Australian Energy "Green Paper" foresees continuing increase in coal use: undermines 2° goal and heads towards a 4°C world

Climate Action Tracker

Policy Brief

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Australian Energy "Green Paper" foresees large increase in coal

On 23 September 2014 the Australian Government released a "Green Paper" as part of the development of its new Energy White Paper. The Australian "Green Paper" was released on the same day of the UN Climate Summit in New York which was aiming to build political momentum towards the action needed to limit warming below 2°C.

The "Green Paper" foresees a future strong growth in coal use globally over the next several decades arguing that "Most energy analysts confirm that coal will continue to be a major source of global energy for decades to come". In particular, the Green Paper assumes rapid increases in coal demand from Asian economies and proposes to align Australian government policies to facilitate accelerated approval of developments to support this.

"Green Paper" lock-in of coal intensive future

In adopting this outlook, the "Green Paper" contributes to an economic commitment, in terms of a "lock-in" of legislation and investment patterns that have the potential for a strong negative effect on achieving an effective global agreement to limiting warming below 2°C.

One of the main objectives of the "Green Paper" - increasing coal use over the next several decades - is diametrically opposed to the policies needed to limiting warming below 2°C.

In another paper, we show that eliminating coal consumption by 2050 alone would make a large contribution of 25% of the effort needed to bring down projected warming to below 2°C, if replaced by renewables, not gas. The Climate Action Tracker report "**Coal's rapid phase out essential, not enough to stay below 2°C warming"** released on 22 September 2014 concluded:

> *A strong political signal is needed now that the electric power sector needs to be de-carbonised by 2050 and emissions from coal use need to be phased out rapidly. It is clear whilst a rapid coal phase out this is just one part of the mix of policy measures needed to limit warming below 2°C, but it is one of the most essential first steps given the momentum towards increasing coal*

investment in the industry and the real and escalating danger of a lock-in of new carbon-intensive energy sector infrastructure.

It appears more than ironic that the Australian Green Paper was released on the same day the UN Climate Summit was trying to build political momentum towards the 2°C goal.

"Green Paper" contradicts Australian support for 2°C goal - heading towards a 4°C world

The Australian Government supports the internationally agreed goal of limiting warming below 2°C. Agreeing on emission reduction commitments sufficient to meet this goal is one of the major objectives of the current international negotiations on a new climate agreement, to be adopted in Paris in 2015, with effect from 2020.

There is very little mention in the "Green Paper" of climate change, however it is recognised that the post-2020 negotiations could have outcomes for the "composition of the global energy mix". Alternative outcomes, including the necessity of reducing coal use, to meet the 2°C goal were not considered. The International Energy Agency, in its most recent World Energy Outlook (2013) has explored some of these consequences.

Under the IEA's Current Policies scenario, coal emissions are projected to continue to increase rapidly. The IEA WEO 2013 current policy projections indicate ongoing growth of CO2 emissions from coal, reaching about 45% above 2011 levels by 2035. Under this scenario the world would warm by about 4°C by 2100.

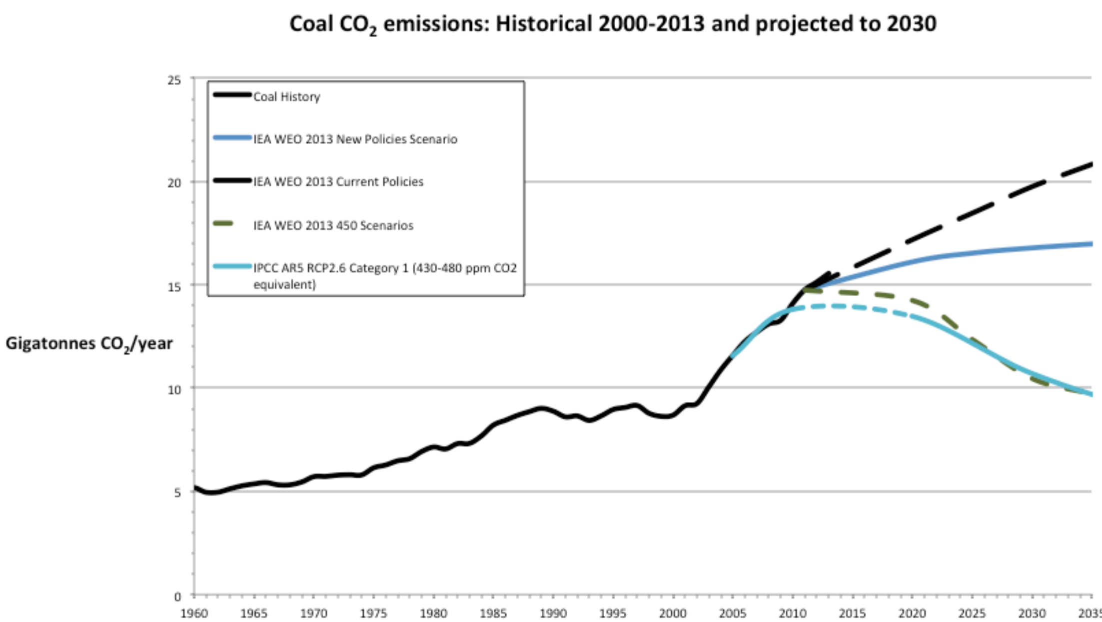
The Green Paper draws on the IEA WEO 2013 New Policies scenario for quantitative examples of future energy demand and projections of coal growth. This scenario has a lower, but still significant, growth in coal use: an approximately 15% increase in CO_2 emissions from coal by 2035, above 2011 levels. Of interest in this context given the large weight given in the "Green Paper" to increasing coal exports, In this scenario, China's use of coal would increase by 15% above 2011 levels, and India's around double 2011 levels (in the Current Policies scenario, China's emissions would increase by over 40% and India's by around 150%). Overall warming by 2100 would be around 3°C and in the longer-term 4°C likely.

Meeting 2°C goal requires large reductions in coal emissions

Should the world move on to a pathway to limit warming below 2°C, the IEA shows (in its 450ppm Scenario) that coal emissions would need to be reduced by 35% by 2035 from 2011 levels. In other words, if negotiations on the Paris Agreement are successful, rather than growing substantially, coal use would decrease significantly.

These IEA results are confirmed by a wide range of modelling groups who have studied the policies required to limit warming below 2°C and whose results were reviewed by the recent Intergovernmental Panel on Climate Change (IPCC) AR5 report.

The picture for coal use in Asia is completely different in a world trying to meet the 2°C warming goal compared to the assumptions made in the "Green Paper". China's coal emissions would reduce to less than 70% of 2011 levels by 2035, and India's coal emissions would be only about 10% above 2011 levels by this time.



Historical Data from the The Global Carbon Project: http://www.globalcarbonproject.org
Le Quéré et al ., **Global carbon budget 2014**, Earth Syst. Sci. Data Discuss., 7, 521-610, doi:10.5194/essdd-7-521-2014, 2014.
http://www.earth-syst-sci-data-discuss.net/7/521/2014/essdd-7-521-2014.html

Figure 1 Historical CO_2 emissions from coal compared to estimated future emissions based on IEA World Energy Outlook 2013 scenarios. The IPCC RCP 2.6 scenario limits warming below 2°C with likely probability. Shown here is the median of model results for estimated CO_2 emissions from coal.

Background on the Climate Action Tracker

The "Climate Action Tracker", www.climateactiontracker.org, is a science-based assessment by Ecofys, Climate Analytics and the Potsdam Institute for Climate Impact Research (PIK) that provides regularly updated information on countries' reduction proposals.

The Climate Action Tracker[1] reflects the latest status of the progress being made at international climate negotiations. The team that performed the analyses followed peer-reviewed scientific methods (see publications in Nature and other journals)[2] and significantly contributed to the UNEP Emissions Gap Report[3].

The Climate Action Tracker enables the public to track the emission commitments and actions of countries. The website provides an up-to-date assessment of individual country pledges about greenhouse gas emission reductions. It also plots the consequences for the global climate of commitments and actions made ahead of and during the Copenhagen Climate Summit.

The Climate Action Tracker shows that much greater transparency is needed when it comes to targets and actions proposed by countries. In the case of developed countries, accounting for forests and land-use change significantly degrades the overall stringency of the targets. For developing countries, climate plans often lack calculations of the resulting impact on emissions.

Contacts

Dr. Niklas Höhne (n.hoehne@ecofys.com) - Director of Energy and Climate Policy at Ecofys and lead author at the IPCC developed, together with Dr. Michel den Elzen from MNP, the table in the IPCC report that is the basis for the reduction range of -25% to -40% below 1990 levels by 2020 that is currently being discussed for Annex I countries.

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[1] www.climateactiontracker.org

[2] e.g. http://www.nature.com/nature/journal/v464/n7292/full/4641126a.html and http://iopscience.iop.org/1748-9326/5/3/034013/fulltext

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Climate Analytics

CLIMATE ANALYTICS is a non-profit organization based in Potsdam, Germany. It has been established to synthesize climate science and policy research that is relevant for international climate policy negotiations. It aims to provide scientific, policy and analytical support for Small Island States (SIDS) and the least developed country group (LDCs) negotiators, as well as non-governmental organisations and other stakeholders in the 'post-2012' negotiations. Furthermore, it assists in building in-house capacity within SIDS and LDCs.

www.climateanalytics.org

Potsdam Institute for Climate Impact Research (PIK)

The PIK conducts research into global climate change and issues of sustainable development. Set up in 1992, the Institute is regarded as a pioneer in interdisciplinary research and as one of the world's leading establishments in this field. Scientists, economists and social scientists work together, investigating how the earth is changing as a system, studying the ecological, economic and social consequences of climate change, and assessing which strategies are appropriate for sustainable development.

www.pik-potsdam.de