CLIMATE ACTION TRACKER

China

History: 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011

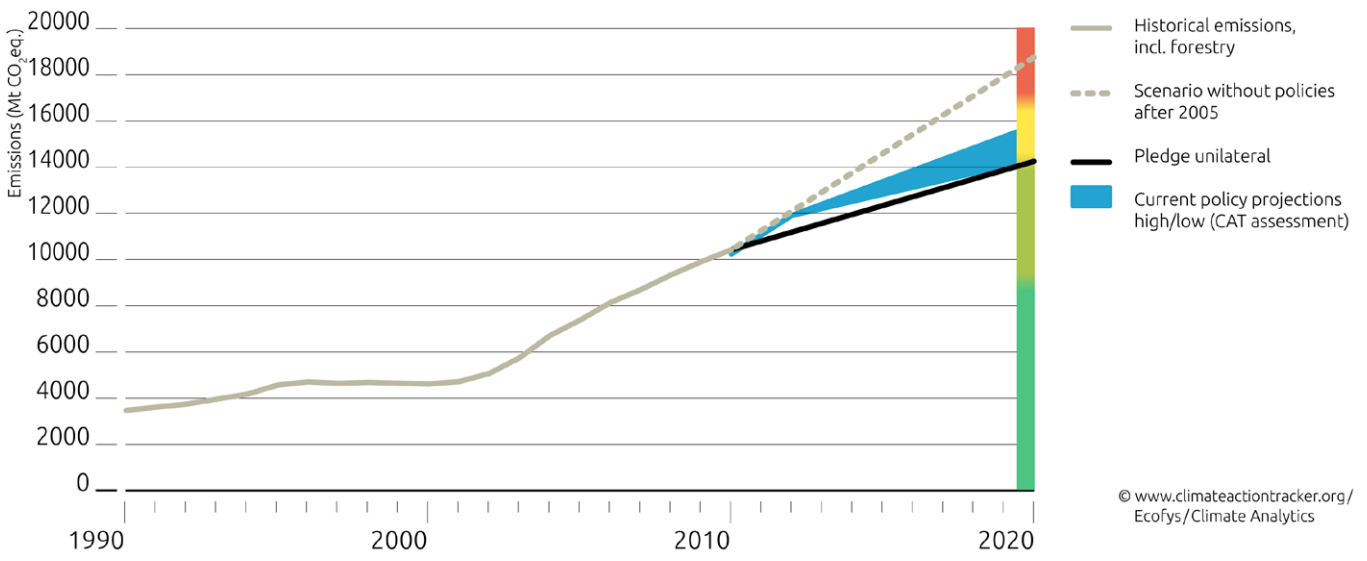
Page last updated: 4th November 2013

Rating



Assessment

China pledged to reduce CO_2 emissions per unit of GDP by 40-45% compared to the 2005 level by 2020. According to the current trends, currently implemented policies will be close to sufficient to meet its pledge in 2020.



Pledge

China's pledge consists of three elements:

- Overall reduction of CO_2 emissions per unit of GDP by 40-45% by 2020 compared to the 2005 level;
- Increase the share of non-fossil fuels in primary energy consumption to around 15% by 2020;
- Increase forest coverage by 40 million hectares and forest stock volume by 1.3 billion cubic meters by 2020 from the 2005 levels.

In its second national communication, China presents emission scenarios for business as usual, for current policies, and for enhanced policies. The enhanced policies scenario reflects a 45% reduction of CO_2 emission intensity. This "pledge scenario" leads to combustion related CO_2 emissions of 9.9 $GtCO_2e$ in 2020 (The People's Republic of China 2012). Including non-energy emissions this translates to an emissions level of 14.3 $GtCO_2e$ according to our assessment. This value is higher than earlier business as usual scenarios from previous years, which were based on international data sources.

Convention	
Copenhagen pledge	
	Intensity: -40% to -45%
	Non-fossil share: 15%
	Forest cover: +40 million ha
	Forest stock: +1.3 billion m^3
Reference for pledge	various
Post-2020 commitment	
	Peak CO_2 emissions in 2030 or earlier
	Non-fossil share: 20% in 2030
Conditions	none
Long term goal(s)	none

Current policy projections

With currently implemented policies, China will reach emission levels between 14.7 and 16.1 $GtCO_2e$ in 2020. Although the 2020 trend is already close to the pledge, it is substantially above current emission levels and higher than previously projected emission levels in the CAT. This change is partly due to a change in data sources and definition of categories, but also the high economic growth rates in the last years, which had not been considered before.

China has a range of implemented policies in most sectors. Most mentionable is the commitment to a strong increase of renewable energy. Since the Medium and Long Term Development Plan for Renewable Energy from 2007, China has increased its capacity plans multiple times. In the latest update of the 12th Five Year Plan, China decided to target 700 GW of renewable energy capacity in 2020. Bloomberg New Energy Finance expects an increase of RE capacity of 809 GW between 2010 and 2030 (Bloomberg New Energy Finance 2013), which would add up to more than 1100 GW in 2030.

Furthermore, policies to reduce energy consumption exist to support the energy intensity targets in the Five Year Plan. In the industrial sector, the TOP 1000 enterprises programme has proven effective in the past and has now been extended to 10 000 installations. There is also an increasing number of efficiency standards for appliances, buildings and cars. However, these standards partially lack consequent implementation and supportive policies (Fekete et al., 2013).

In September 2013, China published the Air Pollution Control Action Plan (Government of China 2013), which besides other measures, bans construction of new coal-fired power plants in various coastal provinces in order to decrease air pollution there. At the moment, little background information is available on what this means for overall coal consumption. A first analysis estimates that the effect on emissions will be small, as the regions with major extension plans for coal-fired power plants are not touched by the regulation (Ailun Yang and Ryna Yiyun 2013). Eventually, the impact on emissions will be dependent on the energy source which is used to replace the planned plants affected by the regulation.

Date of pledge: January 2010

Assumptions

Pledge

As China only makes available two inventory years which do not have the same scope and are thus not directly comparable, we use a combination of international data sources for energy related emissions (IEA statistics 2012) and non-energy emissions (EDGAR 4.2), and inventory data for LULUCF to determine historic emissions until 2010.

Current trends

For projections we use the scenarios from the 2nd National Communication for energy related CO_2 emissions, growth rates from US EPA's anthropogenic GHG emissions projections for non-CO_2 gases applied to the historic data, and extrapolate historic trends of non-energy CO_2 emissions. For LULUCF, we assume that emission sinks will become slightly smaller (by 20% in comparison to 2005) and that emissions from forest and grass land conversion will remain stable.

In an alternative scenario, we use projections from the World Energy Outlook 2012 for energy related CO_2 emissions. This is the lower limit of the range shown in the graph.

Sources

Bloomberg New Energy Finance (2013). The future of China's power sector. From centralised and coal powered to distributed and renewable? (14 October, 2013).

Fekete, H., F. Mersmann, and M. Vieweg (2013) Climate change mitigation activities in emerging economies: From potential to actions. Federal Environment Agency (Umweltbundesamt)

The People's Republic of China (2012). Second National Communication on Climate Change of The People's Republic of China. (14 November, 2012).

The Government of China (2011). China's 12th Five Year Plan (Twelfth Five-Year Guideline, 2011–2015)

UNFCCC (2011). China's pledge to the Copenhagen Accord

The Government of China (2009). Government announcement

Find us on facebook

ECOFYS A Navigant Company | CLIMATE ANALYTICS | NEW CLIMATE INSTITUTE

Copyright 2018 Climate Action Tracker Partners | Disclaimer