Philippines

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Rating



Assessment

On 1 October, The Philippines submitted its Intended Nationally Determined Contribution (INDC), including a conditional greenhouse gas reduction target of 70% below business as usual (BAU) levels by 2030. The INDC states that the target is conditional on "the extent of financial resources, including technology development & transfer, and capacity building, that will be made available to the Philippines." The target covers all emissions from all sectors, including land use, land use change and forestry (LULUCF).

INDC	
Conditional 2030 target	70% below BAU by 2030 [around 1990 levels by 2030 excl. LULUCF]
Coverage	Economy-wide, incl. LULUCF

When assuming that industrial, energy and agricultural emissions ("emissions excluding LULUCF"), were also to be reduced by 70% below BAU, the CAT estimates that this could, at best, result in emissions excluding LULUCF reverting to 1990 levels.

If the target were (partly) unconditional, and directed at energy, industrial and agricultural emissions we would rate it "sufficient." However, the Philippines has not put this forward and, given the large uncertainty around how much mitigation it plans for LULUCF emissions and how much emissions excluding LULUCF, we have given the Philippines the lower rate of "medium."

The "medium" rating indicates that the Philippines' climate commitments are at the least ambitious end of what would be a fair contribution. This means it is not consistent with limiting warming to below 2°C unless other countries make much deeper reductions and comparably greater effort.

A (partly) unconditional reduction target, also specified for emissions excluding LULUCF, could therefore be proposed, along with providing the used BAU, to increase the transparency of the INDC. This could move the Philippines to a "sufficient rating", meaning climate plans are at the most ambitious end of its fair contribution. This means it would be consistent with limiting warming to below 2°C without requiring other countries to make much deeper reductions and comparably greater effort.

According to our analysis, and in common with most countries, the Philippines will need to implement additional policies to reach its conditional INDC. Full implementation of the planned 'National Renewable Energy Program and The Energy Efficiency and Conservation Roadmap' would bring emissions halfway towards meeting the INDC target. However, the INDC target is unlikely to be met if all of the announced coal-fired power plant capacity (more than 10 GW) is constructed.

The INDC does not quantify its BAU projections, nor does it quantify future LULUCF emissions. This introduces substantial uncertainty in interpreting the INDC targets and makes quantifying emissions levels excluding LULUCF difficult.

Post-2020 contribution

On 1 October, The Philippines submitted its Intended Nationally Determined Contribution (INDC), including the conditional target of a 70% reduction in GHG emissions below BAU projections by 2030.

Because the INDC target does not distinguish LULUCF emissions reductions from emissions reductions in energy, industry or agriculture and lacks a quantification of the BAU, the emission reductions are difficult to estimate. Assuming the average of the current policy projections (see the next section) is in line with BAU projections and the 70% emissions reductions are applied to non-LULUCF emissions, the INDC could result in emissions decreasing to 1990 levels (excl. LULUCF).

Recently, Department of Energy (DOE) announced that more than 10GW of coal-fired power plant capacity would be constructed in the Philippines by 2025. If all these power plants were built, it would be difficult for the government to achieve its INDC target by only reducing emissions excluding LULUCF. However, the current INDC pledge leaves the option open to achieve the target by increasing carbon sinks (LULUCF) to absorb about 250 $MtCO_2$ per year by 2030,[1] meaning most sectors in the Philippines will not decarbonise.[2] A lower emissions reductions target (i.e. higher emissions) was hinted at in the Philippines' draft INDC (Republic of the Philippines, 2015), with only a 10-20% reduction in GHG emissions from BAU in the energy sector. However, achieving its INDC targets by focussing mitigation efforts in LULUCF sectors (e.g. forestry) would lock the Philippines into a high carbon pathway for other sectors, which is not compatible with what is needed and fair to keep global warming below 2°C. The need for a transformation in all sectors is also recognised in the INDC as it states that the Philippines "views the need to peak its emissions as an opportunity to transition as early as it can to an efficient, resilient, adaptive, sustainable clean energy-driven economy, and it is determined to do so with partners from the global community." A disentanglement in the commitment of LULUCF emissions from other emissions (from energy, industry and agriculture) would be in line with the mentioned transformation and peaking.

Fair share

We rated the Philippines "medium". Since the INDC does not provide a quantified BAU and does not distinguish between LULUCF and other emissions, there is large uncertainty on what the impact on emissions could be.

However, current policy projections on emissions are heading towards levels that fall in the "medium" rates and these levels are in line with effort-sharing approaches that focus on equality and equal cumulative per capita emissions. Approaches that focus on responsibility would require more stringent reductions.

The "medium" rating indicates that the Philippines' climate commitments are at the least ambitious end of what would be a fair contribution. This means it is not consistent with limiting warming to below 2°C unless other countries make much deeper reductions and comparably greater effort. An unconditional reduction target could therefore be proposed to reflect the Philippines' responsibility.

A (partly) unconditional reduction target, also specified for emissions excluding LULUCF and the inclusion of the BAU, could move the Philippines to a "sufficient rating", meaning climate plans are at the most ambitious end of its fair contribution. This means it would be consistent with limiting warming to below 2°C without requiring other countries to make much deeper reductions and comparably greater effort.

Current policy projections

Both implemented and planned policies are not sufficient to achieve the INDC target.

Emissions growth will be predominantly driven by increased emissions from transport and coal-fired electricity generation. Without the renewable energy target and energy efficiency targets (see "planned policy projections" below), emissions under current policies (excluding LULUCF) are expected to increase by up to about 250 $MtCO_2e$ in 2020 and 350 $MtCO_2e$ in 2030 (the upper end of the range of the 'Current policy projections' in the graph – excl. LULUCF emissions). If all coal power plants – more than 10 GW - that were announced this year[3] are constructed, total emissions will likely evolve in line with the high end of current policy projections. The new coal plants alone could result in about 60 $MtCO_2$ of additional emissions by 2025.

The National Climate Change Action Plan (NCCAP) offers a framework to implement mitigation and adaptation strategies and involves institutional changes and capacity building to facilitate climate change policies. However, the NCCAP in itself does not enforce measures that can be quantified and the targets from the NCCAP are not included in current policy projections.

In the current policy projections, we quantified the impact of mandatory use of biofuel blends, mandated by the Biofuels Act (2006), which mandates a 10% share (in volume) of bioethanol in gasoline (after July 2010).

GHG emissions in the Philippines were 153 $MtCO_2e$ in 2010, excluding LULUCF. Net emissions from LULUCF decreased from nearly zero in 1994 to -105 $MtCO_2$ in 2000 (UNFCCC, 2015), but this change is partly attributed to changes in accounting (UNFCCC, 2014). A logging ban in the 1990s may also have contributed to the net removal of GHG emissions. The Philippines' plans to improve monitoring and assessment and implement the national REDD+ strategy, which could contribute to reforestation. There are no BAU projections on LULUCF provided in the INDC, resulting in large uncertainties on future emissions.

Planned policy projection

Measures related to energy efficiency and renewable energy are proposed in a roadmap, but these targets have not yet been translated into actual implemented policies. Therefore, we show these targets in a planned policy projection. In the planned policy projection we included 'The National Renewable Energy Program', which sets out a tripling of renewable energy capacity from 2010 - to 15 GW by 2030 along with a share of 40% of electricity production from renewables, and 'The Energy Efficiency and Conservation Roadmap,' which mandates energy savings equivalent to 10% across energy demand sectors in 2030, compared to the reference energy demand outlook.

If the Philippines fully implements its current policies and proposed targets, most notably the tripling in renewable power capacity by 2030, compared to 2010, and achieves its 10% energy efficiency target, total GHG emissions in 2020 and 2030 could increase to approximately 190 and 230 $MtCO_2e$, respectively ('Planned policy projections including EE and RE roadmaps' in the graph). This would be a reduction of 11% in 2020 and 25% in 2030 compared to the lower end of our current policy projections.

Assumptions

Historical emissions

The historical dataset is based on CO_2 from fuel combustion from the IEA (IEA, 2014); other CO_2 and non-CO_2 emissions are taken from EDGAR (JRC/PBL, 2012).

INDC

Because the INDC does not specify the BAU pathway, we applied the average of the current policy projections as estimated by CAT (see the next section) as a BAU. The energy-related emissions used in the current policy projects are in line with energy-related emissions communicated in a draft INDC (Republic of the Philippines, 2015).

Current policy projections

The reference emissions level (without current policies) is based on the APERC Energy Demand and Supply Outlook – 5th Edition Philippines (APERC, 2012). This contains a growth in electricity demand of 4.2% per year between 2010 and 2030 and a growth in renewable electricity generation of 1% over the same period. The World Bank (2010) produced reference scenarios for transport and electricity production that project a steeper growth in emissions than APERC. These higher transport and emissions from electricity are included in the maximum range of the current policy projections.

The Second National Communication (UNFCCC, 2014) also provides a baseline for the energy sector, however the base year of this scenario was 2000 and projected emissions by 2020 are about 30% below APERC estimations. Therefore, this baseline is not used in this analysis.

Non-CO_2 and non-energy CO_2 emissions are based on EDGAR (JRC/PBL, 2012). Projected growth rates from US EPA (2012) are used to estimate the growth in non-CO_2 emissions, while other CO_2 emissions grow proportional to the projected energy demand.

For the maximum end of the range of current policy projections, the impact of the mandatory biofuel blending was quantified and subtracted from the reference level of the APERC baseline, combined with the World Bank scenario. For the minimum end of the range of current policy projections, the impact of the mandatory biofuel blending was subtracted from the reference level based on only the APERC reference levels.

The impact of the 'The National Renewable Energy Program' and 'The Energy Efficiency and Conservation Roadmap' were quantified and subtracted from the APERC reference scenario. This shows the minimum level of expected emissions if all currently planned policies are implemented ('Planned policy projections including EE and RE roadmaps).

Sources

APERC APERC Energy Demand and Supply Outlook – 5th Edition Philippines. Asia Pacific Energy Research Centre (APERC), Tokyo, Japan.

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UNFCCC (2014). Second National Communication to the United Nations Framework Convention on Climate Change- Philippines.

World Bank (2010). A Strategic Approach to Climate Change in the Philippines - An Assessment of Low-Carbon Interventions in the Transport and Power Sectors. World Bank, Wahsington, D.C., USA.

Footnotes

[1] This assumes LULUCF emissions in the BAU scenario are near zero, in line FAOstat ("FAOSTAT Emissions Database," 2015) estimates for 2012. Since the BAU is not provided in the INDC there is large uncertainty around the projected emissions.

[2] While creating carbon sinks can contribute to global GHG emissions reductions, the decarbonisation of energy consumption and industry is pivotal to achieve long term climate mitigation targets.

[3] See for example: http://www.philstar.com/business/2015/07/07/1473990/coal-plants-produce-almost-70-electricity.

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