

---

## RESEARCH NOTE:

# Carmichael vs INDCs: How one Australian coal mine could undo the work of nations

---

## Summary

**At a time when nations are attempting to reduce global emissions ahead of crucial climate talks in Paris in December, by approving Adani's huge Carmichael coal mine, Australia has unleashed a countervailing force which could negate the entirety of its planned 2025 emissions reductions.**

## Introduction

On the 14<sup>th</sup> of October 2015 Australia's Environment Minister, Greg Hunt, issued a fresh approval for Indian Company Adani's Carmichael coal project. Located in the country's untouched Galilee Basin, the scale of the proposed mine is unprecedented within Australia's existing seaborne coal export industry; the second largest in the world.

This decision comes less than two months before global leaders will gather in Paris for the 21<sup>st</sup> UNFCCC Council of Parties (COP) meeting. Based on current policies, the world is currently headed for a temperature rise of 3.6°C by 2100<sup>i</sup>. The Paris meeting is a key component of efforts to avert such a ruinous scenario, with parties seeking to reach a universal and binding agreement on climate. This paper explores the impact of the decision to approve the Carmichael coal mine on these global efforts.

## The Carmichael Mine

At 60 million tonnes per annum (Mtpa) peak capacity, the Carmichael coal mine is approximately three times larger than any black coal mine currently operating in Australia or equivalent to nearly 30% of the country's total thermal coal exports in the last 12 months<sup>ii</sup>.

At peak capacity, the mine would result in over 120 million tonnes per annum of greenhouse gas emissions (Mtpa CO<sub>2</sub>-e),<sup>iii</sup> primarily carbon dioxide from burning the coal for electricity generation.

The mine and its associated infrastructure (rail and port) are also keystone projects. They will enable the development of multiple other coal mines proposed for the so far unexploited Galilee Basin, with a combined production capacity that could more than double Australia's thermal coal exports. Therefore, development of the Carmichael mine could result in far more than 120 Mtpa CO<sub>2</sub>-e.

## International emission reduction efforts

In preparation for the Paris COP meeting, nations responsible for around 86% of current global emissions and population have submitted their 'Intended Nationally Determined Contribution' (INDC), which sets out their plans to reduce greenhouse gas emissions beyond 2020<sup>iv</sup>. The Climate Action Tracker initiative has tracked and analysed these pledges<sup>v</sup>. Based on this work, the table below sets out the target emission reductions of eight nations and the EU in 2025 and 2030 (excluding land use, land use change and forestry; LULUCF). These are compared to the most recent set of actual emission data (for calendar year 2012).

	Actual emissions (excl. LULUCF)	INDC emission levels (excl. LULUCF)		Emission reduction required (excl. LULUCF, relative to 2012)	
	2012	2025	2030	2025	2030
<b>Switzerland</b>	51	34	26	17	25
<b>Norway</b>	53	25-30	20-30	25 (23-28)	28 (23-33)
<b>Australia</b>	544	452-526	395-437	55 (18-92)	128 (107-149)
<b>Mexico</b>	724	603-671	580-716	87 (53-121)	76 (8-144)
<b>Canada</b>	699	604	578	95	121
<b>South Korea</b>	688	540-588	536-632	124 (100-148)	104 (56-152)
<b>Japan</b>	1343	1218	1079	125	264
<b>EU (28)</b>	4544	3700	3376	844	1168
<b>USA</b>	6488	5014-5482	4263-4638	1240 (1006-1474)	2037 (1850-2225)

Table 1 Emission reduction required to meet INDCs in 2025 and 2030 (compared to 2012 actual emissions) excluding LULUCF (in Million tonnes CO<sub>2</sub>-e per annum [MtCO<sub>2</sub>-e/pa])

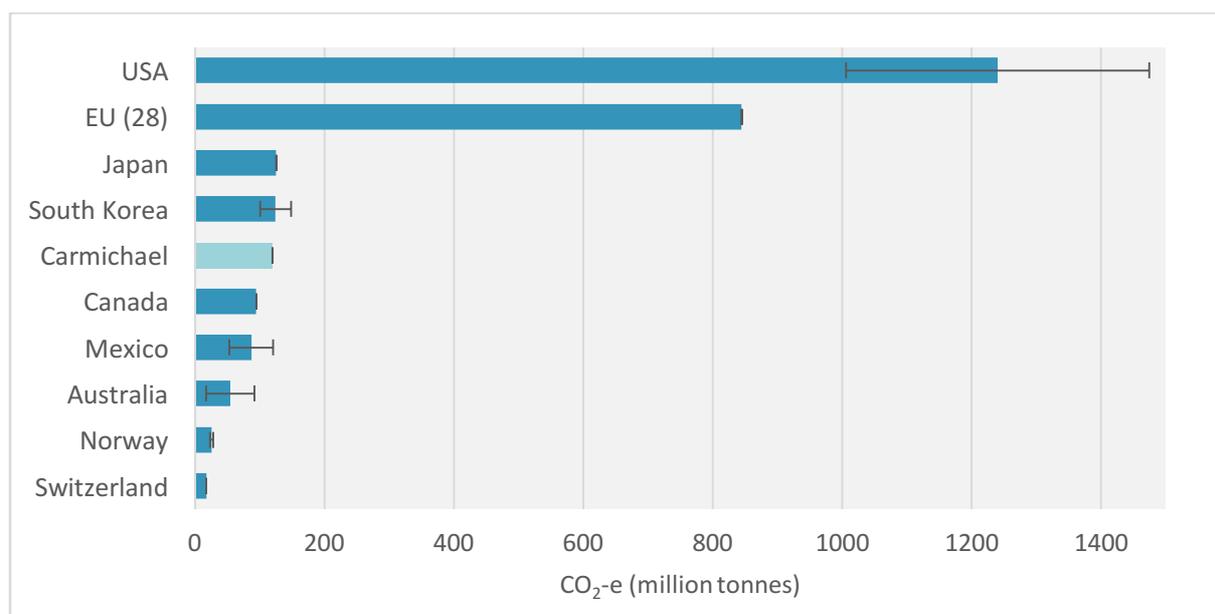


Figure 1 Emission reduction required by 2025 to meet INDCs (compared to 2012 actual emissions) excluding LULUCF compared to the potential increase resulting from burning coal from the Carmichael mine.

## Carmichael: the climate wrecking ball

As the table and chart above show, a number of countries plan to cut emissions over the next decade in an effort to curb climate change. At the same time, if built, the Carmichael mine will enable an increase in global emissions of at least 121 Mtpa CO<sub>2</sub>-e. This is greater than the planned emission cuts between 2012 and 2025 of Switzerland, Norway, Australia, Mexico and Canada and is similar to the reduction targets of Japan and South Korea.

At a time when nations are attempting to reduce global emissions, by approving the Carmichael mine Australia has unleashed a countervailing force which, if built, could negate nearly its entire INDC pledge for 2030.

In approving the mine Australian Environment Minister, Greg Hunt, considered its climate change potential – including that resulting from burning the coal. A document released with the approval details his deliberations<sup>vi</sup>. Confusingly, Hunt stated that “[w]hile the proponent [of the mine] has identified a quantity of overseas GHG emissions that may result from burning the coal, these are not a direct consequence of the proposed action [the mine’s construction]”. He determined that because of “variables” it was not possible to conclude that increasing global coal production capacity by up to 60 million tonnes a year would increase the total amount of coal burned and that any estimate of the increase would be “speculative”.

There are clear reasons to expect that coal from the Carmichael mine will increase global coal consumption. The mine’s proponent, Adani, intends to burn a significant portion of its coal in India. Carmichael coal will cost approximately double the price of domestically mined coal in India. Therefore, it is hard to conceive a scenario where the burning of Carmichael coal in India is not additional to India’s existing domestically mined coal consumption.

Federal Environment Minister, Greg Hunt, when discussing his decision to grant approval stated: “Well, I think one of the important things here is that whilst this project is being considered, the Indians have gone to Indonesia and sourced additional material there – with higher sulphur content, higher ash content<sup>vii</sup>”. Mr Hunt’s statement both indicates that he does understand that Carmichael coal will be additional to existing supply and incorrectly represents Indonesian coal. He characterises Indonesian coal as high ash and high sulphur. Typically coal exported from Indonesia is neither. Coal from Carmichael will have a significantly greater ash content and its use will likely result in air pollution and associated health impacts wherever it is burnt. As Adani have never published the expected sulphur content of coal from Carmichael, it is not possible to verify that it will be of low content.

Export markets are awash with coal. Australian coal mines are currently struggling with the sustained low prices on the seaborne thermal coal export market. Glencore, the largest coal miner in Australia by volume, is cutting its own production. Its coal boss, Peter Freyberg, has stated “the market doesn’t need all this coal” and that any increase in production capacity will further weaken prices<sup>viii</sup>. The Carmichael mine will produce vast quantities of low quality coal compared to typical Australian exports. At a minimum, the mine will lock in oversupply as miners chase slim margins resulting in a price incentive to burn more coal in countries without effective carbon reduction measures.

## Conclusion

A number of countries, including non-annex 1 nations such as Mexico, have proposed ambitious (and potentially challenging) targets for cutting greenhouse gas emissions. In contrast, the approval of the Carmichael mine will facilitate more emissions than the cuts of a number of nations including Switzerland, Norway, Australia, Mexico and Canada over the next decade. It is difficult to reconcile Minister Hunt’s decision to approve the Carmichael mine with the gravity of the need to curb global emissions and the accepted principle of precaution in environmental decision-making.

## Methodology

2012 emission data for Annex 1 Countries (Switzerland, Norway, Australia, Canada, Japan, EU (28) and USA) was sourced from the UNFCCC<sup>ix</sup>, as was emission data for South Korea<sup>x</sup>. For Mexico, the most recent emissions period reported to the UNFCCC is 2010, therefore the World Resources Institute 2012 estimate was deployed<sup>xi</sup>. 2025 and 2030 emissions levels were sourced from the Climate Action Tracker initiative<sup>xii</sup>. For countries with a range, rather than single target, both the range of emission reductions and the median target were calculated. The median value is presented in the chart with range indicated by bars.

## References

- 
- <sup>i</sup> Climate Action Tracker (2015) Climate Action Tracker analysis results presented on their website, methodology available at <http://climateactiontracker.org/methodology/150/Current-policy-projections.html>
- <sup>ii</sup> Office of the Chief Economist (2015) Resources and Energy Quarterly (September Quarter 2015), Department of Industry, Innovation and Science, Commonwealth of Australia
- <sup>iii</sup> Meinshausen M (2015) Individual Report to the Land Court of Queensland on “Climate Change – Emissions”. Adani Mining Pty Ltd (Adani) v Land Services of Coast and Country Inc & Ors. Available from: <http://envlaw.com.au/wp-content/uploads/carmichael16.pdf>
- <sup>iv</sup> Climate Action Tracker (2015) “State of Play: 14 October 2015”, Available at <http://climateactiontracker.org/indcs.html>
- <sup>v</sup> Climate Action Tracker (2015) How close are INDCs to 2 and 1.5°C pathways? Available at <http://climateactiontracker.org/publications/briefing/221/The-CAT-emissions-gap-How-close-are-INDCs-to-2-and-1.5C-pathways.html>
- <sup>vi</sup> Hunt G (2015) Statement of reasons for approval decision on 14<sup>th</sup> October 2015 for EPBC Referral 2010/5736. Available at: <https://www.environment.gov.au/system/files/pages/cb8a9e41-eba5-47a4-8b72-154d0a5a6956/files/carmichael-statement-reasons.pdf>
- <sup>vii</sup> <http://www.greghunt.com.au/Media/Transcripts/tabid/89/ID/3529/ABC-612-Brisbane-Interview-with-David-Curnow.aspx>
- <sup>viii</sup> Saunders A (2015) Glencore set for more flash coal shutdowns. Sydney Morning Herald 16<sup>th</sup> August 2015. Available at: <http://www.smh.com.au/business/mining-and-resources/glencore-set-for-more-flash-coal-shutdowns-20150815-gizyuv.html>
- <sup>ix</sup> UNFCCC (2014) National greenhouse gas inventory data for the period 1990 – 2012. Available from: <http://unfccc.int/resource/docs/2014/sbi/eng/20.pdf>
- <sup>x</sup> Republic of Korea (2014) First Biennial Update Report of the Republic of Korea under the United Nations Framework Convention on Climate Change. Greenhouse Gas Inventory & Research Center of Korea. Report number: KOR/BUR/1 E Available from: <http://unfccc.int/resource/docs/natc/rkorbur1.pdf>
- <sup>xi</sup> World Resources Institute (2015) CAIT Climate Data Explorer. Washington, DC Available online at: <http://cait.wri.org>
- <sup>xii</sup> Climate Action Tracker (2015) How close are INDCs to 2 and 1.5°C pathways? Available at <http://climateactiontracker.org/publications/briefing/221/The-CAT-emissions-gap-How-close-are-INDCs-to-2-and-1.5C-pathways.html>