



FACTSHEET #1

Status of the country
commitments till 2030

ON THE ROAD TO

C  **P**

26



DISCUSSION PAPER SERIES:
GLOBAL CLIMATE CHANGE STRATEGY

Status of the country commitments till 2030 to keep the world below 1.5°C or even 2°C temperature rise

In 2020, the fifth year since the adoption of the Paris Agreement, the 191 countries that ratified the Agreement were required to submit their second Nationally Determined Contribution (NDC). The NDCs are voluntary commitments made by member countries to reduce greenhouse gas (GHG) emissions to help the world achieve its goal of keeping global temperature rise this century to well below 2°C above the pre-industrial level and to pursue efforts to limit the temperature increase even further to 1.5°C.

In accordance with the Paris Agreement's 'ratcheting mechanism', actions to address climate change must become progressively more ambitious over time, and countries are expected to submit updated NDCs every five years. Each submission would be more ambitious than the last, i.e., ratcheted up. Accordingly, countries had to submit their second NDC by late 2020.

New NDCs lower emissions by 0.5%

In its first NDC Synthesis Report¹ published in February 2021, the first of two planned instalments, the United Nations Framework Convention on Climate Change (UNFCCC) summarized the carbon reductions of 48 updated NDCs. These represented 75 of the 191 countries signed on to the Paris Agreement. Altogether, these nations contributed about 30 per cent of global GHG emissions in 2017.

As per the report, there is a huge gap between what the world needs to do and what the world has agreed to do in the updated NDC targets. It finds that, if implemented, the NDCs will lead to total GHG emissions of around 14.04 gigatonnes carbon dioxide equivalent (GtCO₂e) in 2025, which is 0.3 per cent lower (38 million tonnes CO₂e) than the total emission levels according to the Parties' previous NDCs, and 2.8 per cent lower in 2030 (398 million tonnes CO₂e) than the earlier NDCs.

Furthermore, the assessment says

'The Parties' total GHG emissions are, on average, estimated to be:

- By 2025, 2.0 per cent higher than the 1990 level (13.77 GtCO₂e), 2.2 per cent higher than the 2010 level (13.74 GtCO₂e) and 0.5 per cent higher than the 2017 level (13.97 GtCO₂e).
- By 2030, 0.7 per cent lower than in 1990, 0.5 per cent lower than in 2010 and 2.1 per cent lower than in 2017.'

In other words, the world in 2030, as per the current level of country commitments/targets, will have 0.7 per cent lower total greenhouse gas emissions than when it started its negotiations for a climate change agreement in 1990. The lofty claims have not resulted in any real change.

A few countries such as the United States (US) have submitted updated NDCs after the February report. The UNFCCC will release a second and final Synthesis Report prior to the Conference of Parties (CoP) meeting in Glasgow, CoP26, to account for these updates.

Stronger near-term targets for 2030 are critical

According to the Special Report on Global Warming of 1.5°C (SR15) by the Intergovernmental Panel on Climate Change (IPCC)², global net CO₂ emissions will need to decline by about 45 per cent below the 2010 level by 2030, reaching net zero by 2050, to limit warming to 1.5°C. To limit warming to below 2°C, emissions must be cut by 25 per cent below 2010 levels by 2030.

Delayed mitigation efforts can lock the energy system into fossil intensive infrastructure³, and necessitate an over-reliance on unproven carbon dioxide removal (CDR) technologies or much higher annual cuts to CO₂ emissions, to keep warming to below 2°C. Thus, countries need to ramp up their short-term climate policy ambition till 2030 to avoid greater climate damages later this century⁴.

Assessing 2030 targets by country

The following sample set of seven entities—China, US, the European Union (EU-27), India, Russia, Japan, and the United Kingdom (UK)—comprised 66 per cent of global CO₂ emissions in 2019. Six of these, excluding the UK, were the top emitters of CO₂ emissions in that year. The UK has been included owing to its historical contribution to global emissions.

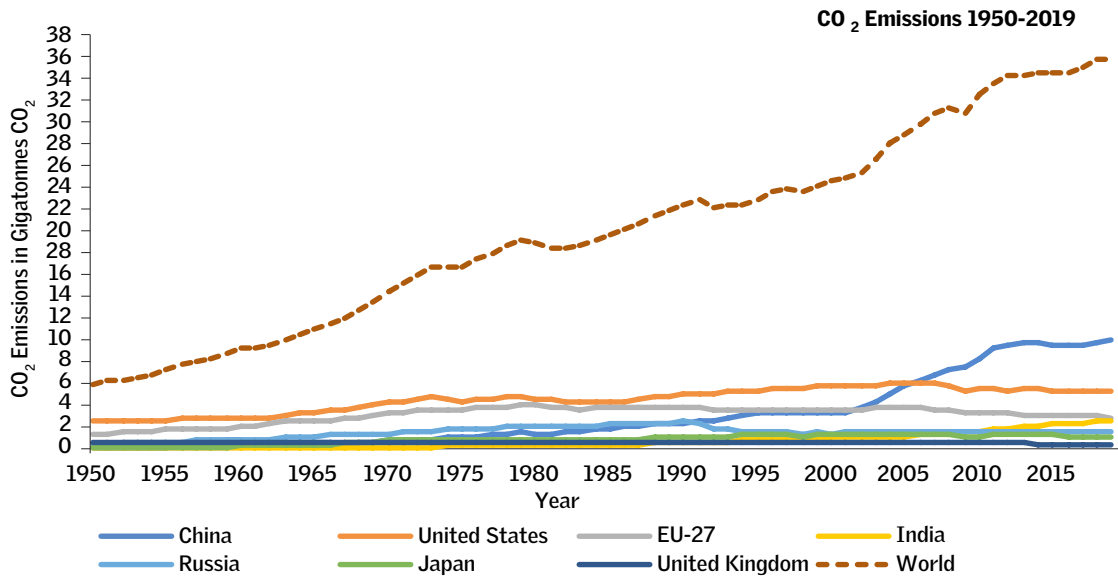
Table 1: Status of NDCs and annual share of global CO₂ emissions of selected countries

Selected countries	NDCs		Historical share of global CO ₂ emissions	Annual share of global CO ₂ emissions Green to yellow to red represents an increasingly higher share of global CO ₂ emissions				
	Status of NDC in 2020–21	2030 Goal (incl. LULUCF*)		1900–2019	2019	2015	2005	1990
China	New proposed but not submitted	Peak CO ₂ emissions before 2030 >-65% carbon intensity below 2005 by 2030 Non-fossil energy in primary energy consumption to ~25% by 2030 +6b m ³ forest stock volume in 2030 1200 GW wind and solar capacity by 2030	14%	27.92%	27.50%	19.62%	10.67%	1.31%
USA	New NDC submitted	-50–52% GHG below 2005 by 2030	25%	14.50%	15.37%	20.85%	22.59%	42.28%
EU-27	New NDC submitted	-55% GHG below 1990 by 2030	17%	8.00%	8.80%	12.74%	17.04%	21.25%
India	No new NDC	-33–35% emissions intensity below 2005 by 2030 Non-fossil power capacity 40% by 2030 +2.5–3 GtCO ₂ e cumulative sink by 2030	3%	7.18%	6.40%	4.03%	2.55%	1.02%
Russia	New NDC target submitted but without higher ambition	-30% GHG below 1990 by 2030	7%	4.61%	4.61%	5.26%	11.13%	6.93%
Japan	New proposed but not submitted	-46% GHG below 2013 by 2030	4%	3.04%	3.47%	4.39%	5.10%	1.71%
UK	New NDC submitted	-68% GHG below 1990 (below 1995 for F-gases) by 2030 -78% GHG below 1990 by 2035 (domestic target)	4%	1.01%	1.20%	1.94%	2.65%	8.35%

*Land use, land-use change, and forestry

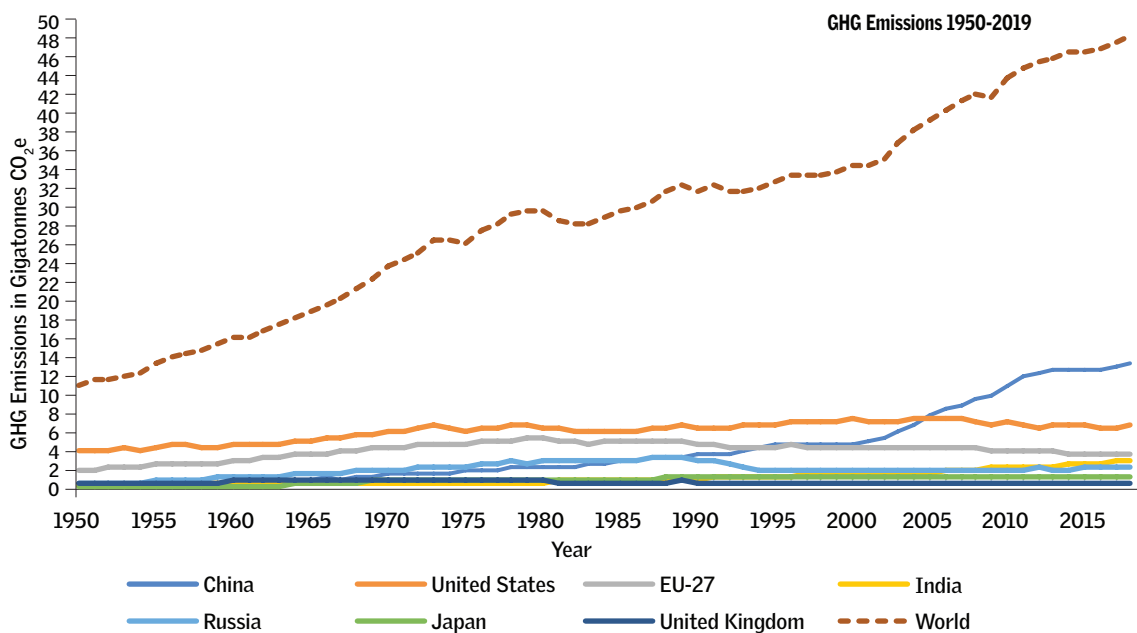
Source: Various sources; compiled by CSE

Graph 1: Trend in fossil CO₂ emissions for selected countries



Source: CSE; CO₂ emissions data from the Global Carbon Project

Graph 2: Trend in GHG emissions for selected countries



Note: The graph above covers the six GHGs covered by the Kyoto Protocol signed in 1997—CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆).

Source: CSE; GHG emissions data from Climate Watch—PIK

China

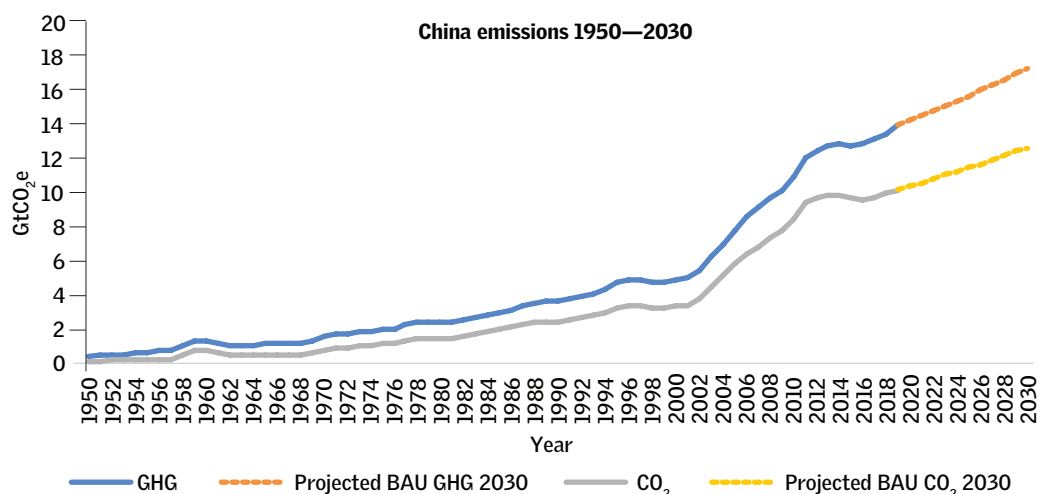
China proposed the following updated NDC targets at the UN’s Climate Ambition Summit in December 2020, but is yet to officially submit its revised NDC⁵:

- Peaking carbon dioxide emissions ‘before 2030’ (up from ‘around 2030 and making efforts to peak earlier’)
- Lower carbon intensity by ‘over 65%’ in 2030 compared to 2005 levels (up from ‘by 60–65%’)
- Share of non-fossil fuels in primary energy consumption to ‘around 25%’ in 2030 (up from ‘around 20%’)
- Increase forest stock volume by around 6 billion cubic metres in 2030 (previously 4.5 billion cubic metres); and
- Increase the installed capacity of wind and solar power to 1,200 GW by 2030.

China’s official NDC—submitted in Paris in 2016—is based on a carbon intensity target and, therefore, it does not have an absolute emission reduction number. However, the country has also declared that it will ‘peak’ its emissions by 2030 and in September 2020, it announced that it would achieve carbon neutrality by 2060.

In other words, it can be expected that from 2030 onwards, China will have GHG reduction targets. How drastic these will be and the pathways that will be adopted to achieve carbon neutrality are still unclear. What is somewhat clearer is that the country’s emissions are still on the rise. Between 2015–2019, China’s CO₂ emissions increased by 5 per cent.

Graph 3: Historical and future business-as-usual (BAU) emissions



Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch – PIK, 2030 BAU projection based on median rate of change between 2010–2019

Table 2: Emissions change from 1990, 2005 and 2015

Year	CO ₂ emissions	GHG
1990-2019	+320%	+283%
2005-2019	+76%	+79%
2015-2019	+5%	+10%

Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK

Status:

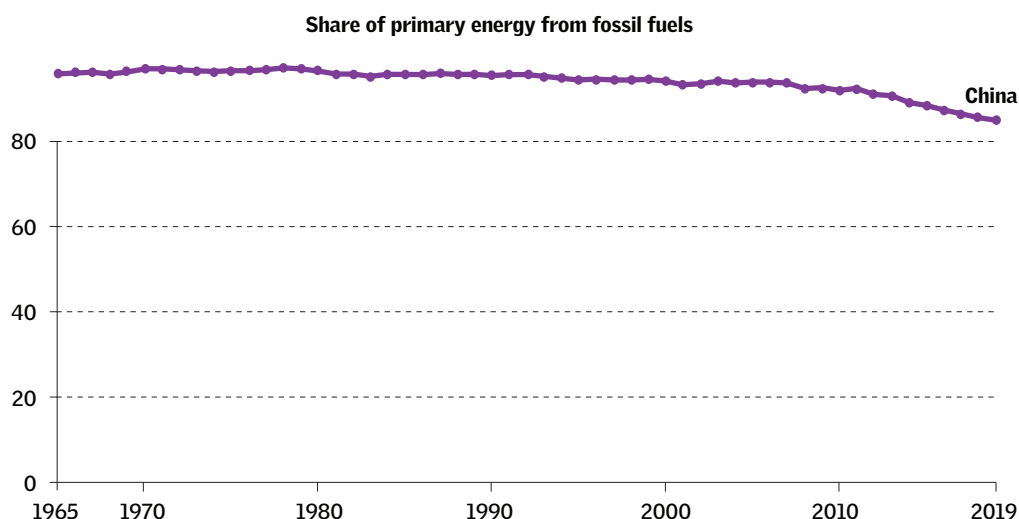
According to the Climate Action Tracker (CAT), China’s proposed updated NDC would result in a small increase in ambition. Owing to the modest level of ambition, China can meet or exceed the targets without significant mitigation efforts.⁶ The total emissions level in the new proposed NDC will be between 12.9–14.4 GtCO₂e in 2030, compared to 13.7–15.2 GtCO₂e of the Paris NDC. This is within China’s projected current emissions trajectory, according to CAT. Its current and proposed NDC have both been assessed by the CAT to be ‘highly insufficient’ (i.e., supporting a 4°C rise scenario), and not consistent with holding warming below 2°C or 1.5°C.

In the Emissions Gap Report 2020, the United Nations Environment Programme (UNEP) suggests that China will overachieve its unconditional NDC target with its currently implemented policies by just under 15 per cent.⁷

For all the talk of China’s renewable energy strategy, currently its domestic energy is still heavily reliant on coal, and with continued investments worth USD 474 billion in coal-power projects⁸, the nation is still pursuing the construction of coal-fired power plants. Restrictions on the construction of new coal-fired power plants by provinces were rolled back compared with 2019.⁹ As of 2019, 85.14 per cent of its primary energy still came from fossil fuels.¹⁰ Globally, China finances 72 per cent of the coal plants built outside of its borders today, according to Quartz.¹¹

In the post-COVID-19 recovery period this year, China’s CO₂ emissions have grown at their fastest pace in more than a decade, increasing by 15 per cent year-on-year in the first quarter of 2021, according to Carbon Brief.¹² Around 70 per cent of the increase in emissions in the first quarter of 2021 was due to increased use of coal, with growth in oil demand contributing 20 per cent and fossil gas demanding 10 per cent.

Graph 4: China's share of fossil fuels in primary energy expressed as a percentage (1965–2019)



Source: Our World in Data based on BP Statistical Review of World Energy (2020), <https://ourworldindata.org/fossil-fuels>

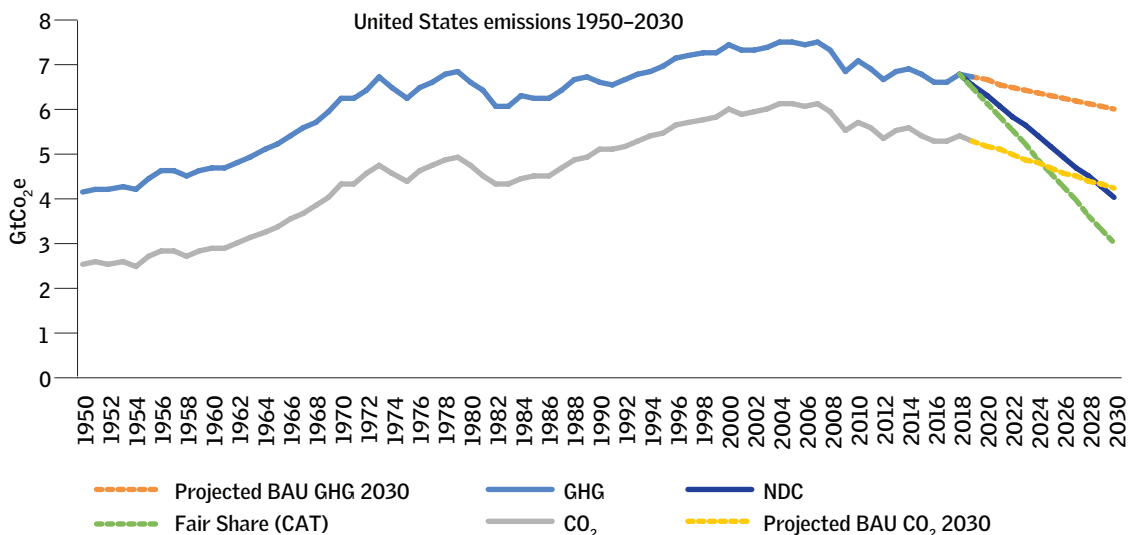
To achieve the Paris Agreement's goal of 1.5°C, China needs to implement substantial cuts to its carbon and non-carbon emissions over the next 30 years or so.¹³ To be consistent with the 1.5°C limit, it would need to drop carbon emissions by 90–112 per cent by 2050, and non-carbon emissions—methane and nitrous oxide—by an average of 71 per cent and 52 per cent, respectively.

United States of America

Emissions of the US peaked in 2005 according to the PBL Netherlands Environmental Assessment Agency¹⁴, and in 2007 according to the World Resources Institute.¹⁵

Under the new administration led by President Joe Biden, the US has announced its new NDC on 22 April 2021. It aims to reduce emissions by 50–52 per cent below 2005 levels by 2030, including emissions from land-use, land-use change and forestry (LULUCF). This can be translated to a reduction of 40–43 per cent below 1990 levels.¹⁶ CAT estimates that the goal translates to 43–50 per cent reduction in emissions below 2005 levels excluding LULUCF.

Graph 5: Historical and future BAU emissions



Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK, 2030 BAU projection based on median rate of change between 2010–2019 for CO₂, and 2010–2018 for GHG

Table 3: Emissions change from 1990, 2005 and 2015

Year	CO ₂ emissions	Year	GHG
1990–2019	+3%	1990–2018	+2%
2005–2019	-14%	2005–2018	-10%
2015–2019	-2%	2015–2018	-0.1%

Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK

Status:

In 2018, the US had reduced its GHG emissions by 10 per cent from 2005 levels, thus requiring a 40–42 per cent further drop between 2019 and 2030.

According to the US Environmental Protection Agency’s GHG inventory released in April 2021, net GHG emissions were 13 per cent below 2005 levels in 2019, requiring a 37–39 per cent drop by 2030.

According to the CAT, the US pledge of 50–52 per cent reduction in emissions will reduce the global ‘emissions gap’ in 2030 by 5–10 per cent, or leads to 1.5–2.4 GtCO₂e per year lower emissions in 2030. This falls short of a 1.5°C compatible

2030 target by 5–10 per cent, which would have brought a further emissions reduction of 0.3–0.8 GtCO₂e per year. For this, CAT had estimated a 57–63 per cent domestic target for the US (fair share line in the graph above) to be 1.5°C compatible by 2030, with additional support to developing countries.

The Fair Shares NDC estimate calculated by several prominent groups including ActionAid and the US Climate Action Network finds that a goal of 70 per cent domestic emissions reduction below 2005 levels by 2030, and a further 125 per cent reduction abroad through support to developing countries, will help the US meet the dual goal of 1.5°C and historical responsibility.

The US is still the world's largest oil and gas producer, and its per capita fossil fuel consumption in 2019 was higher than that of India by a factor of 10 (66,525 vs 6,303-megawatt hour).

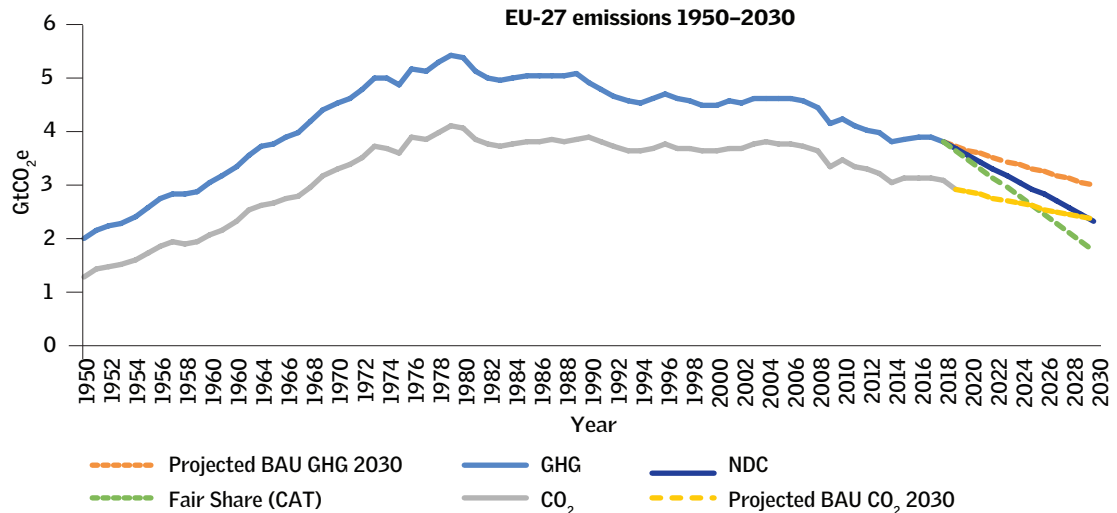
The pathways to achieving its NDC, its net zero by 2050 goal, and its goal of a carbon-free electricity sector by 2035 are yet to be specified, but it is likely that there will be a significant reliance on unproven negative emissions technologies (NETs) such as carbon capture and storage (CCS). This was further indicated by Climate Envoy John Kerry's recent comments that the US is counting on '50 per cent of future emissions reductions to come from technology that has not been invented yet'. Adding further to this problematic viewpoint, he alluded to there being no need to reduce consumption in the US and make changes to their quality of life such as eating less meat, owing to the potential of technologies 'that we don't yet have'.¹⁷

European Union (EU-27)

Emissions for the EU-27 peaked in 2005¹⁸ according to the PBL Netherlands Environmental Assessment Agency.

The EU announced a stronger NDC target of 'at least 55%' net reduction of GHG emissions below 1990 levels, on 11 December 2020. This translates to a 52.8 per cent cut in actual emissions when excluding LULUCF. It has also set a target of achieving net zero emissions by 2050.

Graph 6: Historical and future BAU emissions



Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK, 2030 BAU projection based on median rate of change between 2010–2019 for CO₂, and 2010–2018 for GHG

Table 4: Emissions change from 1990, 2005 and 2015

Year	CO ₂ emissions	Year	GHG
1990–2019	-25%	1990–2018	-22%
2005–2019	-22%	2005–2018	-17%
2015–2019	-6%	2015–2018	-1.7%

Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK

Status:

In 2018, the EU had reduced its GHG emissions by 22 per cent from 1990 levels, thus requiring a 30.8 per cent further drop between 2019 and 2030.

Some studies suggested that the EU would fall short of its previous NDC goal of 40 per cent below 1990 levels under current policies¹⁹, while CAT found that the EU was on track to achieve 48 per cent emissions reductions by 2030.²⁰

Much stronger sectoral emission reduction targets are required to achieve its new 55 per cent goal. Further, according to CAT, the EU needs to aim for a 58–70 per cent reduction below 1990 levels and extend greater support to developing countries for its climate goals to be compatible with the Paris Agreement.

While coal usage declined in 2019, cuts will need to come from member states that are still heavily reliant on coal, such as Poland. On the other hand, Germany has ramped up its own ambition, following a landmark ruling by its highest court that its climate action legislation is insufficient. The German government has since then set a revised goal of reaching climate neutrality by 2045 (compared with the EU goal of 2050), and 65 per cent emissions reductions by 2030 (compared with EU's 55 per cent).

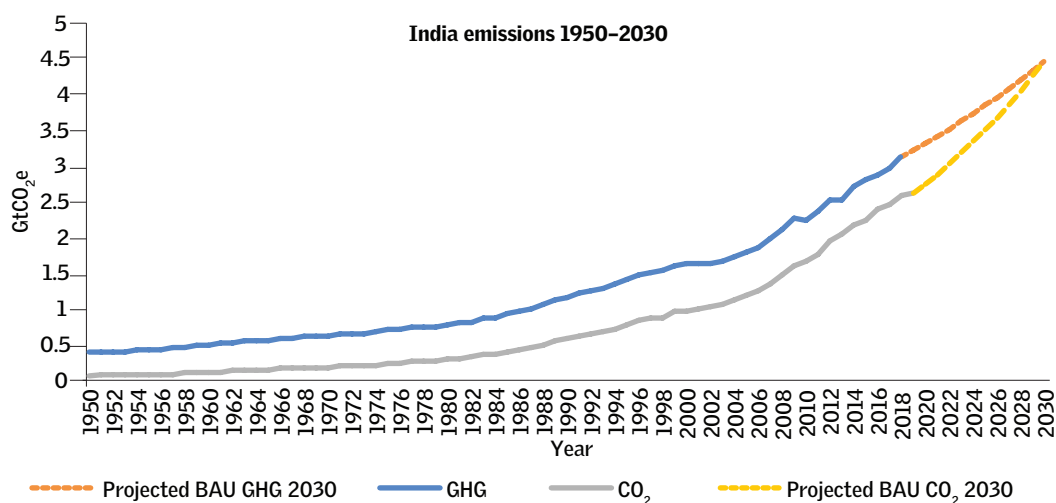
India

India has not made any updates to its first NDC, which was submitted on 02 October 2016. The goals under its first NDC are:

- To reduce the emissions intensity of GDP by 33–35 per cent below 2005 levels by 2030
- To increase the share of non-fossil-based energy resources to 40 per cent of installed electric power capacity by 2030, with help of transfer of technology and low-cost international finance including from Green Climate Fund (GCF), and
- To create an additional (cumulative) carbon sink of 2.5–3 GtCO₂e through additional forest and tree cover by 2030.

A verbal commitment was made to achieve 175 gigawatts (GW) of renewables by 2022. In September 2019, Prime Minister Narendra Modi announced at the

Graph 7: Historical and future BAU emissions



Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK, 2030 BAU projection based on median rate of change between 2010–2019 for CO₂, and 2010–2018 for GHG

Climate Action Summit in New York that ‘India further commits to increase its renewable energy capacity to 450 GW by 2030’.

At the Leaders Summit in April 2021, the Prime Minister announced a new India-US Climate and Clean Energy Agenda 2030 Partnership to mobilize investments in clean technologies for industry, transportation, power, and buildings.²¹

Table 5: Emissions change from 1990, 2005 and 2015

Year	CO ₂ emissions	Year	GHG emissions
1990-2019	352%	1990-2018	172%
2005-2019	121%	2005-2018	74%
2015-2019	16%	2015-2018	11.8%

Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK

Status:

In its BUR-3 to the UNFCCC submitted in February 2021, India stated that it had achieved a 24 per cent reduction in emission intensity of GDP in 2016, from 2005 levels. Estimates of emissions intensity of other datasets show a range of 21–24 per cent, as analysed by CSE, and it is likely that India will achieve its 2030 target of 33–35% reduction just on time.

In February 2021, installed renewable energy capacity stood at 94.5 GW comprising a 25 per cent share in total installed capacity for power generation. India may achieve only 65–69 per cent of its 2022 target of 175 GW.²² But its 2030 target may still be attainable as it includes hydropower as non-fossil energy.

Its third goal of enhancing forest cover by 2030, which equates to an additional 1/3 of existing green cover, is not on track to be met. In the 2019 India State of Forest Report, published by the government of India’s Forest Survey of India (FSI), it was stated that tree and forest cover together made up 24.56 per cent (8,07,276 sq km) of India’s area, representing an increase of 42.6 million tonnes of emission removal from the last assessment in 2017. Thus, official estimates placed India on the right track to achieve the third NDC goal. However, contradictions have been found. The report accounts for natural (intact forests) as well as plantations and other non-forests areas under tree cover. This affects the estimates of sequestration potential since the capacity to store carbon is 40 times higher for natural forests as compared to plantations.²³

In 2018, India's GHG emissions were a mere 6 per cent of the world's total despite having 18 per cent of the world's population. China, with a comparable population emitted 28 per cent of the world's GHG emissions.

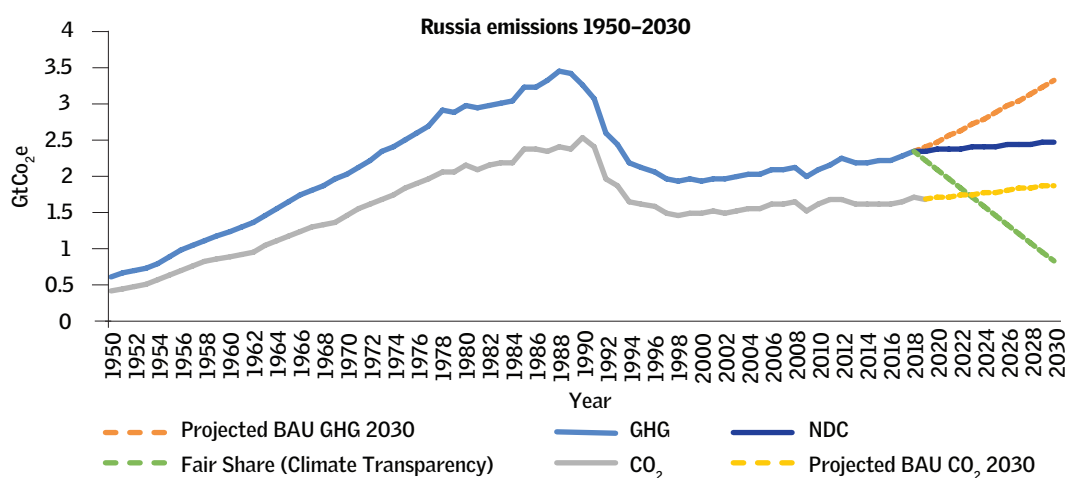
However, India's GHG emissions in 2018 were 172 per cent higher than in 1990, growing at a median rate of 3 per cent between 2010–2018, while CO₂ emissions grew at 5 per cent. To be in line with the 1.5°C limit, India's total emissions need to peak soon, and should ideally be 16 per cent below 2005 levels in 2030, according to Climate Analytics. This will require support from developed countries.²⁴

Russia

On 25 November 2020, Russia submitted an updated NDC to the UNFCCC with a promised reduction of at least 30 per cent below 1990 levels by 2030, taking into account the maximum possible absorptive capacity of forests. CAT estimates that the goal translates to 24 per cent reduction in emissions below 1990 levels excluding LULUCF.

Russia's emissions are expected to peak sometime before 2045, according to the PBL Netherlands Environmental Assessment Agency.²⁵

Graph 8: Historical and future BAU emissions



Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK, 2030 BAU projection based on median rate of change between 2010–2019 for CO₂, and 2010–2018 for GHG

Table 6: Emissions change from 1990, 2005 and 2015

Year	CO ₂ emissions	Year	GHG
1990–2019	-34%	1990–2018	-28%
2005–2019	8%	2005–2018	15%
2015–2019	3%	2015–2018	5%

Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK

Status:

In 2018, Russia had reduced its GHG emissions by 28 per cent from 1990 levels, thus requiring only a 2 per cent further drop between 2019 and 2030, according to its NDC. Part of this has been driven by a fall in fossil fuel emissions in the early 90s due to an economic recession, but emissions have risen again since then.

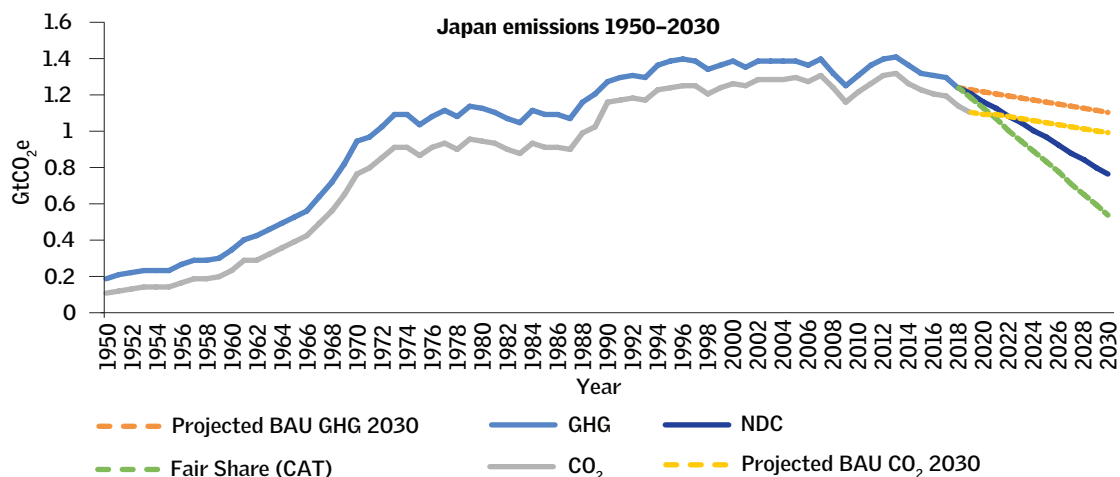
Russia's updated NDC is categorized as 'Highly Insufficient' by CAT and does not represent any real increase in ambition from its previous NDC. Owing to its low level of ambition, Russia is on track to achieve its 2030 target. The UNEP suggests that Russia will overachieve its unconditional NDC target with its currently implemented policies by over 15 per cent.²⁶

Emissions are projected to rise beyond 2030, and there is no plan for emissions to fall below current levels before 2050. Its current NDC would result in emissions in 2030 of over 2 GtCO₂e, but the Climate Transparency Report 2020 finds that its fair-share compatible range is below 0.828 GtCO₂e (*see fair share line in the graph above*).²⁷ Fossil fuels still make up 90 per cent of Russia's energy mix. Renewables continue to play a small role in Russia's energy future and are forecast to remain below 1–2.5 per cent of Russia's energy mix by 2035.

Japan

On 22 April 2021, Japan announced a new goal of 46 per cent cut to emissions by 2030 below 2013 levels, and to aspire to a 50 per cent reduction. This will be announced later in 2021 as an updated NDC.

Japan's emissions peaked in 2010²⁸, and it has set a target to achieve net zero GHG emissions by 2050.

Graph 9: Historical and future BAU emissions

Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK, 2030 BAU projection based on median rate of change between 2010–2019 for CO₂, and 2010–2018 for GHG

Table 7: Emissions change from 1990, 2005 and 2015

Year	CO ₂ emissions	Year	GHG
1990–2019	-4%	1990–2018	-2%
2005–2019	-14%	2005–2018	-10%
2015–2019	-9%	2015–2018	-6% (-12% from 2013)

Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK

Status:

In 2018, Japan had reduced its GHG emissions by 12 per cent from 2013 levels, thus requiring a 34 per cent further drop between 2019 and 2030, as per its NDC. Japan's proposed NDC update is significantly higher than its previous goal of 26 per cent.

The UNEP suggests that it will overachieve its unconditional NDC target with its currently implemented policies by less than 15 per cent.²⁹

However, to make its NDC 1.5°C compatible, CAT estimates that it needs to increase ambition to 62 per cent below 2013 levels by 2030 (see fair share line in the graph above), while Climate Analytics estimates a 65 per cent reduction.³⁰

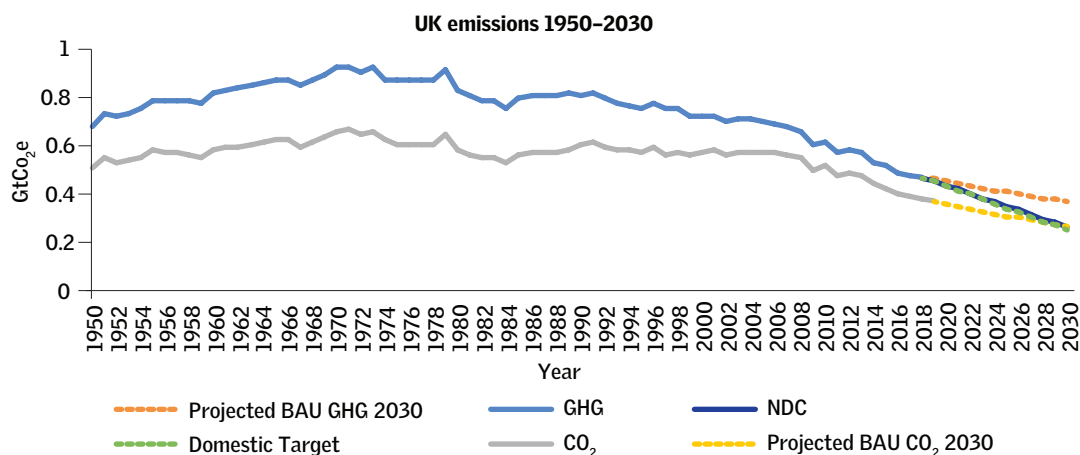
In 2019, 87.45 per cent of its primary energy still came from fossil fuels, down from 93 per cent in 2012.³¹ Correspondingly, emissions from power have been declining since 2013, mainly due to renewables and nuclear power. Reducing its emissions to a 1.5°C compatible emissions pathway would require a coal phase out roughly by 2031, and a fully decarbonized power sector by 2040 at the latest.³²

United Kingdom

The UK submitted its first NDC post-Brexit to the UNFCCC on 12 December 2020, of at least 68 per cent reduction below 1990 levels (1995 levels for F-gases). CAT estimates that the goal translates to a 69 per cent reduction below 1990 levels (excluding LULUCF and with 1995 levels for F-gases).

On 20 April 2021, it announced a more ambitious domestic target of 78 per cent emissions reductions by 2035 compared to 1990 levels, to be set in law. It has also set a target to achieve net zero emissions by 2050. The UK's emissions peaked in 1991.³³

Graph 10: Historical and future BAU emissions



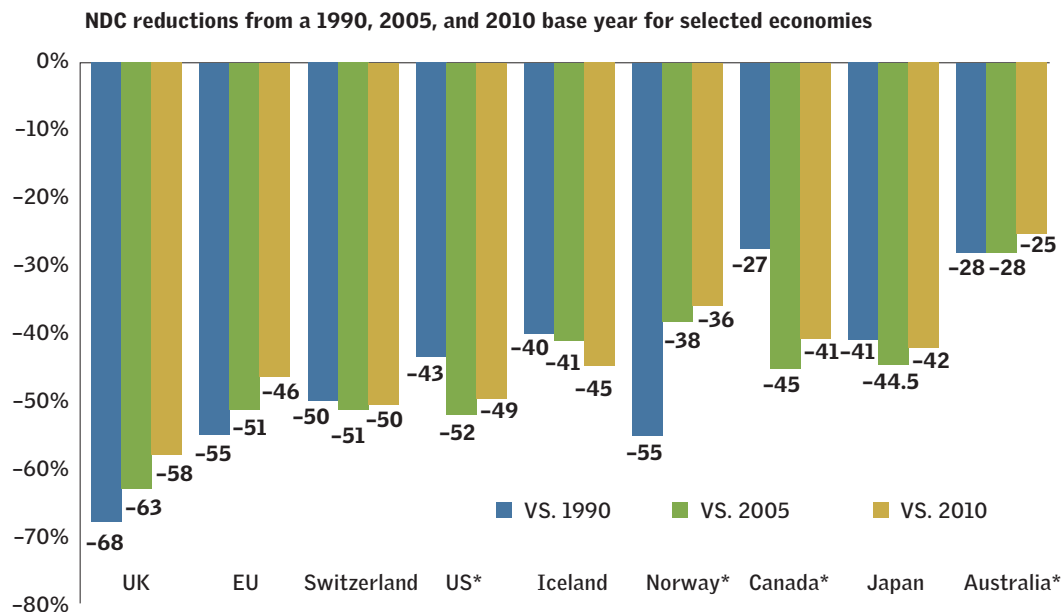
Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK, 2030 BAU projection based on median rate of change between 2010–2019 for CO₂, and 2010–2018 for GHG

Table 8: Emissions change from 1990, 2005 and 2015:

Year	CO ₂ emissions	Year	GHG
1990–2019	-38%	1990–2018	-42%
2005–2019	-35%	2005–2018	-33%
2015–2019	-12%	2015–2018	-9%

Source: CSE; CO₂ emissions data from the Global Carbon Project, and GHG data from Climate Watch—PIK

Graph 11: NDC reductions from a 1990, 2005, and 2010 base year for selected economies



Note: *Upper end of NDC presented as a range

Source: Rhodium Group, <https://rhg.com/research/climate-ambition-us-ndc/>

Status:

In 2018, the UK had reduced its GHG emissions by 42 per cent from 1990 levels, thus requiring a 26 per cent further drop between 2019 and 2030.

The Rhodium Group rates its NDC as the most ambitious among developed nation NDCs and targets announced in April 2021.

According to official estimates, the UK's emissions fell to 49 per cent below 1990 levels in 2020, indicating halfway progress to its net zero by 2050 goal.³⁴

However, specific policy pathways need to be developed to help the UK achieve its NDC and net zero target. The UK government's own emissions projections show that under current policies it is not on track to achieve its NDC, as CAT reports. The latest Net Zero report³⁵ by the UK's Climate Change Committee (CCC) builds in short-term decarbonization of the power sector through expansion of renewables and phaseout of coal in the 2020s but relies heavily on NETs such as bioenergy with carbon capture and storage (BECCS) in the 2030s and 2040s—i.e., 'engineered removals' of up to 53 MtCO₂ by 2050.³⁶

Conclusion

A quick look at the pledges and emissions of the top emitters reveals a large gap between ambition, and the transformative short-term actions needed to decarbonize their economies and limit global temperature rise. The two largest emitters, the US and China, are not definitively on track to achieve their 2030 targets and continue the unrestrained production and use of fossil fuels. India is mostly on track to achieve its 2030 goals, and has a minimal contribution when considering the size of its population. Countries like the UK and EU-27 have seemingly ambitious targets, but lack strong sectoral pathways to achieve them, resulting in ambiguity around how they plan to reduce emissions by 2030. In fact, clarity around sectoral pathways to achieve the 2030 commitments is lacking for all the countries. Most of the claims so far have been long-term targets, and the pathways themselves have revealed an over-reliance on unproven technologies and natural sinks to draw down carbon later in the century, whilst building in low to moderate emissions reductions in the short-term.

References and endnotes

1. Anon 2021. *NDC synthesis report*. UNFCCC. Accessed at <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs/nationally-determined-contributions-ndcs/ndc-synthesis-report#eq-4>
2. V. Masson-Delmotte et al (eds.) 2018. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. (In press)
3. K. Riahi et al 2015. 'Locked into Copenhagen pledges—implications of short-term emission targets for the cost and feasibility of long-term climate goals', *Technol. Forecast. Soc. Change* 90, pp. 8–23.
4. Jessica Strefler et al 2018. 'Between Scylla and Charybdis: Delayed mitigation narrows the passage between large-scale CDR and high costs', *Environ. Res. Lett.* 13 044015. Accessed at <https://iopscience.iop.org/article/10.1088/1748-9326/aab2ba#artAbst>
5. *China proposes updated NDC targets*. Climate Action Tracker. Accessed at <https://climateactiontracker.org/climate-target-update-tracker/china/>
6. *China proposes updated NDC targets*. Climate Action Tracker. Accessed at <https://climateactiontracker.org/climate-target-update-tracker/china/>
7. United Nations Environment Programme (2020). *Emissions Gap Report 2020*. Nairobi
8. Evelyn Cheng 2021. *China has 'no other choice' but to rely on coal power for now, official says*. CNBC. Accessed at <https://www.cnbc.com/2021/04/29/climate-china-has-no-other-choice-but-to-rely-on-coal-power-for-now.html>
9. United Nations Environment Programme (2020). *Emissions Gap Report 2020*. Nairobi
10. Anon 2019. *Statistical Review of World Energy*. BP. Accessed at <http://www.bp.com/statisticalreview>
11. Refinitiv 2019. *The belt and road's decarbonization dilemma*. Quartz. Accessed at <https://qz.com/1760615/china-quits-coal-at-home-but-promotes-the-fossil-fuel-in-developing-countries/>
12. Lauri Myllyvirta 2021. *Analysis: China's carbon emissions grow at fastest rate for more than a decade*. Carbon Brief. Accessed at <https://www.carbonbrief.org/analysis-chinas-carbon-emissions-grow-at-fastest-rate-for-more-than-a-decade>
13. Hongbo Duan et al 2021. 'Assessing China's efforts to pursue the 1.5°C warming limit', *Science* Vol. 372, Issue 6540, pp. 378–385.

-
14. Mark Roelfsema, Detlef van Vuuren, Allard Warrink, Mathijs Harmsen, Heleen van Soest, Gabriela Iacobuta, Andries Hof, David McCollum 2020. *The Global Stocktake. Keeping track of implementing the Paris Agreement*. PBL Netherlands Environmental Assessment Agency. Accessed at <https://themasites.pbl.nl/o/global-stocktake-indicators>
 15. Kelly Levin and David Rich 2017. *Turning points: Trends in countries' reaching peak greenhouse gas emissions over time*. World Resources Institute. Accessed at <https://files.wri.org/d8/s3fs-public/turning-points-trends-countries-reaching-peak-greenhouse-gas-emissions-over-time.pdf>
 16. Anon (n.d.). *Ambitious US target upgrade reduces the 2030 global emissions gap by 5-10%*. Climate Action Tracker. Accessed at <https://climateactiontracker.org/climate-target-update-tracker/usa/>
 17. Jessica Murray 2021. *Half of emissions cuts will come from future tech, says John Kerry*. The Guardian. Accessed at <https://www.theguardian.com/environment/2021/may/16/half-of-emissions-cuts-will-come-from-future-tech-says-john-kerry>
 18. Mark Roelfsema, Detlef van Vuuren, Allard Warrink, Mathijs Harmsen, Heleen van Soest, Gabriela Iacobuta, Andries Hof, David McCollum 2020. *The Global Stocktake. Keeping track of implementing the Paris Agreement*. PBL Netherlands Environmental Assessment Agency. Accessed at <https://themasites.pbl.nl/o/global-stocktake-indicators>
 19. Michel den Elzen et al 2019. 'Are the G20 economies making enough progress to meet their NDC targets?', *Energy Policy, Volume 126, pp. 238–250*. <https://www.sciencedirect.com/science/article/pii/S030142151830750X>
 20. Anon. (n.d.). EU, Climate Action Tracker. Accessed at <https://climateactiontracker.org/countries/eu/>
 21. Anon 2021. U.S.-India joint statement on launching the “U.S.-India climate and clean energy agenda 2030 partnership”. Office of the Spokesperson, U.S. Department of State. Accessed at <https://www.state.gov/u-s-india-joint-statement-on-launching-the-u-s-india-climate-and-clean-energy-agenda-2030-partnership/>
 22. GlobalData 2021. *India on course to achieve only 65–69% of its 2022 renewable target*. Power Technology. Accessed at <https://www.power-technology.com/comment/india-achieve-65-69-renewable-target/#:~:text=India%20is%20the%20fifth%20largest,of%20its%20planned%20renewable%20target>
 23. Aparna Roy 2020. 'Harnessing the power of India's forests for climate change mitigation', *ORF Issue Brief No. 420*, Observer Research Foundation. Accessed at <https://www.orfonline.org/research/harnessing-the-power-of-indias-forests-for-climate-change-mitigation/>

24. Anna Chapman et al 2021. *National 1.5°C compatible emissions pathways and consistent power sector benchmarks: Indonesia, Viet Nam, Philippines, India and Japan*. Climate Analytics. Accessed at <https://climateanalytics.org/publications/2021/national-15c-compatible-emissions-pathways-and-consistent-power-sector-benchmarks-indonesia-viet-nam-philippines-india-and-japan/>
25. Mark Roelfsema, Detlef van Vuuren, Allard Warrink, Mathijs Harmsen, Heleen van Soest, Gabriela Iacobuta, Andries Hof, David McCollum 2020. *The Global Stocktake. Keeping track of implementing the Paris Agreement*. PBL Netherlands Environmental Assessment Agency. Accessed at <https://themasites.pbl.nl/o/global-stocktake-indicators>
26. United Nations Environment Programme (2020). *Emissions Gap Report 2020*. Nairobi
27. Anon 2020. *Climate Transparency Report: Russia*. Accessed at <https://www.climate-transparency.org/wp-content/uploads/2020/11/Russia-CT-2020-WEB.pdf>
28. Mark Roelfsema, Detlef van Vuuren, Allard Warrink, Mathijs Harmsen, Heleen van Soest, Gabriela Iacobuta, Andries Hof, David McCollum 2020. *The Global Stocktake. Keeping track of implementing the Paris Agreement*. PBL Netherlands Environmental Assessment Agency. Accessed at <https://themasites.pbl.nl/o/global-stocktake-indicators>
29. United Nations Environment Programme (2020). *Emissions Gap Report 2020*. Nairobi
30. Anna Chapman et al 2021. *National 1.5°C compatible emissions pathways and consistent power sector benchmarks: Indonesia, Viet Nam, Philippines, India and Japan*. Climate Analytics. Accessed at <https://climateanalytics.org/publications/2021/national-15c-compatible-emissions-pathways-and-consistent-power-sector-benchmarks-indonesia-viet-nam-philippines-india-and-japan/>
31. Anon 2019. *Statistical Review of World Energy*. BP. Accessed at <http://www.bp.com/statisticalreview>
32. Anna Chapman et al 2021. *National 1.5°C compatible emissions pathways and consistent power sector benchmarks: Indonesia, Viet Nam, Philippines, India and Japan*. Climate Analytics. Accessed at <https://climateanalytics.org/publications/2021/national-15c-compatible-emissions-pathways-and-consistent-power-sector-benchmarks-indonesia-viet-nam-philippines-india-and-japan/>

-
33. Kelly Levin and David Rich 2017. *Turning points: Trends in countries' reaching peak greenhouse gas emissions over time*. World Resources Institute. Accessed at <https://files.wri.org/d8/s3fs-public/turning-points-trends-countries-reaching-peak-greenhouse-gas-emissions-over-time.pdf>
 34. Simon Evans 2021. *Analysis: UK is now halfway to meeting its 'net-zero emissions' target*. Carbon Brief. Accessed at <https://www.carbonbrief.org/analysis-uk-is-now-halfway-to-meeting-its-net-zero-emissions-target>
 35. Anon 2019. *Net Zero: The UK's contribution to stopping global warming*. Committee on Climate Change. Accessed at <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/>
 36. Kevin Anderson et al 2020. 'A factor of two: how the mitigation plans of "climate progressive" nations fall far short of Paris-compliant pathways', *Climate Policy*, 20:10, pp. 1290-1304. Accessed at <https://www.tandfonline.com/doi/full/10.1080/14693062.2020.1728209>

In 2020, the fifth year since the adoption of the Paris Agreement, the 191 countries that ratified the Agreement were required to submit their second Nationally Determined Contribution (NDC). This factsheet analyses the status of the commitments for 2030, made by seven entities—China, US, the European Union (EU-27), India, Russia, Japan, and the UK—which comprised 66 per cent of the global CO₂ emissions in 2019.



Centre for Science and Environment

41, Tughlakabad Institutional Area, New Delhi 110 062

Phones: 91-11-40616000 Fax: 91-11-29955879

E-mail: subhasish.parida@cseindia.org Website: www.cseindia.org