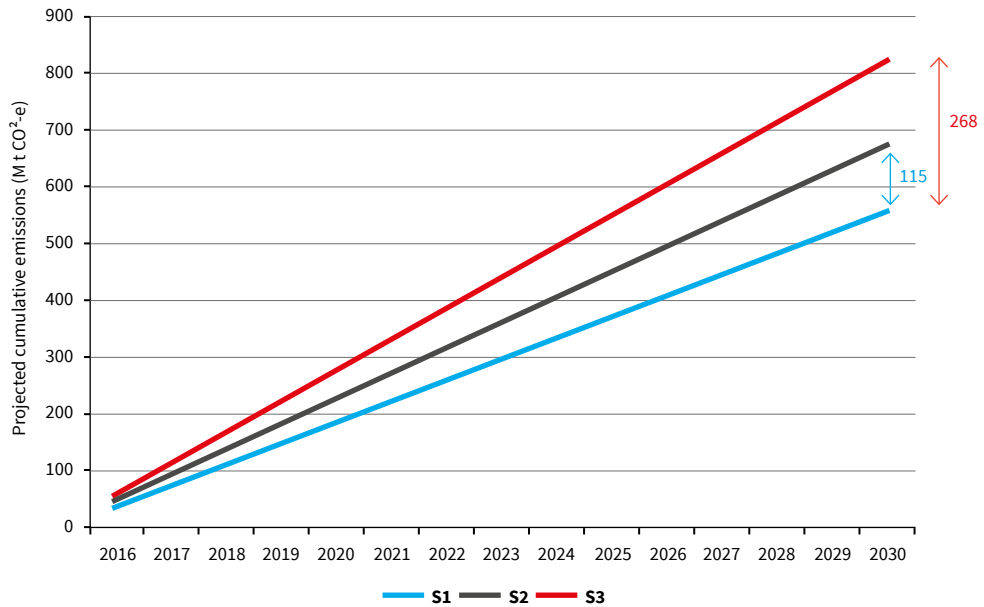
According to the Government's own projections, the cumulative emissions from tree clearing from 2016–2030 is likely to be 673 Mt CO<sup>2</sup>e, and analysis from CO2 Australia suggests that it could be as high as 826 Mt CO<sup>2</sup>e (see Figure 5). This is the equivalent of operating an additional three to four dirty, Hazelwood coal-fired power plants for this same period,<sup>17</sup> or more than South Australia's and Tasmania's entire current emissions combined year-on-year.<sup>19</sup>

On the other hand, if action is taken to limit tree clearing emissions to even 2013 levels, cumulative emissions during the same period of 2016–2030 would be 115–268 Mt CO<sup>2</sup>e lower than these projections (see Figure 5).

This is a significant emissions reduction that demonstrates the importance of acting now to reduce tree clearing emissions. This is particularly pertinent in a context where the Australian Government is obliged to review its 2030 target under the Paris Agreement, with a view to ramping it up to represent a fair global share.<sup>20</sup>



## Projection of Australia's cumulative emissions from tree clearing, 2016–2030



**FIGURE 5. CO<sub>2</sub> Australia's projection of cumulative emission scenarios from 2016–2030.**<sup>20</sup> This shows three scenarios of the emissions from tree clearing to 2030, all of which could significantly impact on Australia's capacity to meet our emissions reduction targets. S1 assumes emissions are kept to 2013 levels, S2 uses the Australian Government's own projection and S3 assumes an increase on 2013 emissions levels based on Queensland SLATS 2013–14 data (in our opinion, the more reliable and up-to-date dataset).

**IMAGE:** Bulldozers at work in Queensland destroying landscape | the Wilderness Society Collection



## Conclusion

In the wake of the Paris Agreement, the Australian Government can no longer afford to ignore the rapid increase in tree clearing that releases millions of tonnes of greenhouse gases into the atmosphere every year.

Emissions from the LULUCF sector have accelerated more than 11 times faster than any other sector over the past few years. This acceleration has been largely driven by seemingly chaotic and contested policy-making by state and territory governments, as well as lack of a nationally agreed and consistent policy and regulatory framework on clearing and carbon. Compounding the problem is a complete lack of adequate monitoring and reporting at all levels of government.

From our analysis of the impact of legislative rollbacks of state governments, it is clear that the most effective way to reduce emissions from this sector is to ensure stronger laws and regulations are put in place to protect Australia's forests and woodlands. Without nationally consistent laws and monitoring, Australian Government policies such as the ERF will continue to be negated by the actions of state governments.

Once such laws are in place, policy tools such as the ERF could be better used to incentivise much-needed transformation in the land sector and to supplement tree clearing regulation. According to ClimateWorks, in order to achieve net zero carbon emissions by 2050, Australia will need to turn the land sector from a carbon source to a significant carbon sink (see Figure 6).<sup>21</sup>

This presents a huge opportunity to simultaneously reduce carbon emissions, increase biodiversity and improve the resilience of our landscapes — but only if we first bring the broadscale destruction of our forests and woodlands under control.

Specifically, the Wilderness Society recommends the Australian Government immediately take action to:

1. Commence the rapid development of a binding and enforceable national climate plan, including all state and territory governments, that ensures measurable reductions in tree clearing emissions in line with our commitments under the Paris Agreement.
2. Work with the states and territory governments to update the existing COAG Native Vegetation Framework to set clear binding targets for tree clearing reductions.
3. Invest in a nationally consistent system of monitoring and timely reporting of tree clearing and associated emissions. It is essential that a leading, ground-tested system such as the Queensland's SLATS system is used in place of the Australian Government's current outdated system.
4. Ensure the ERF and any future land carbon policies only invest in projects that offer cost-effective emissions reductions by not funding any projects in states that have wound back or are in the process of weakening tree clearing laws.

ClimateWorks' emissions trajectory to 2050, Mt CO<sub>2</sub>e

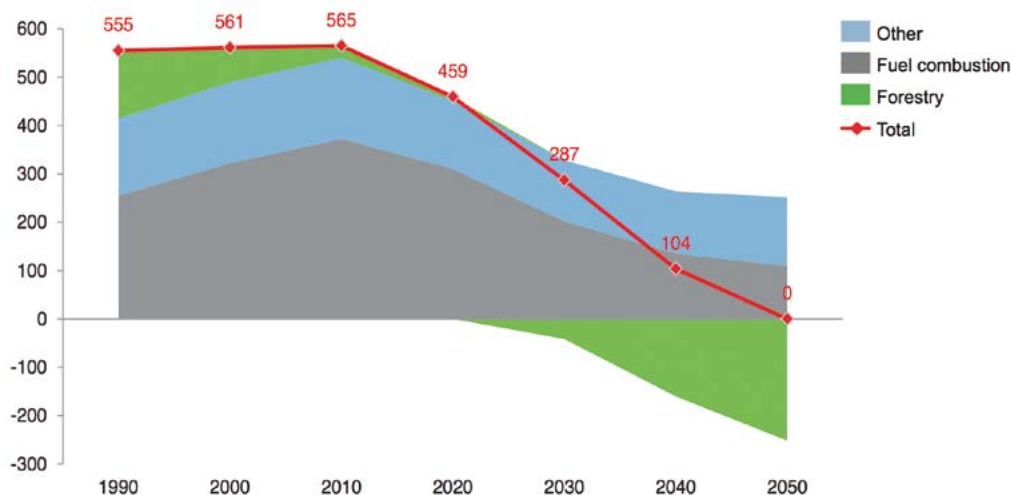


FIGURE 6. Pathway to reach net zero carbon emissions by 2050 from ClimateWorks modelling.<sup>22</sup> According to ClimateWorks, to reach net zero emissions in 2050 the forestry (LULUCF) sector will need to transition rapidly from a carbon source to a carbon sink, and sequester approximately 4.3 Gt CO<sub>2</sub>e between now and 2050.



---

# Endnotes

- 1 Image courtesy of Dr Martin Taylor, WWF-Australia, produced November 2014.
- 2 Bradshaw, C.J.A. 2012. 'Little left to lose: deforestation and forest degradation in Australia since European colonization'. *Journal of Plant Ecology, Volume 5, Issue 1*.
- 3 MacIntosh, A. 2007. *The National Greenhouse Accounts and Land Clearing: Do the Numbers Stack Up?*. The Australian Institute, Canberra.
- 4 Bradshaw, op. cit. p.109.
- 5 Queensland Department of Natural Resources and Mines, 2015b. *Vegetation clearing rates: supplementary report to the SLATS report 2012–14*. Brisbane. p.13.
- 6 Queensland Department of Natural Resources and Mines, 2015a. *Landcover change in Queensland 2012–13 and 2013–14: SLATS*. Brisbane. p.6. The Australian Government has argued that SLATS covers all wooded vegetation including under 20% canopy cover, however this is incorrect (see: Response to a Question on Notice in the Australian Senate from Senator Larissa Waters — Question Number 170, Budget Estimates, Senate Standing Committee on Environment and Communications Legislation Committee, September 2015).
- 7 MacIntosh, op. cit. p.15.
- 8 (See endnote 6)
- 9 Queensland Department of Natural Resources and Mines, 2015a and Australian Department of Environment, 2016. *Australian Geographical Emissions Information System (AGEIS)* — accessed Monday, 15 February 2016.
- 10 Queensland Department of Natural Resources and Mines, op. cit.
- 11 Australian Department of the Environment, 2015. *Tracking to 2020: an interim update of Australia's greenhouse gas projections — Chart data*. Canberra.
- 12 ABC Online, 2014. Great Western Woodlands: Fears over proposal to release 500,000 hectares of reserve for farming. 8 December 2014.
- 13 WA Department of Agriculture and Food, 2015. *Presentation of proposed Ord and Fitzroy agricultural expansion (title assigned by the Wilderness Society — none given)*. Perth.
- 14 Ibid.
- 15 Queensland Department of Natural Resources, 2016. *Table of High Value Agriculture permits*. Brisbane.
- 16 CO2 Australia, 2016b. *Tree clearing in Australia: Its Contribution to Climate Change*. Melbourne. p.29.
- 17 Victoria's Hazelwood coal-fired power plant emits about 15.5 Mt CO<sup>2</sup>e annually. Source: Australian Conservation Foundation, 2015. *Australia's top 10 climate polluters*. Melbourne. p.4.
- 18 The latest available data on state emissions shows South Australia's emissions were 28.6 Mt CO<sup>2</sup>e and Tasmania's 16 Mt CO<sup>2</sup>e. SOURCE: Australian Department of the Environment, 2013. *State and Territory Inventories 2013 — Australia's National Greenhouse Accounts*. Canberra. p.4.
- 19 As part of the Paris Agreement, the Australian Government will be required to review and submit new emissions targets every five years from 2018. CO2 Australia, 2016b. *Tree clearing in Australia: Its Contribution to Climate Change*. Melbourne. p.8; According to the Climate Institute, under our current target we will have the highest emissions intensity of any developed country. The Climate Institute, 2015. *Factsheet: 2030 Emission Reductions Targets Compared*.
- 20 CO2 Australia, 2016b. op. cit. p.27
- 21 ClimateWorks, 2015. *Pathways to Deep Decarbonisation in 2050: How Australia Can Prosper in a Low Carbon World*. p. 19.
- 22 ClimateWorks, op. cit. p. 28.

---

**COVER IMAGES (TOP TO BOTTOM):** Tree clearing in central Queensland | Wayne Lawler; Northern Territory savanna | Glenn Walker



**The Wilderness Society Australia**

GPO Box 716, Hobart TAS 7001


TELEPHONE: (03) 6270 1701

FACSIMILE: (03) 6231 6533

EMAIL: [info@wilderness.org.au](mailto:info@wilderness.org.au)

ABN 21 147 806 133

 [twitter.com/wilderness\\_australia](https://twitter.com/wilderness_australia)

 [facebook.com/wilderness.society](https://facebook.com/wilderness.society)



printed on 100% recycled  
post-consumer waste paper