

Reality gap: Some countries progress in national policies, but many risk failing to meet pledges

Climate Action Tracker Update, 24 May 2012

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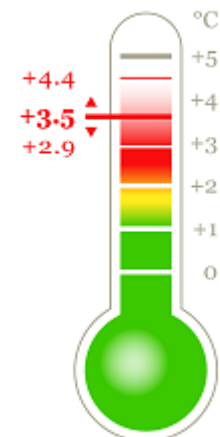
In this update, the Climate Action Tracker provides insights for Brazil, the USA, Mexico, Japan and South Korea on actions on climate change, new economic and energy data, government policies and announcements and developments at the UN climate talks.

Summary

- ▶ It is clear from the workshops held at the UN climate talks in Bonn that there is still a wide gap between emissions and where science tells us we need to be. The workshops late last week delivered little additional information in clarifying pledges and no progress towards increasing the level of ambition of pledges.
- ▶ Many Governments do not appear to be implementing policies to meet their 2020 emission reduction pledges, and could increase – not shrink, the emissions gap between real emissions and what's needed to keep global temperature rise to 1.5 or 2 degC. The analysis of current policies show that, in reality, the 'gap' in 2020 could be even larger than discussed in the UNEP Bridging the Emissions Gap Report (2011), as that report assumed that Governments would meet their Copenhagen and Cancun pledges.
- ▶ Most analyzed policies are not yet concrete enough to be quantified, not yet implemented and/or not yet sufficiently ambitious to ensure countries achieve their pledge.

So how does all of this affect global temperature?

As we have pointed out in previous analyses, the aggregated emission reduction pledges of all Governments still fall far short of what is needed to get the world on track for limiting global warming to 2 and 1.5°C above pre-industrial levels. The emission levels needed to meet both temperature targets overlap in 2020: Global emissions need to be at about 44 GtCO₂e/year by 2020, and to steeply decline afterwards. Reductions for 1.5°C need to decline more rapidly than the 2°C pathway after 2020.



The Climate Action Tracker added up the international reduction targets and pledges of individual countries, and has estimated that global emissions in 2020 would total 55 GtCO₂e/year. This assumes confirmed unconditional pledges and lenient accounting rules. Given the 'pledge level' of 55 GtCO₂e/year in 2020, a gap of 11 GtCO₂e remains to reach the reduction level required.

This is in line with the latest finding of the UNEP Bridging the Gap Report¹, which identifies a gap between 7 and 16 GtCO₂e for the case closest to our analysis.

If governments implemented the most stringent reductions they have proposed, and developed countries applied the most stringent accounting, the Climate Action Tracker has calculated the remaining gap would only shrink to 9 GtCO₂e/year. The range estimated in the UNEP report for the equivalent case is 3 - 11 GtCO₂e/year.

However, an assessment of the probability of countries to actually meet their pledge (especially for the ambitious scenarios with rigorous accounting rules), would increase the gap.

All of this means that the world is still heading toward a global temperature rise of *at least* 3.5°C – if the pledges are not implemented, it will be more.

For a visual breakdown of the impacts of a *least* 3.5°C temperature rise, please see the Durban infographic here. <http://climateactiontracker.org/assets/CAT-Infographic-20111211.pdf>

¹ UNEP (2011) Bridging the Emissions Gap <http://www.unep.org/publications/ebooks/bridgingemissionsgap/>. The Climate Action Tracker contributed significantly to this report.

Brazil's new forest code leaves chances for implementing its pledge unclear

Significant changes in the Forest Law have been approved in Brazil, and now await either the President's signature – or veto. The size of effects of the new regulation are unclear, but adoption of the changes could make it harder for Brazil to reach its strong emissions reduction pledge under the UNFCCC, which is largely based on emission reductions from deforestation.

In April, the Brazilian Congress passed a highly controversial amendment of the Forest Law, established in 1965 to protect forest areas in Brazil. The amendment now needs to be approved by the Brazilian President Dilma Rousseff, who, has until tomorrow (25 May 2012) to decide whether to go ahead with the proposed changes. According to Brazilian legislation, Congress can still override the veto with a 50% majority vote plus one.

After Brazil has reported a record low in annual deforestation, the change in the forest code could reverse this trend.

The main justification for the proposed changes is that the current Forest Law is scientifically outdated and that it no longer reflects the reality of most regions due to the profound changes in land use in the country over the last 45 years. Changes would be required in order to enhance agricultural productivity in Brazil to diminish food scarcity in the world.

The scientific community in Brazil has vehemently opposed such justifications and provided counter-arguments based on current scientific knowledge. In one study in which the scientific basis of the Forest Law of 1965 was assessed², the author affirms that current state of research strongly supports the parameters and criteria for the current definition of a protected area in the Brazilian Forest Law rather than the amendment. Contrary to what proponents of the amendment claim, some of the criteria should even become more stringent such that protected area would be expanded ensuring the maintenance and persistence of Brazilian biological and genetic patrimony.

There are two main changes to the current regulation that have a potentially negative effect on Brazilian emissions: **change in the share of protected areas** within rural properties and margins of rivers within these properties and an **amnesty of illegal deforestation activities** before July 2008.

The **change in the share of protected areas** in natural reserves under the amendment Forest Law directly affects deforestation activities. For instance, in the current law, for the Amazon region 80% of the area of rural properties must be preserved and its original native natural vegetation coverage must be maintained. In order to improve Brazilian agricultural production, the amendment proposes a reduction on this quota down to 50% (under the condition that more than 65% of the total state area stays protected).

However, there is consensus within the scientific community that the increase in agricultural productivity in Brazil may and should rely on the enhancement of technologies rather than on the conversion of forest into agricultural land. A study carried out by the Brazilian Analysis and Planning Center (Cebrap)³ shows that current livestock density in Brazil is markedly low (1.14 compared to the triple of that in the neighbour Argentina). They estimate that even a relatively low investment in technology could highly increase productivity, preventing the loss of forest habitat and consequently reducing emissions of GHG gases.

² Metzger, J.P. 2010. **O Código Florestal tem base científica?**. *Natureza & Conservação* 8(1): 92-99

³ Based on analysis from Brazilian Analysis and Planning Center: *A revisão do código florestal brasileiro* (2011) Sparovek, G et al. <http://dx.doi.org/10.1590/S0101-33002011000100007>

The **amnesty for illegal activities** not only means that these activities would not be punished, it also exempts those responsible from an obligation to reforest the lost forest area, as would have been the case with the current forest code.

The first effect of such measure concerns the area that would have been reforested under the current Forest Law and that will not have to be replanted under the new regulation.

According to a report published by Institute for Applied Economic Research⁴ in Brazil (which received wide media coverage) this area is estimated as 296,000 km², which roughly corresponds to the territory of Italy, or that of the state of Arizona. The current forest code requires this area to be gradually reforested within 30 years. If an equal distribution is assumed over these 30 years this could mean that 9,500 km² less are reforested per year.

Comparing this number to current deforestation rates in Brazil of 5,700 km² in 2011⁵ shows the relevance of the suggested reform to Brazil's deforestation strategy. In terms of carbon dioxide emissions, 11.6 GtCO₂e (cumulative over 30 years) would remain, instead of being removed from the atmosphere.

A second, more uncertain effect comes from the influence the amnesty may have on landowners' propensity to engage on future deforestation activities, as a new amnesty becomes a realistic option. If this additional effect of the proposed changes to the forestry code is taken into account, it would result in a total area of 470,000 km² that could be lost in future deforestation activities, which translates into 17.4 GtCO₂e.

Furthermore, the suggested changes would modify the accounting of protected areas. At the moment, areas that are either protected already (e.g. mangroves, river banks), and areas not available for agriculture (e.g. steep areas, mountain tops) cannot be counted in the necessary quota. Under the new Forest Law, this would be possible, and would further decrease the absolute necessarily protected area.

The overall quantitative effect on the emissions trajectory of Brazil, and especially on emissions in 2020, is difficult to assess essentially due to the unpredictability of reforestation and deforestation rates. Effects of increased deforestation have very direct effects on GHG emissions, while reforestation activities have a long time horizon in building up carbon storage. However, the studies analysed here claim that, if adopted, the amendment to the Forest Law would unequivocally make it harder for Brazil to meet its ambitious emissions reduction target as well as its reductions in deforestation rates.

⁴Based on analysis from the Brazilian Institute for Applied Economic Research PEA (2011): Código Florestal: Implicações do PL 1876/99 nas Áreas de Reserva Legal: http://www.ipea.gov.br/portal/images/stories/PDFs/comunicado/110616_comunicadoi_pea96.pdf

⁵ INPE 2012, <http://www.obt.inpe.br/prodes/>

New US policies do not set a path towards achieving the -17% pledge

The US presented its latest regulations and emissions pathways to the Bonn workshops late last week on clarification of pledges for Annex I countries and for nationally appropriate mitigation actions for developing countries.

After the presentation, the question on the US remains: how will it achieve its pledge? (Noting that this pledge remains “inadequate”⁶ in the Climate Action Tracker’s analysis).

The USA now expects to have lower emissions in 2020 than presented previously, but this is mainly due to effects of the economic crises and structural developments in the energy market, leading to a shift from coal to gas. A significant gap of 384 MtCO₂e remains and it is unclear how the US intends to close the remaining gap.

The presentation by the US highlighted some recent policy developments and stressed the impact of these on domestic emissions. These are mainly the ‘**New Source Performance Standard**’ for power plants and **new vehicle standards** for light vehicles and medium and heavy-duty trucks. Both were recently introduced or are planned for the near future. We have taken a close look at the new legislation and its impact on US emissions.

The ‘**New Source Performance Standard**’ (NSPS) introduces a limit of 1000 lbCO₂e/MWh (450 gCO₂e/kWh) for *new* fossil fuel power plants with a capacity above 25 MW, starting in 2013. This is, in principle, an ambitious standard and far more stringent than any proposed, for example, in Australia (700-800 gCO₂e/kWh). It can only be achieved by gas plants or by coal plants using carbon capture and storage.

However, the EPA anticipates that

“the proposed [standard] will result in **negligible CO₂ emission changes**, energy impacts, quantified benefits, costs, and economic impacts by 2020”⁷.

So the US administration comes to the conclusion in its own analysis that

“even in the absence of this rule, existing and anticipated economic conditions in the marketplace will lead electricity generators to choose technologies that meet the proposed standards”⁸.

This refers to the fact that new power plants would largely be based on gas than coal anyway, due to the currently low price of gas.

So overall, the regulation will not bring ADDITIONAL reductions to current BAU projections, but it does ensure there will be no new coal fired power plants in the future, even with changing market conditions, such as a rise in gas prices.

As a next step, it would be essential that the US quickly addresses emissions from the **existing stock** of fossil fuel power plants, to enable real reductions below baseline.

Emission standards for light duty vehicles have also been introduced based on the “Energy Independence and Security Act of 2007”. This law set the goal to achieve an average of at least 35 miles per gallon (7 litres/100km) for the total fleet of automobiles manufactured for sale in the US in 2020 (~174 g/km).

In the first phase, from 2012 to 2016, the EPA and the Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) will implement this through a joint regulation⁹. The standard sets a fuel economy standard of an average 29.7 mpg (miles per gallon) in 2012 to 34.1 mpg in 2016 (~160 g/km) for new cars. This existing

<http://www.epa.gov/carbonpollutionstandard/pdfs/20120327proposalRIA.pdf>, page ES-3

⁸ *ibid*

⁹ For details see:
<http://www.nhtsa.gov/Laws+&+Regulations/CAFE+-+Fuel+Economy/Model+Years+2012-2016:+Final+Rule>

⁶ <http://climateactiontracker.org/countries/unitedstates>

⁷ cited from EPA, 2012. Regulatory Impact Analysis for the Proposed Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electricity utility generating units

standard has been included in the projections of the USA since 2009.

The not yet agreed proposal for the next phase, 2017 – 2025, that was also presented by the US during the UNFCCC workshop last week, would increase the ambition to 163 g/mile (~101g/km) in 2025 for new vehicles.

The US EPA estimates the impact of the new proposed phase II to be 29 MtCO₂e below BAU. The CAT team calculated the effect to be in the same order of magnitude. While this is a significant total reduction, it only represents 1.5% of total emissions from the

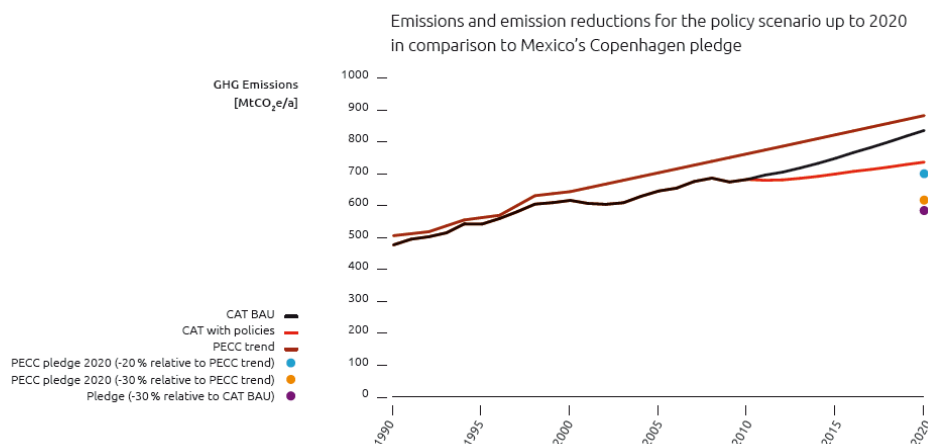
transport sector at 2005 levels. This is due to the fact that the new standard starts only in 2017 with limited time to have an effect until 2020. For 2030, the US EPA estimates the effect to be 297 MtCO₂e below BAU.

The effects of the new standards in 2020, relative to the total net emissions of the US and covering all sectors, represent 0.4% relative to 2005 total emissions. The reduction corresponds to 8% of the total gap of 384 MtCO₂e, contributing to narrowing - but not closing - the gap. Put into context, 384 MtCO₂e is more than half Canada's current total annual emissions.

Mexico has potential to meet its ambitious climate targets, but more action needed

Mexico's new climate change law sets a solid framework for Mexican climate policy. Mexico now needs to put more effort into actually implementing specific policies that secure long term action not included in the law.

Mexico has taken a major step forward in building a framework supporting the country's ability to achieve its ambitious climate targets. After earlier, failed, attempts, in April this year, the Mexican Congress passed the General Law on Climate Change (Ley general del Cambio Climático), consolidating existing institutional structures and planning tools and reaffirming climate protection targets.



Source: Climate Action Tracker analysis Mexico

Figure 1 Emissions and emission reductions for the policy scenario up to 2020

Among the structural changes is the creation of institutions, such as a climate fund, responsible for collecting and redistributing financial resources for climate change mitigation and adaptation, and the National Environment and Climate Change Institute (INECC) focusing on research, policy design

and evaluation and supporting capacity building.

The law also establishes an overall structure including the climate fund, the INECC and a Climate Change Council that will coordinate, plan and implement activities. One of the

council's tasks is supervising the elaboration of the national strategy for climate change, covering mitigation and adaptation with a 40-year horizon and regular revisions.

The law also translates Mexico's emission reduction targets of 30% below business as usual (BAU) in 2020 and 50% below 2000 levels by 2050 into national legislation, although conditional to financial support from international sources. Additionally, Mexico sets a target for renewable energy supply by 2024, 35% of the electricity generated is to come from renewable sources.

However, current policies would achieve only a 12% reduction by 2020 - just over a third of its Cancún pledge - and would reduce emissions by 21% by 2030. The reductions

would come from industry, land use and forest control and energy supply.

The new law also mentions the option for development of an Emission Trading Scheme (ETS) in the future, and the option to link Mexico to foreign markets by trading emissions internationally. It acknowledges the need for mandatory emissions reporting and the creation of a public emissions registry.

Overall the new legislation does not include concrete measures and activities, but rather consolidates the existing institutional structure and anchors a number of useful planning tools within the law. It thus does not influence the assessment of implemented policies shown in Figure 1.

CAT has completed a full country breakdown of Mexican policies affecting GHG emissions, released in Mexico in early May. For a copy of this report, please visit www.climateactiontracker.org

Japan boosts renewable support but grid access rules threaten effectiveness

Japan plans renewable energy support with the potential to push renewable energy generation forward significantly.

After deciding to reduce reliance on nuclear energy after the Fukushima disaster last year, Japan is now increasingly looking into renewable energy to decarbonise its energy supply.

Japan is currently without any nuclear power generation, with the last reactor being closed on 5 May 2012. While it plans to re-open some reactors, Japan is looking for other solutions to cover its peak electricity demand over the coming summer.

The Japanese minister of energy will decide by the end of May on a support scheme for renewable electricity generation. Suggested are feed-in tariffs for hydro power, wind, solar photovoltaic, biomass and geothermal energy, to be reviewed every year in the future. The tariffs are differentiated by the

size of the installations and biomass tariffs by type of biomass¹⁰.

A major insecurity remains: access to the electricity grid is not guaranteed, and electricity producers will have to cover the costs themselves. Nevertheless, the proposed feed-in tariffs are among the world's highest, and could possibly lead to strong incentives for investments in renewable energy.

Apart from lowering emissions in comparison to business as usual, the new feed-in tariffs are likely to boost renewable production capacities in Japan's industrial sector, increasing competition and thus lowering production costs.

¹⁰ renewableenergyworld.com 2012, <http://www.renewableenergyworld.com/rea/news/article/2012/05/japanese-proposed-tariffs-submitted>

For Japan, the shut down of nuclear power plants will have an effect on GHG emissions:

- It could lead to a **short-term increase** in CO₂ emissions, depending on the fossil based reserve capacity of the country.
- Long-term effects will mainly depend on the overall **power production strategy** of the country and whether it uses the opportunity to **decarbonize** the sector.
- **Investment savings** from not building **new** nuclear plants could be **redirected** towards low carbon power sources, smart grid infrastructure and demand management systems and produce **larger emissions reductions for the same investment**.

Korea a step further towards a domestic emissions trading scheme

Korea passes emission trading scheme supporting its unconditional pledge of 30% emission reductions below BAU in 2020

In the beginning of May, Korea approved legislation that implements a national emissions trading scheme (ETS), starting in 2015. The cap was reported by Korea to be in line with its unconditional pledge of 30% emission reductions below BAU in 2020, but was not further specified. This would be a major step towards the implementation of Korea's ambitious 2020 pledge.

Before the ETS is ready to go into implementation, Korea still needs to determine several features, which can greatly impact effectiveness of the scheme: the cap, the methodology for allocation, rules for offsetting emissions and a definition of sectors exposed to carbon leakage. Furthermore, the institutional framework has to be established including the registry and the trading authority.

The current planning includes three phases, of which the first and second phase last each three years and the third five years. During phase one and two, 95% of allowances will be

allocated for free, the methodology for allocation in phase 3 still needs to be determined. Over all phases, a government reserve will be kept to allow additional issuance of allowances to secure stability of the market.

The scheme is not limited to sectors but includes all installations emitting at least 25 ktCO₂e in 2012. The regulation includes provisions to support carbon intensive sectors that are exposed to international trade through 100% free allowances and possibly other forms of financial support (such as for example tax credits). For exceeded limits, the scheme foresees as penalty of three times the average market price of the previous year, but a maximum of 113 US\$/tCO₂e.

The scheme provides a good basis for Korea to meet its pledge if the cap is set tightly enough and the remaining open rules are set in the right way.

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 Tracker¹¹ 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)¹² and significantly contributed to the UNEP Emissions Gap Report¹³.

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.

Dr. h.c. Bill Hare (bill.hare@climateanalytics.org) (PIK and Climate Analytics) was a lead author of the IPCC Fourth Assessment Report, is guest scientist at PIK and CEO at Climate Analytics.

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¹¹ www.climateactiontracker.org

¹² e.g. <http://www.nature.com/nature/journal/v464/n7292/full/4641126a.html> and <http://iopscience.iop.org/1748-9326/5/3/034013/fulltext>

¹³ www.unep.org/publications/ebooks/emissionsgapreport

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Climate Analytics

CLIMATE ANALYTICS GmbH 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