Climate Action Tracker

COP26 Glasgow

INITIAL ASSESSMENT

Climate Action Tracker

Glasgow sectoral initiatives currently close the 2030 emissions gap by 9%

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CLIMATE ANALYTICS

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Summary

The key sectoral pledges announced at COP26 in Glasgow on methane, the coal exit, transport and deforestation would **close the 2030 emissions gap between a 1.5°C path and government targets by around 9% - or 2.2 $GtCO_2e$**. This includes only the signatories of respective initiatives as of 10 November 2021, and only accounts for reductions that are not already planned to achieve the submitted NDCs.

With the Glasgow sectoral initiatives, the **emissions gap in 2030 reduced by a total of 24–25%**; the sectoral initiatives add to the NDC updates, which alone reduced the gap by 15-17% (Climate Action Tracker's latest analysis).

Sectoral initiatives help implement action, but with current signatories only narrow the emissions gap to a limited extent. We would recommend that governments update their NDCs if participation in the initiative is not covered already by their target. If these initiatives gather more signatures, they could further reduce the gap by several $GtCO_2e$.

Even with all new pledges and such sectoral initiatives for 2030, global emissions are still expected to be almost twice as high in 2030 as necessary to for a 1.5°C compatible pathway. Therefore, all governments need to reconsider their targets towards COP27 in 2022 to jointly enhance mitigation ambition.

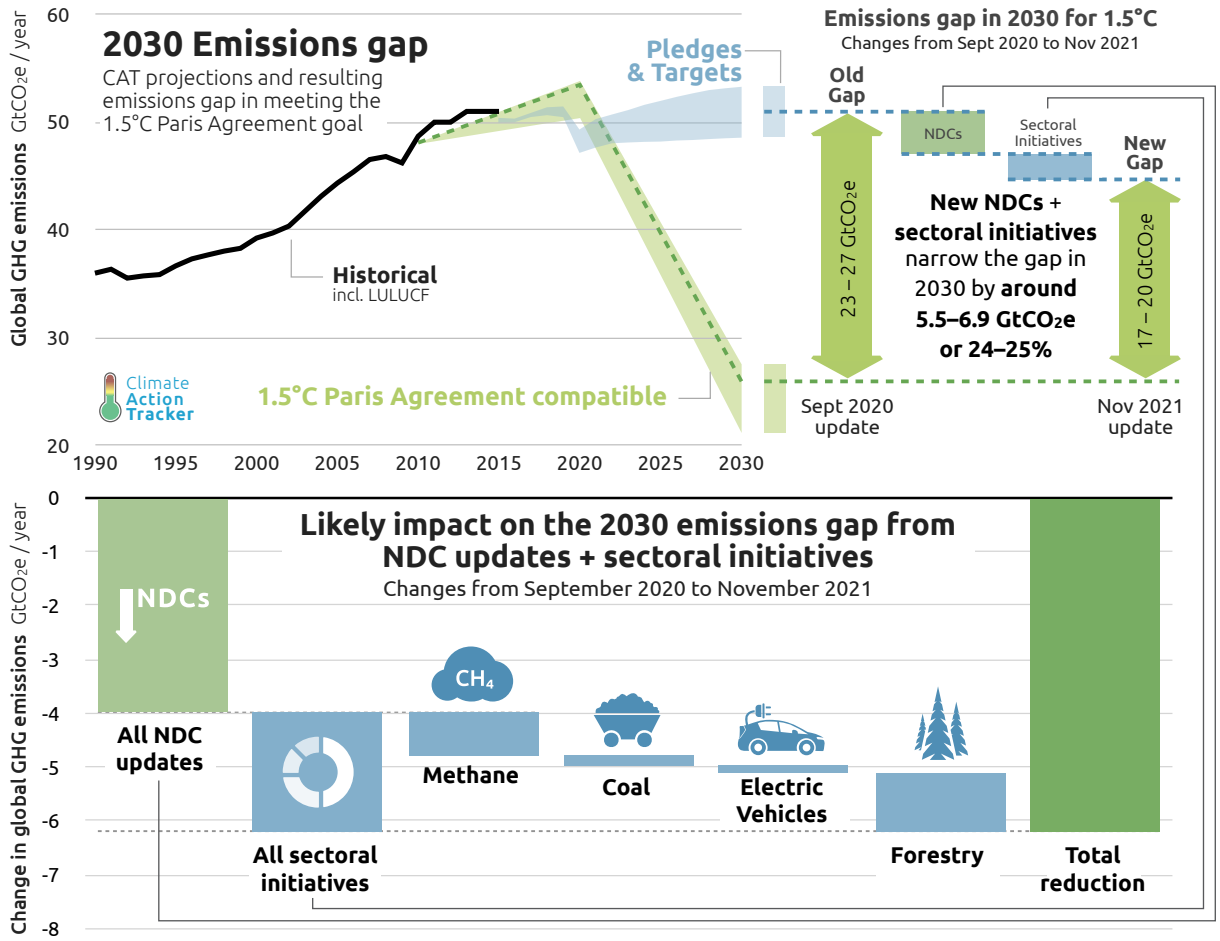

Figure 1 Potential of sectoral initiatives (methane, deforestation, coal exit, electric mobility) announced at COP26 to close the 2030 emissions gap in addition to new Glasgow NDC updates. Note: The likely emission reduction impact of updated NDCs ranges from 3.3 to 4.7 $GtCO_2e$ (15-17% of the 2030 emissions gap), displayed as the average of 4 $GtCO_2e$ above.

Global Methane Pledge (GMP)

CAT estimates

Likely impact: The participant countries of the Global Methane Pledge (GMP) are collectively expected to deliver 0.8 $GtCO_2e$ (range of 0.6–1.1 $GtCO_2e$, "likely impact") of additional emissions reductions in 2030 compared to the CAT 'pledges and targets' scenario.

Potential impact: If all those who did not sign up to this pledge, including large methane emitters like China, India and Russia were to sign up, the additional emission reductions could be as high as 1.4–2.4 $GtCO_2e$ below the 'pledges and targets' scenario projections.

The Global Methane Pledge (GMP)

The GMP is an initiative led by the United States and the European Commission to reduce global anthropogenic methane (CH_4) emissions across all sectors by 30% below 2020 levels by 2030. The GMP was launched during the first week of COP26 and, as of 11 November 2021, 108 countries and the European Commission have signed up to the initiative.

Methodology

Using the PRIMAP-Hist emissions database (which is based on country-reported data where available), we estimated that the GMP participant countries as of 11 November 2021 collectively cover about 45% of global anthropogenic CH_4 emissions in 2019, which were 319 $MtCH_4$ or 8 $GtCO_2e$. CH_4 emissions for 2020, the reference year used by the GMP, was assumed to remain at 2019 levels.

For country-specific emission estimates under the NDCs, the lower bound estimates assumed the growth rates of CH_4 emissions between 2019 and 2030 to be identical to those for all greenhouse gases under the NDC scenario projections; the upper bound estimate assumed that the 2030 emissions would remain at 2019 levels. The resulting CH_4 emissions projections in 2030 for the current GMP participants under NDCs were collectively 8% below the 2019 levels (range of 0–15%). We count the difference of 30% - 8% = 22% as additional to NDCs.

Global Coal to Clean Power Transition Statement

CAT estimates

Likely impact: We calculate the current signatories to the UK Presidency's COP26 Global Coal to Clean Power Transition Statement will collectively deliver 0.2 $GtCO_2e$ additional emissions reductions in 2030 above the CAT 'pledges and targets' scenario ("likely impact"). This remains far from the required 80% reduction of global coal use in electricity generation below 2010 levels.

Potential impact: If the membership of this pact were to include all OECD countries, and those countries with the largest coal pipelines, the impact could grow to around 2 $GtCO_2e$.

Global Coal to Clean Power Transition Statement

The detail of what governments have committed to is important. Clause 2 of the statement says signatories will "transition away from unabated coal generation in either the 2030s for major economies," or 2040s otherwise. Clause 3 states that signatories pledge "to cease issuance of new permits and stop new construction for any planned coal plants which have not already achieved financial closure." Some governments (Morocco) have not signed up to Clause 2, or to Clause 3 (Indonesia, The Philippines and Botswana). The Philippines has 'partially' signed up to Clause 2. After the announcement, Poland indicated it will not phase out coal before 2049.

We calculate that the current signatories to Clause 2 are collectively expected to deliver below 0.1 $GtCO_2e$ ("likely impact") of additional emissions reductions in 2030 compared to the CAT 'pledges and targets' scenario. This assumes all major economies that signed up to the pledge would phase out their existing coal fleet by 2035. A phase-out later in the decade would lead to an even smaller contribution in reducing the emissions gap. This low estimate of additional emission reductions is driven by the fact that phasing out coal long after 2030 only affects emissions in 2030 to a limited extent.

When assuming all major economies in the world would phase out their existing coal fleet by 2035, we arrive at an emissions reduction potential of around 0.8 $GtCO_2e$ ("potential impact"). Our findings emphasise the need for coal-fired power generation to decline rapidly over this decade, with OECD countries phasing out coal completely by 2030, and a global phase-out by 2040. This is a key transformation necessary to keep the 1.5°C warming limit of the Paris Agreement in sight.

Signatories to Clause 3 commit to cancelling their full coal plant pipeline which have not already achieved financial closure. Here, we calculate that signatories, collectively, will deliver around 0.08 $GtCO_2e$ ("likely impact") of additional emissions reductions in 2030 compared to the CAT 'pledges and targets' scenario. Some countries with the some of largest coal capacity pipelines, such as Indonesia, the Philippines, and Botswana have explicitly excluded signing up to this clause.

If every country in the world, including these three countries, were to cancel all their coal power plant development plans, we estimate the overall emissions reduction potential by 2030 to be 1.2 $GtCO_2e$.

Methodology

We assume for clause 2 signatories a phase-out of coal by 2035 for major economies committed to the pledge given its broad definition of transitioning away from unabated coal generation in 2030s for major economies, with a linear reduction of coal capacity from 2022. For other signatories we assume there will be no impact on emissions reductions on their 2030 emissions, because the phase-out is only required to occur in the 2040s. We have not counted the impacts for governments that already include a coal phase-out in their NDCs. We assess likely avoided emissions based on the full closure of the coal pipeline of clause 3 signatories, unless countries have explicitly excluded this clause.

To assess the full potential of emissions reduction from the pledge, we assume a coal phase-out for all OECD countries by 2035 with a linear reduction from 2022 and full cancellation of the coal pipeline worldwide. The current capacity and the coal pipeline capacity are taken from the Global Coal Plant Tracker.

Declaration on Accelerating the Transition to 100% Zero Emission Cars and Vans

CAT estimates

Likely impact: We calculate that the current signatories of the COP26 declaration on accelerating the transition to 100% zero emission cars and vans are collectively expected to deliver below 0.1 $GtCO_2e$ ("likely impact") of additional emissions reductions in 2030 compared to the CAT 'pledges and targets' scenario.

Potential Impact: If all government, including major automobile manufacturing countries such as Germany and the United States, were to sign up to the declaration, the additional emission reductions could be as high as 0.75 $GtCO_2e$ below 'pledges and targets' scenario projections ("potential impact").

Declaration on accelerating the transition to 100% zero emission cars & vans

The declaration on accelerating the transition to zero emission vehicles led by the UK COP26 Presidency aims to reach a 100% share of new cars and vans being zero emissions globally by 2040, and by no later than 2035 in leading markets. These benchmarks are in line with the Climate Action Tracker's Paris Agreement compatible benchmark for passenger transport, to reach at least a 95% market share by 2030 for developed countries, and 100% in almost all countries by 2040.

As of 10 November 2021, a total of 22 countries have signed up to the declaration's clause 2-A, committing to the a phase out by 2035 for leading markets (18 signatories) and 2040 for non-leading markets (4 signatories) respectively. At the time of writing, signatories from major automobile manufacturing countries such as Germany, Japan, the United States, China, or France are missing.

Other clauses in the declaration provide dates for non-state actors (by 2035 for public vehicle fleets), automobile manufacturers (all sales by 2035), business fleet owners (by 2030 for fleet), and investors (all sales by 2035) to switch to zero emission new cars and vans. We have not quantified the impact of these actors.

Methodology

Using the IEA Greenhouse gas emissions from energy database, we estimated that the signatory countries to clause 2-A, as of 10 November 2021, collectively cover about 9% of global road transport emissions in 2019 (including passenger, freight, and public transport), which were roughly 6 $GtCO_2e$.

For country-specific emission estimates under the NDCs in 2030, we assume the average growth rates of road transport emissions between 2019 and 2030 to be identical to those for all greenhouse gases under the NDC scenario projections.

To calculate the "likely impact", we compare these estimates for 2030 to estimates of a linear emissions reduction to a fully decarbonised road transport sector, assuming a lifetime of 15 years for internal combustion engine vehicles. Hence, we assume a car fleet of 100% EVs in 2050 for leading markets and 2055 in non-leading markets.

For our "potential impact" estimate assessing emissions savings by 2030 from reaching 100% global EV sales by 2035, we use a global s-curve stock model of Light Duty Vehicles fleet assuming a carbon intensity of electricity consistent with the IEA Beyond 2 Degrees Scenario (B2DS). We compare the level of emissions obtained to the projected emissions from the Transport Summary from the Energy Technology Perspective Reference Scenario for Light Duty Vehicles in order to estimate overall reduction potential. We do not consider other modes of transport including heavy duty vehicle and non-passenger vehicle road transport.

For comparability, the potential emissions from the IEA B2DS scenario against its reference case would lead to around 1.6 $GtCO_2e$ for Light Duty Vehicles. We further assume that approximately half of these reductions are already embedded in stronger NDCs including, e.g., the EU and US NDCs which explicitly include transport electrification components. For the UK, we already include the 2035 target in our current policy projections as part of the UK's Ten Point Plan.

Glasgow Leaders' Declaration on Forests and Land Use

CAT estimates

Likely impact: We calculate the more than 100 signatories to the Glasgow Leaders' Declaration on Forests and Land Use, could deliver 1.1 $GtCO_2$ ("likely impact") of additional emissions reductions in 2030 compared to the CAT 'pledges and targets' scenario.

Potential impact: We estimate a maximum potential on top of existing commitments and targets to be about a total of around 2-3 $GtCO_2$ if all countries were to sign up, including Indonesia, which later reversed its decision. However, the lack of progress by many signatories in keeping to previous commitments to end deforestation under the New York Declaration on Forests, brings into question how this Glasgow declaration will be converted into concrete action on the ground.

Glasgow Leaders' Declaration on Forests and Land Use

More than 100 global leaders pledged "to halt and reverse forest loss and land degradation by 2030" at the beginning of COP26. We interpret this pledge as halting all deforestation within a signatory's borders by 2030, and therefore look to the latest available data of emissions due to deforestation as reported by individual countries.

Emissions from deforestation and land-related activities are highly uncertain, as are estimates of potential emissions reductions and removals through action in this sector. According to nationally reported data, in 2015 the level of emissions from deforestation was around 4.5 $GtCO_2$, globally. We take this as a likely upper limit to the potential for mitigation through reducing deforestation, noting that deforestation emissions have recently been on an upwards trend.

Some of this potential is already captured by the NDCs. Grassi et al (2017) estimated that LULUCF emissions under the NDCs would be at least 1 $GtCO_2$ lower than under existing policies, but this is not only from deforestation; forest and ecosystem restoration are also included in a number of NDCs. An alternative way to estimate the effect of NDCs is to look at modelled results of emission pathways that are largely in line with current NDCs, which see a downward trend in land-use emissions. While their starting points vary, the best estimate of LULUCF CO_2 reductions arising from these scenarios is 33% resulting from policy action consistent with NDCs. From these estimates of the LULUCF mitigation covered by the NDCs, we assume that reducing deforestation makes up a large component.

Many countries had previously signed up to the 2014 New York Declaration on Forests, committing to halt and reverse global forest loss. Of the 4.5 $GtCO_2$ of deforestation emissions in 2015, around 1.5 $GtCO_2$ are from countries that signed up to both the New York declaration and the recent pledge in Glasgow, suggesting that reducing these emissions would not be additional. Considering only signatories that have not also signed up to the New York declaration, we estimate a maximum of around 2 $GtCO_2$ of deforestation emissions reductions could be additional to what is in the NDCs, or up to around 3 $GtCO_2$ if all other countries were to sign up.

For this level of additional mitigation to be realised, emissions from deforestation in countries with the highest rates of forest loss need to drop to zero by 2030. This would require a dramatic improvement and expansion in forest protection, and unfortunately the experience from previous commitments–including the New York declaration–suggest that this will be a challenge to implement.

Indonesia has already changed course since signing the pledge, and the lack a deforestation target in Brazil's updated NDC suggests that a key signatory has no plan in place to implement the commitment. Until we see the necessarily levels of finance, governance and plans, measures on the ground and systems for monitoring progress, we cannot be confident that these emissions reductions will be achieved.

Methodology

We estimate the potential impact of this pledge by combining our land-use policy projects for countries within the Climate Action Tracker with relevant country-reported data as well as data on forestry removals and gross deforestation emissions from Grassi et al (2021). For countries we assess,

we estimate net land-use emissions under current policies in 2030 or a government projection, if available, to determine the total potential for the pledge for these countries. For countries we do not assess in detail in the Climate Action Tracker, we look at net emissions from Grassi et al. (2021). In both cases, we exclude any country which has previously signed up to deforestation pledges (the NYCDF). In total we arrive at 1.1 $GtCO_2$, of which potential contributions from Brazil comprise about 20%.

To arrive at our maximum potential estimate, we assess the total carbon fluxes from deforestation to date in Grassi et al. (2021) and apply a reduction factor based on LULUCF emissions in current policy scenarios from the relevant scientific literature. We arrive at an estimate of approximately 3 $GtCO_2$, given that scenarios reduce such emissions by about 1/3 in the 2020s.

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The Climate Action Tracker (CAT) is an independent scientific analysis produced by two research organisations tracking climate action since 2009. We track progress towards the globally agreed aim of holding warming well below 2°C, and pursuing efforts to limit warming to 1.5°C.

climateactiontracker.org

Climate Analytics is a non-profit climate science and policy institute based in Berlin, Germany with offices in New York, USA, Lomé, Togo and Perth, Australia, which brings together interdisciplinary expertise in the scientific and policy aspects of climate change. Climate Analytics aims to synthesise and advance scientific knowledge in the area of climate, and by linking scientific and policy analysis provide state-of-the-art solutions to global and national climate change policy challenges.

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NewClimate Institute is a non-profit institute established in 2014. NewClimate Institute supports research and implementation of action against climate change around the globe, covering the topics international climate negotiations, tracking climate action, climate and development, climate finance and carbon market mechanisms. NewClimate Institute aims at connecting up-to-date research with the real world decision making processes.

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