

Testimony of Taryn Fransen
Senior Fellow, Global Climate Program, World Resources Institute
U.S. House of Representatives Committee on Science, Space, and Technology
Hearing on An Update on the Climate Crisis: From Science to Solutions
January 15, 2020

Introduction

My name is Taryn Fransen and I am a Senior Fellow in the Global Climate Program at the World Resources Institute (WRI). WRI is a non-profit, non-partisan environmental think tank that goes beyond research to provide practical solutions to the world's most urgent environment and development challenges. My work at WRI focuses on national and global greenhouse gas emissions pathways and policies; greenhouse gas accounting, monitoring, reporting, and verification; climate change policy in major economies; and the international climate change negotiations.

I have been invited to testify today on the UNEP Emissions Gap Report,¹ which measures the difference between where global greenhouse gas emissions are currently headed and where they need to be in order to limit warming to 1.5°C (2.7°F) and avoid the worst impacts of climate change. Over the past 10 years, the emissions gap has become one of the key metrics for measuring our collective progress on addressing climate change. I have been a lead author of the Emissions Gap Report since its third edition in 2012, and I co-chaired a special assessment on national climate change pledges during the lead-up to the 2015 Paris Agreement.²

I will focus my testimony on three main points:

Summary

- (1) The emissions gap is large, and the window to close it is shrinking quickly. Under current policies and pledges, the planet is on track to warm by 3°C to 3.5°C (5.4°F to 6.3°F), at great peril to the American people, our communities, and our economy.
- (2) Countries around the world are taking action to reduce emissions, but all of us need to do much more. Prospects for the top emitters to step up would be much greater if the federal government of the United States — the world's largest economy and second-largest emitter — would get off the sidelines and go all in on climate action.
- (3) Congress can help close the emissions gap by passing ambitious legislation to reduce emissions, investing in research and development, and positioning the United States to fully re-engage in the Paris Agreement.

About the UNEP Emissions Gap Report

Under the auspices of the Emissions Gap Report, the UN Environment Program convenes dozens of scientists and researchers from around the world to assess the scientific literature and address key questions related to greenhouse gas emissions trends. Core among our tasks is to quantify the “emissions gap” — the difference between where global greenhouse gas emissions are currently headed and where they need to be to avoid the worst impacts of climate change. Calculated on an annual basis

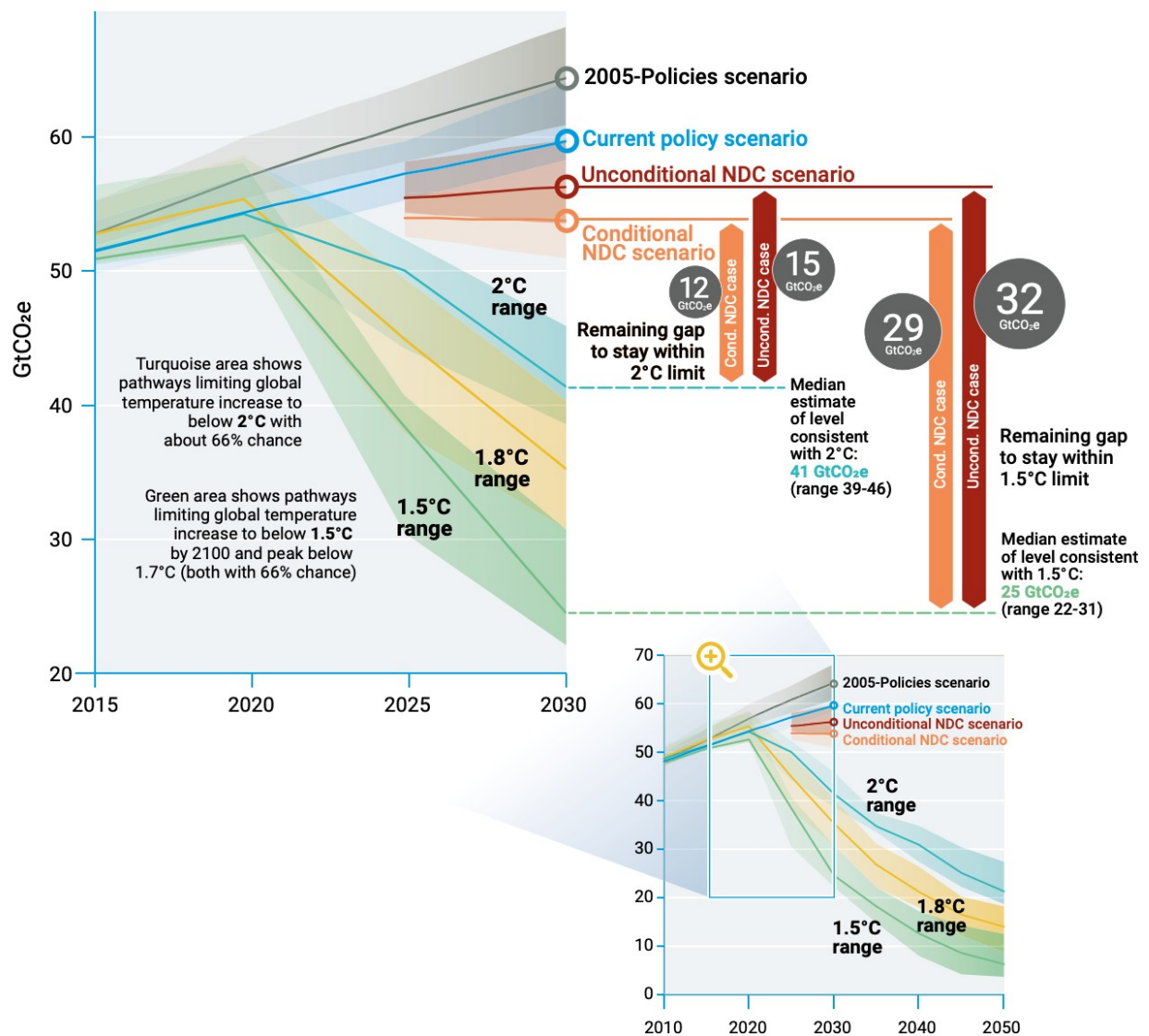
¹ <https://www.unenvironment.org/resources/emissions-gap-report-2019>

² UNEP, “Emissions Gap Report 2015.”

since 2010, the emissions gap is an important metric to monitor global progress on climate change mitigation. The Emissions Gap Report is advised by a Steering Committee of senior international experts and undergoes a rigorous peer review process. The 2019 report drew on the expertise of 57 authors from 33 institutions across 25 countries and was reviewed by over 40 additional experts.

In summary, the emissions gap compares projected emissions in a given year under different scenarios (Figure 1). The most recent Gap Report considered 2030 emissions in scenarios associated with current policies and with the commitments countries pledged under the Paris Agreement (known as nationally determined contributions, or NDCs). It then compared those emissions against pathways for limiting warming to 1.5°C (2.7°F), 1.8°C (3.2°F), and 2°C (3.6°F). The emissions gap is the difference in 2030 emissions between the policy scenarios and the different temperature pathways.

Figure 1 | Global GHG emissions under different scenarios and the emissions gap by 2030



Source: UNEP, "Emissions Gap Report 2019."

Where are global greenhouse gas emissions today, and where are they headed?

Global greenhouse gas emissions grew 1.5 per cent per year over the last decade to reach a record high of 55.3 GtCO₂e in 2018.³ Emissions have grown every year since the 2008 financial crisis, leveling off only slightly in 2015 due to major declines in coal use in China and the United States.

Under policies currently being implemented around the world, emissions are projected to grow by another 8 per cent over the next decade, reaching 60 GtCO₂e in 2030. However, if countries deliver on their pledges under the Paris Agreement — which will require implementing additional policies — then by 2030, emissions will instead return to about the same level as in 2018. Without current policies, emissions would have grown by 16 per cent by 2030, so both of these scenarios do represent some progress. But it is nowhere near enough. Neither of these scenarios would meaningfully reduce emissions by 2030, when in fact they need to be cut almost in half by that time to limit warming to 1.5°C (2.7°F).

The current trends put us on track to experience an estimated 3°C to 3.5°C (5.4°F to 6.3°F) of warming.⁴ The consequences for Americans are potentially severe. To date, average annual temperatures have risen by just 1°C (1.8°F) across the contiguous United States, and already, the average heat wave season in many cities is now 40 days longer than it was 50 years ago, heavy precipitation events have become more frequent and intense across most of the country, and drier conditions have combined with warming to contribute to an increase in large forest fires in the West and Alaska.⁵ These and other impacts will become more severe with every additional fraction of a degree of warming, potentially to the tune of 3.6 – 4.2 per cent of GDP.⁶

How much do global greenhouse gas emissions need to be reduced to avoid the most dangerous impacts of climate change?

Projected emissions in 2030 under current policies and pledges are more than one-third higher than the median in scenarios consistent with limiting warming to 2°C (3.6°F), and more than double the median in scenarios consistent with limiting warming to 1.5°C (2.7°F) (Table 1). This translates to reducing emissions by 2.7 per cent per year to limit warming to 2°C (3.6°F), and by 7.6 per cent per year on average through 2030 for 1.5°C (2.7°F). If we had begun reducing emissions a decade ago, we could have pursued this transition somewhat more gradually, but now we have given ourselves no choice other than swift action.⁷

To recap: The emissions gap is large, it threatens American prosperity, and the window to close it is shrinking quickly.

³ 2018 emissions were 55.3 GtCO₂e including land use, land-use change, and forestry (LULUCF) and 51.8 GtCO₂e excluding LULUCF.

⁴ Median values of studies estimating global average temperature increase under various policy scenarios are as follows: 3.5°C for current policies, 3.2°C for unconditional NDCs, and 3°C for conditional NDCs (that is, those NDCs that are contingent on certain conditions, such as international financial support).

⁵ USGCRP, “Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (Eds.)].”

⁶ Hsiang et al., “Estimating Economic Damage from Climate Change in the United States.”

⁷ If global emissions had begun to fall a decade ago, they would need to fall 1.7 per cent per year to limit warming to 2°C (3.6°F) and 3.3 per cent per year to limit warming to 1.5°C (2.7°F).

Table 1 | Projected Emissions and Size of Emissions Gap in 2030 (GtCO₂e, median, 10th percentile and 90th percentile)

Scenario	2030 Emissions	2030 Emissions Gap	
		Below 2 °C (3.6 °F)	Below 1.5 °C (2.7 °F)
Current policy	60 (58-64)	18 (17-23)	35 (34-39)
Unconditional NDCs ⁸	56 (54-60)	15 (12-18)	32 (29-35)
Conditional NDCs	54 (51-56)	12 (9-14)	29 (26-31)
Below 2 °C	41 (39-46)		
Below 1.5 °C	25 (22-31)		

Source: UNEP, “Emissions Gap Report 2019.”

The emissions gap in the global context

Several pieces of global context should inform the United States’ response to the emissions gap.

First, it is important to understand that the persistence of the emissions gap does not mean that the Paris Agreement is not working. On the contrary, the emissions gap is smaller than it would be without the pledges made under the Agreement. Moreover, negotiators in Paris were well aware of the gap between countries’ initial commitments and the agreed temperature limits, so they included a mechanism whereby countries would ratchet up their commitments every five years. This year — 2020 — marks the first cycle, and 79 countries have already signaled their intent to enhance their pledges.⁹

Second, the emissions gap does not indicate that climate action has stalled globally. At last count, 139 countries had framework climate legislation in place, and the number of climate policies in action throughout the world had risen since the Paris Agreement to around 1,500.¹⁰ The expansion of climate policies over the past 15 years has shrunk the emissions gap by about 6 per cent compared to what it would otherwise be.

Major emitters — including those with cumulative and per-capita emissions far lower than those of the United States¹¹ — are among those taking action. To highlight two key examples:

China has continued to ramp up investment in renewable energy, investing far more than any other country. Over the past decade, it committed \$758 billion to renewable energy capacity — more than double the U.S. sum of \$356 billion.¹² China is also going big on electric vehicles (EVs). Having announced its intent to phase out internal combustion engine vehicles,¹³ China is aiming for 20 per cent of sales to

⁸ The Gap Report estimates global emissions under unconditional NDCs, which are the commitments countries pledge to achieve unilaterally, and under conditional NDCs, which are typically more ambitious pledges contingent on certain conditions, such as international financial support.

⁹ <https://www.climatewatchdata.org/2020-ndc-tracker>

¹⁰ Nachmany and Setzer, “Global Trends in Climate Change Legislation and Litigation: 2018 Snapshot.”

¹¹ 2016 per capita emissions in the United States, China, and India were 18.1, 8.4, and 2.4 tons of CO₂-equivalent (Climate Watch).

¹² Frankfurt School-UNEP Centre/BNEF, “Global Trends in Renewable Energy Investment 2019.”

¹³ <https://www.independent.co.uk/news/world/asia/china-petrol-diesel-car-ban-gasoline-production-sales-electric-cabinet-official-state-media-a7938726.html>

be EVs by 2025, equivalent to 7 million vehicles.¹⁴ The city of Shenzhen (population 12.5 million) has already switched to 100 per cent electric buses¹⁵ and is in the process of electrifying its taxi fleet.

India is also pursuing an ambitious clean energy future, aiming to quintuple its renewable capacity to 450 GW by 2030,¹⁶ even as it aims to bring reliable electricity to 100 million people who do not yet have it.¹⁷

Both countries are on track to achieve their Paris Agreement pledges and have indicated their intent to adopt stronger targets.¹⁸

But finally, unfortunately, the surge in clean energy is only part of the picture. Even as China greens its own energy supply, it continues to finance fossil fuel infrastructure abroad, committing over \$20 billion to coal-fired power in South and Southeast Asia and Africa.¹⁹ Elsewhere, in Brazil, deforestation is up by 30 per cent as President Jair Bolsonaro scales back efforts to fight illegal logging, farming, and mining.²⁰ And of course, here at home, the Trump administration is in the process of rolling back more than 90 environmental regulations.²¹ We will not close the emissions gap unless countries like these change course.

The imperative of U.S. leadership to close the emissions gap

As the world's largest economy, and with its tremendous diplomatic clout, the United States is uniquely positioned not only to go green itself, but also to influence other countries to do the same. There are three things that Congress can do to help leverage this potential.

First, Congress should pass ambitious legislation to cut greenhouse gas emissions in line with what the Emissions Gap Report says is needed. The good news is that recent analysis by the University of Maryland, the Rocky Mountain Institute, and WRI shows that an "all-in" policy package that leverages state and local leadership combined with ambitious new federal action can cut U.S. emissions nearly in half by 2030, generating \$26 billion to \$58 billion in health benefits alone.²² Such a strategy would entail decarbonizing the electricity sector; electrifying and improving the efficiency of buildings, transport, and industry; and enhancing the carbon storage potential of forests, farms, and coastal wetlands.

Second, Congress should position the United States to engage effectively in international climate diplomacy and play a strong role in driving the Paris Agreement forward, should it remain a Party or rejoin in the future. One important avenue is for Congress to build on its successful bipartisan efforts to maintain international funding for clean energy, forest protection, and resilience. Funding like this

¹⁴ <https://www.reuters.com/article/us-china-autos-electric-idUSKBN17R086?feedType=RSS&feedName=environmentNews>

¹⁵ <https://www.wri.org/blog/2018/04/how-did-shenzhen-china-build-world-s-largest-electric-bus-fleet>

¹⁶ <https://www.narendramodi.in/pm-modi-s-remarks-at-summit-on-climate-change-546575>

¹⁷ IEA, IRENA, UNSD, WB, WHO, "Tracking SDG 7: The Energy Progress Report 2019."

¹⁸ https://www.fmprc.gov.cn/mfa_eng/wjdt_665385/2649_665393/t1676859.shtml; <https://www.mea.gov.in/bilateral-documents.htm?dtl/31755/IndiaFrance+Joint+Statement+on+Visit+of+Prime+Minister+to+France+2223+August+2019>

¹⁹ <https://www.theguardian.com/world/2019/apr/25/belt-and-road-summit-puts-spotlight-on-chinese-coal-funding>

²⁰ <https://www.nytimes.com/2019/11/18/world/americas/brazil-amazon-deforestation.html>

²¹ <https://www.nytimes.com/interactive/2019/climate/trump-environment-rollback.html>

²² The America's Pledge Initiative on Climate Change, "Accelerating America's Pledge: Going All-In to Build a Prosperous, Low-Carbon Economy for the United States." By N. Hultman, C. Frisch, L. Clarke, K. Kennedy, P. Bodnar, P. Hansel, T. Cyr, M. Manion, M. Edwards, J. Lund, C. Bowman, J. Jaeger, R. Cui, A. Clapper, A. Sen, D. Saha, M. Westphal, W. Jaglom, J.C. Altamirano, H. Hashimoto, M. Dennis, K. Hammoud, C. Henderson, G. Zwicker, M. Ryan, J. O'Neill, E. Goldfield.

supports national security²³ and can help U.S. businesses to benefit from an estimated \$23 trillion in low-carbon investment opportunities in emerging markets,²⁴ in addition to ensuring that the United States fulfills longstanding international commitments.

Finally, while ambitious near-term actions are possible with existing technologies, further innovation in clean technology can broaden our options for ultimately driving net global emissions down to zero, which we must achieve around mid-century to limit warming to 1.5°C. Innovation can also reduce costs and improve the competitiveness of U.S. businesses. Therefore, Congress should ramp up research and development funding across the power, transport, buildings, industry, and land sectors, as well as technology-based carbon removal.²⁵

Conclusion

The current emissions gap puts us on track to experience warming in the range 3°C to 3.5°C (5.4°F to 6.3°F), exacerbating the impacts from wildfires and extreme weather already being felt around the country, and threatening our economy and national security. To close the gap, we need to cut global emissions roughly in half by 2030. While this will require ambitious action from all countries, U.S. leadership is particularly important. To lead the way, we need to: pass ambitious near-term cuts to U.S. emissions, generating economic and health benefits in the process; position the United States to engage in robust climate diplomacy, including via the Paris Agreement; and ramp up investment in research and development. The alternative – rolling back progress at home and disengaging internationally – will only serve as a convenient excuse for those who would rather avoid action. With only a decade to cut our emissions in half, it is not an exaggeration to say that our future hangs in the balance. Thank you.

²³ <https://www.wri.org/blog/2017/02/us-climate-finance-great-deal-nation-and-world>

²⁴ IFC, “Climate Investment Opportunities in Emerging Markets: An IFC Analysis.”

²⁵ <https://www.wri.org/blog/2018/12/wanted-325-million-federal-rd-jumpstart-carbon-removal>

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Taryn Fransen

Taryn Fransen is an international climate change policy expert with World Resources Institute (WRI). As a Senior Fellow in WRI's Global Climate Program, Ms. Fransen focuses on pathways and policies to limit climate change, including via long-term climate strategies and nationally determined contributions under the Paris Agreement. She has served as a lead author of the UNEP Emissions Gap Report since 2012.

In 2018, Ms. Fransen served as Senior Policy Advisor on the Global Climate Action Summit for the Office of the Governor of California. From 2011-2017, she led WRI's Open Climate Network, a coalition for ambition and transparency on climate action that focused most recently on strengthening countries' commitments under the Paris Agreement. Previously, she managed the Greenhouse Gas Protocol's efforts to build greenhouse gas accounting capacity in developing countries, including Brazil, China, India, Mexico, and the Philippines. Ms. Fransen has also contributed to WRI's research on climate finance and on greenhouse gas measurement, reporting, and verification.

Before joining WRI, Ms. Fransen worked for the United Nations Foundation and the Pew Center on Global Climate Change (now C2ES) and provided research support to a range of clients in the environmental community, including World Wildlife Fund, the Tropical Science Center, and the Stockholm Environment Institute.

Ms. Fransen served on the board of directors of the Greenhouse Gas Management Institute from 2016 to 2019. She holds an M.S. and B.S. in Earth Systems from Stanford University and is pursuing doctoral studies in the Energy and Resources Group at the University of California, Berkeley.