

**Submission to the UN Special Rapporteur on the promotion and protection of human rights in the context of climate change by Fast Action on Climate to Ensure Intergenerational Justice and the Center for Human Rights & Environment**

25 May 2023

To: Mr. Ian Fry, United Nations Special Rapporteur

Re: Call for inputs on enhancing climate change legislation, support for climate change litigation and advancement of the principle of intergenerational justice

We are grateful to the Special Rapporteur for the opportunity to submit comments on the protection of human rights in a climate emergency and to promote intergenerational climate justice. We submit this comment on behalf of [Fast Action on Climate to Ensure Intergenerational Justice](https://center-hre.org/face-intergenerational-justice/) (FACE Intergenerational Justice), a youth-led initiative hosted by the [Center for Human Rights & Environment](https://center-hre.org/) (CHRE) and the [Institute for Governance & Sustainable Development](https://www.igsd.org/) (IGSD).

Young people will bear the brunt of the climate crisis in the decades to come, impacting their livelihoods, security, and health.[[1]](#endnote-1) Decisionmakers have historically excluded young people from decisionmaking processes that impact them and their future, overlooking their capacity for leadership and innovation. Despite this injustice, young people have been some of the strongest voices advocating for fast action to address the climate emergency. Meaningfully engaging youth in climate action through advocacy, awareness raising, and education can ensure the sustainability and equity of solutions for generations to come. The window of time for climate action is quickly closing, and we need climate solutions today.

We are the last generation that can do something *now* to prevent surpassing the 1.5°C guardrail and keep the planet livable for current and future generations. However, with current policies, we are not acting fast enough to meet the climate emergency and are failing to ensure intergenerational climate justice, as climate commitments remain voluntary, action plans remain undefined, and we hurtle closer to breaching 1.5°C. Failing to act quickly on climate violates the principle of intergenerational equity and breaches international, regional, and domestic law. Therefore, climate action requires near-term solutions that include immediate cuts to super pollutants, like reducing 45% of methane emissions by 2030,[[2]](#endnote-2) and protecting sinks, like halting deforestation by 2030.[[3]](#endnote-3)

The climate crisis is an unprecedented, escalating human rights emergency that hits vulnerable frontline communities the hardest, with particular impacts on young people’s rights to life, health, equal protection, and a healthy environment. Limiting warming to 1.5°C above pre-industrial levels with little or no overshoot in the near-term is necessary to limit risks to vulnerable and threatened human and natural systems, slow climate feedbacks and avoid crossing irreversible climate tipping points.[[4]](#endnote-4) Beyond 1.5°C, these risks increase, including the risk of triggering a cascade of tipping points committing human and natural systems to abrupt and irreversible changes. The magnitude and rate of these changes may exceed the capacity of ecosystems and communities to adapt,[[5]](#endnote-5) even if warming is reduced after temporary overshoot.[27](#_bookmark66)

Meeting the climate emergency requires a climate justice-centered approach, which includes strengthening human rights and climate protection. Climate change is a threat multiplier and is connected to all forms of justice, with impacts that are unequally distributed and affect the most vulnerable frontline communities first and worst. Many communities are experiencing the early impacts of climate change, such as extreme heatwaves, droughts, and other weather events that exacerbate already-existing human health risks.[[6]](#endnote-6)

Climate mitigation policies have primarily focused on reducing emissions of carbon dioxide (CO2). While net-zero CO2 goals are essential to stabilize the climate, decarbonization strategies alone cannot keep us from passing the 1.5°C goal.[[7]](#endnote-7) The latest reports by the Intergovernmental Panel on Climate Change confirm that cutting fossil fuel emissions––the main source of CO2––in isolation, actually makes global warming worse in the short term, because burning fossil fuels also creates sulfate aerosols, which act to cool the climate. These cooling sulfates fall out of the atmosphere fast, while CO2 lasts much longer, thus leading to overall warming for the first decade or two.[[8]](#endnote-8)

The only known near-term strategy that can complement longer-term decarbonization and avoid the most warming by 2030 is to reduce short-lived climate pollutants (SLCPs, or super pollutants) as quickly as possible. SLCPs include methane, tropospheric ozone (smog), black carbon (soot), and hydrofluorocarbons (dirty refrigerants). Focusing on SLCPs is an important near-term strategy because of their high global warming potentials and short atmospheric life, and if cut quickly, can quickly reduce warming. In contrast to the limited amount of warming reduced at 2050 by cutting CO2 from fossil fuel emissions, fast cuts to SLCPs could avoid up to 0.6°C of warming by 2050, and up to 1.2°C by 2100,[[9]](#endnote-9) which would reduce projected warming in the Arctic by two-thirds and the rate of global warming by half.[[10]](#endnote-10) For frontline communities, there is no time to delay action.

A fast-acting climate mitigation strategy includes:

1. Quickly cutting SLCP emissions by 2030, particularly methane (“sprint to 2030”); *while*
2. Working towards longer-term decarbonization goals by 2050 (“marathon to 2050”); *and*
3. Focusing on additional fast-acting and justice-centered strategies, including protecting carbon sinks and land rights and focusing on adaptation and resilience.

A fast-acting climate mitigation strategy would help the climate system stay below 1.5°C and provide immediate local and global health benefits, avoid crossing critical tipping points, reduce stress on the planetary system, and ensure a safe climate for present and future generations.[[11]](#endnote-11) Understanding the temporal dimensions of climate harms––immediate harms (ex: flooding, droughts), future harms from inaction or delay (ex: sea level rise), and intergenerational harm (ex: the long-term impacts of climate change on future generations)––is a critical part of establishing the principle of intergenerational equity and climate action now. In a climate emergency, we must act now to ensure the protection of human rights and intergenerational justice.

In the following pages, we will respond to the questions posed by the Special Rapporteur regarding the advancement of the principle of intergenerational justice.

*Sincerely*,

FACE Intergenerational Justice and the Center for Human Rights & Environment

**13) How would you best define IJ in the context of climate change and human rights?**

Intergenerational justice (IJ) in the context of climate change and human rights means ensuring a healthy, clean, and sustainable planet for current and future generations while recognizing and redressing the unequal distribution of climate impacts. Within this process, all youth voices must be heard, listened to, and incorporated into all decisionmaking processes regarding our shared future. Climate justice is centred in all forms of justice and must be recognized as such.

**14) Has the concept of IJ been incorporated into climate change litigation?**

The recent proliferation of youth-led climate cases is strengthening the principle of intergenerational equity. In these cases, the most commonly-invoked rights include:

* Right to life. Young people are disproportionately harmed by both the near- and long-term impacts of climate change and environmental degradation. Within this universally-recognized right to life, States are obligated to ensure that young people can enjoy their right to life by minimizing the impacts of climate change and local environmental pollution, by acting quickly to reduce emissions, slow feedbacks, and avoid tipping points, and by proactively taking measures to protect young people’s right to life.
* Right to respect for private and family life. The climate emergency creates instability in private and family life for all, affecting children and youth first and worst, with negative consequences on their health (including mental health) and security. States are obligated to protect against these impacts to ensure young people’s rights to private and family life.
* Right to health. Children and youth face disproportionate health impacts caused by a rapidly warming world. For example, air pollution has a disproportionate impact on youth, with 98% of children in low- and middle-income countries breathing polluted air,[[12]](#endnote-12) killing one in ten children or permanently stunting children’s development.[[13]](#endnote-13) If the planet reaches 2.4°C of warming at 2050, as compared to 1.7°C, 370 million more children will be exposed to long-lasting heatwaves.[[14]](#endnote-14) States are obligated to ensure that young people can enjoy their right to health.
* Rights to self-determination and information. As part of a constituency with no voting power, young people under the national voting age are excluded from key decision processes that impact their present and future. States are obligated to ensure all people’s rights to participate, be heard in society, and be protected. Further, States are obligated to ensure their right to participate by protecting activists, providing information to the public on environmental risks and hazards, and establishing participatory mechanisms for decisionmaking processes that includes and empowers youth voices.
* Right to equal protection. The near- and long-term impacts of climate change have unique consequences that are experienced by children and youth, who are susceptible to its impacts now and in their future. States are obligated to ensure that children and youth do not face age-based discrimination and are equally protected under national laws.
* Right to an effective legal remedy. For young people, it is more difficult to access legal remedies when their rights have been violated. States are obligated to provide remedies and reparations for victims of human rights violations, which must consider youth.
* Right to a healthy environment. Children and youth face disproportionate health, economic, and social impacts due to the near-term impacts of climate change. As future inheritors of the planet, States are obligated to ensure children and youth can enjoy their right to a healthy and sustainable environment.

**15) What options are available for enshrining the principle of IJ in international law?**

We identify four major gaps that impede efforts to protect the principle of IJ, in both international and national laws: the foundation of IJ claims, representation of young people, implementation of climate law, and protection of rights.

**Foundation**: **There is no broad mandate that directly protects the principle of IJ that includes present and future young people**. The principle of intergenerational equity is often invoked through its components, which include the rights to life, respect for private and family life, health, self-determination, information, equal protection, effective legal remedy, and recently, a healthy environment. While many international treaties and domestic laws protect some or most of these individual rights, the right to intergenerational equity more broadly is often excluded. The [Convention on the Rights of the Child](https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-child) provides a legal framework for the protection of children’s rights, but even this is limited to those under 18 years old. *Therefore, the Special Rapporteur should recommend that the principle of IJ should be a right enforced in all domestic laws and international commitments*.

**Representation**: **While there are several efforts underway to include youth, commitments remain voluntary and young people remain tokenized or an afterthought**. While the NDC partnership established a Youth Engagement Plan for increased, meaningful engagement of young people in the NDC Partnership’s work, all 166 NDCs submitted failed the Climate Change Education Ambition Report Card.[[15]](#endnote-15) Judicial systems also can impede efforts by young people to be heard, represented, and protected by the courts due to logistical challenges and the issue of standing (which relate to the lack of explicit foundation for IJ). In Latin America, *amparos* or *tutelas* can serve as a powerful and accessible legal remedy and have been used by youth to demand rights under the principle of intergenerational equity.[[16]](#endnote-16) This was successfully used by youth plaintiffs in 2018,[[17]](#endnote-17) when the Supreme Court of Colombia ordered the government to immediately create and implement plans to reduce deforestation in the Colombian Amazon as part of its national and international obligations. However, in many countries, there is no judicial system that is built to address IJ, and young people remain underrepresented in decisions regarding their future. *The Special Rapporteur should (i) recommend that NDCs involve youth through financing, education, and opportunities for representation, (ii) recommend that the judicial system should create more accessible legal avenues to justice for youth to guarantee IJ, and (iii) explore options for specific courts that can allow youth voices to be heard*.

**Implementation**: **Even in favorable judgments for youth plaintiffs in climate change cases, or commitments to include young people in decisionmaking processes, there is a gap in the execution of rulings and commitments that disregards the urgency of acting on the climate emergency**. For example, even after the 2018 Colombian Supreme Court decision (*supra*), deforestation in Colombia continues to increase.[[18]](#endnote-18) Country commitments at the national and international level also do not effectively protect IJ––commitments remain voluntary and do not focus on the urgency of climate action. Even in a best case scenario, full implementation of all NDCs submitted before COP27 would only reduce GHG emissions by 3.6% below 2019 levels by 2030––the IPCC states that GHG emissions must be reduced by 43% below 2019 levels by 2030 to limit warming to 1.5°C with limited or no overshoot.[[19]](#endnote-19) Based on current NDCs, the global emissions gap remains high.[[20]](#endnote-20) Failing to implement, let alone commit to, real emissions reductions goals that can reduce near- and long-term warming violates the principle of IJ. *The Special Rapporteur should (i) recommend that young people be involved in the implementation of climate-related judicial rulings, and (ii) recommend that NDCs integrate concrete, near-term targets to meet the 1.5°C guardrail this decade to protect present and future generations.*

**Protection**: **While activism is a key tenet of the youth climate movement, the harassment, criminalization, and state-sanctioned murders of young climate activists infringe our right to participation by impeding civil disobedience**. Young climate activists, especially women and people of color, face gender-based and racial abuse online.[[21]](#endnote-21) Climate activists are also criminalized by being charged with coercion, trespassing, and other criminal offenses to justify police action, or burdened with slap suits by corporate power players to dissuade activism.[[22]](#endnote-22) Climate activists are also more likely to face violence for their activism. Recently, the Atlanta police murdered a young queer climate activist, Manuel “Tortuguita” Terán, who was protesting a police training center known as “Cop City.”[[23]](#endnote-23) Autopsy reports revealed that Tortuguita, who was shot at least 14 times, was “most probably in a seated position, cross-legged,” with their “hands and arms up and in front” of their body at the time of death.[[24]](#endnote-24) In the U.S., anti-protest bills (often drafted by oil and gas industry leaders) have proliferated at both state and national levels, impeding climate activists that are often protesting extractive industries.[[25]](#endnote-25) Governments must ensure that climate activists, especially youth climate activists, are protected as they demand for ambitious climate action. *The Special Rapporteur should (i) highlight and address the issue of harassment, criminalization, and endangerment to youth climate activists, (ii) help build protections for youth climate activism, and (iii) hold companies and governments accountable for attacks on climate activists*.

**17) Can you share some good practices that allow youth to be represented in courts and to have their views and concerns properly expressed in the judicial process?**

One legal avenue is through advisory opinions (AOs) to guide States on their duties pertaining to climate change and strengthen environmental and human rights law.[[26]](#endnote-26) As States have a duty of care obligation to protect its citizens, an authoritative AO can provide a unique opportunity to avert a climate catastrophe and demand intergenerational climate justice. There is currently a global movement with AO requests, led by youth, such as before the Inter-American Court of Human Rights and the International Court of Justice, to demand climate action in the highest courts.

An AO on climate change can clarify vague principles of international environmental law, affirm the legal use of climate science, and highlight the needed role of the Courts in climate change law and policy. AOs can also be more accessible than traditional litigation due to its broad applicability and campaign potential, providing a meaningful way for civil society and climate advocates, especially young people, to hold their governments accountable for protecting their citizens. AOs that address the climate crisis as a human rights issue are valuable tools in advancing the climate justice movement and intergenerational equity and provide a powerful legal endorsement of the best available science and scientific consensus on climate change.[[27]](#endnote-27)

**References**

1. Adaptation Fund (2022) [Youth Engagement in Climate Change Adaptation: Lessons from the Adaptation Fund Portfolio of Projects and Programmes](https://www.adaptation-fund.org/wp-content/uploads/2022/07/Youth-Report-07.11.22.pdf). [↑](#endnote-ref-1)
2. United Nations Environment Programme & Climate & Clean Air Coalition (2021) [Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions](https://www.ccacoalition.org/en/resources/global-methane-assessment-full-report), 8 (“Reducing human-caused methane emissions is one of the most cost-effective strategies to rapidly reduce the rate of warming and contribute significantly to global efforts to limit temperature rise to 1.5°C. Available targeted methane measures, together with additional measures that contribute to priority development goals, can simultaneously reduce human-caused methane emissions by as much as 45 per cent, or 180 million tonnes a year (Mt/yr) by 2030. This will avoid nearly 0.3°C of global warming by the 2040s and complement all long-term climate change mitigation efforts. It would also, each year, prevent 255 000 premature deaths, 775 000 asthma related hospital visits, 73 billion hours of lost labour from extreme heat, and 26 million tonnes of crop losses globally.”). [↑](#endnote-ref-2)
3. *See* UN Climate Change Conference (2 November 2021) [*Glasgow Leaders’ Declaration on Forests and Land Use*](https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/) (“We therefore commit to working collectively to halt and reverse forest loss and land degradation by 2030 while delivering sustainable development and promoting an inclusive rural transformation.”); *and* UN Climate Change Conference (2 November 2021) [*The Global Forest Finance Pledge: Financing the protection, restoration, and sustainable management of forests*](https://ukcop26.org/the-global-forest-finance-pledge/) (“Here in Glasgow at COP26, we announce our intention to collectively provide US$12 billion for forest-related climate finance between 2021-2025. This will incentivise results and support action in Official Development Assistance (ODA) eligible forest countries where increased ambition and concrete steps are shown towards ending deforestation by no later than 2030.”). [↑](#endnote-ref-3)
4. Lenton T. M., Rockstrom J., Gaffney O., Rahmstorf S., Richardson K., Steffen W., & Schellnhuber H. J. (2019) [*Climate tipping points—too risky to bet against*](https://www.nature.com/articles/d41586-019-03595-0), Comment, Nature 575(7784): 592–595, 592 (“Models suggest that the Greenland ice sheet could be doomed at 1.5 °C of warming[3](https://www.nature.com/articles/d41586-019-03595-0#ref-CR3), which could happen as soon as 2030. …The world’s remaining emissions budget for a 50:50 chance of staying within 1.5 °C of warming is only about 500 gigatonnes (Gt) of CO2. Permafrost emissions could take an estimated 20% (100 Gt CO2) off this budget, and that’s without including methane from deep permafrost or undersea hydrates. If forests are close to tipping points, Amazon dieback could release another 90 Gt CO2 and boreal forests a further 110 Gt CO2. With global total CO2 emissions still at more than 40 Gt per year, the remaining budget could be all but erased already. …We argue that the intervention time left to prevent tipping could already have shrunk towards zero, whereas the reaction time to achieve net zero emissions is 30 years at best. Hence we might already have lost control of whether tipping happens. A saving grace is that the rate at which damage accumulates from tipping — and hence the risk posed — could still be under our control to some extent.”). *See also* Ripple W. J., Wolf C., Newsome T. M., Gregg J. W., Lenton T. M., Palomo I., Eikelboom J. A. J., Law B. E., Huq S., Duffy P. B., & Rockström J. (2021) [*World Scientists’ Warning of a Climate Emergency 2021*](https://doi.org/10.1093/biosci/biab079), BioScience: biab079, 1–5, 1 (“There is also mounting evidence that we are nearing or have already crossed tipping points associated with critical parts of the Earth system, including the West Antarctic and Greenland ice sheets, warm-water coral reefs, and the Amazon rainforest.”). [↑](#endnote-ref-4)
5. Intergovernmental Panel on Climate Change (2022) [*Summary for Policymakers*](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_SummaryForPolicymakers.pdf), *in* [Climate Change 2022: Impacts, Adaptation, and Vulnerability](https://report.ipcc.ch/ar6wg2/pdf/IPCC_AR6_WGII_FinalDraft_FullReport.pdf), *Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Pörtner H.-O., *et al.* (eds.), SPM-11, SPM-13 (“Approximately 3.3 to 3.6 billion people live in contexts that are highly vulnerable to climate change (*high confidence*).”; “Levels of risk for all Reasons for Concern (RFC) are assessed to become high to very high at lower global warming levels than in AR5 (*high confidence*). Between 1.2°C and 4.5°C global warming level very high risks emerge in all five RFCs compared to just two RFCs in AR5 (*high confidence*). Two of these transitions from high to very high risk are associated with near-term warming: risks to unique and threatened systems at a median value of 1.5°C [1.2 to 2.0] °C (*high confidence*) and risks associated with extreme weather events at a median value of 2°C [1.8 to 2.5] °C (*medium confidence*). Some key risks contributing to the RFCs are projected to lead to widespread, pervasive, and potentially irreversible impacts at global warming levels of 1.5–2°C if exposure and vulnerability are high and adaptation is low (*medium confidence*).”; “**SPM.B.3** Global warming, reaching 1.5°C in the near-term, would cause unavoidable increases in multiple climate hazards and present multiple risks to ecosystems and humans (*very high confidence*). The level of risk will depend on concurrent near-term trends in vulnerability, exposure, level of socioeconomic development and adaptation (*high confidence*).”). [↑](#endnote-ref-5)
6. Romanello M., *et al.* (2021) [*The 2021 report of the Lancet Countdown on health and climate change: code red for a healthy future*](https://doi.org/10.1016/S0140-6736%2821%2901787-6), The Lancet 398(10311): 1619–1662, 1619–1620 (“The 44 indicators of this report expose an unabated rise in the health impacts of climate change and the current health consequences of the delayed and inconsistent response of countries around the globe—providing a clear imperative for accelerated action that puts the health of people and planet above all else…. Through these effects, rising average temperatures, and altered rainfall patterns, climate change is beginning to reverse years of progress in tackling the food and water insecurity that still affects the most underserved populations around the world, denying them an essential aspect of good health.”). [↑](#endnote-ref-6)
7. Intergovernmental Panel on Climate Change (2022) [*Summary for Policymakers*](https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_SummaryForPolicymakers.pdf), *in* [Climate Change 2022: Mitigation of Climate Change](https://www.ipcc.ch/report/ar6/wg3/), *Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Shukla P. R., *et al.* (eds.), SPM-31 (“In modelled global low emission pathways, the projected reduction of cooling and warming aerosol emissions over time leads to net warming in the near- to mid-term. In these mitigation pathways, the projected reductions of cooling aerosols are mostly due to reduced fossil fuel combustion that was not equipped with effective air pollution controls.”). *See also* Naik V., *et al.* (2021) [*Chapter 6: Short-lived climate forcers*](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter06.pdf), in [Climate Change 2021: The Physical Science Basis](https://www.ipcc.ch/report/ar6/wg1/), *Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Masson-Delmotte V., *et al.* (eds.), 6-8 (“Additional CH4 and BC mitigation would contribute to offsetting the additional warming associated with SO2 reductions that would accompany decarbonization (*high confidence*).”);Ramanathan V. & Feng Y. (2008) [*On avoiding dangerous anthropogenic interference with the climate system: Formidable challenges ahead*](http://www.pnas.org/cgi/doi/10.1073/pnas.0803838105), Proc. Nat’l. Acad. Sci. 105(38): 14245–14250, 14248 (“Switching from coal to ‘‘cleaner’’ natural gas will reduce CO2 emission and thus would be effective in minimizing future increases in the committed warming. However, because it also reduces air pollution and thus the ABC [Atmospheric Brown Cloud] masking effect, it may speed up the approach to the committed warming of 2.4°C (1.4–4.3°C).”); *and* United Nations Environment Programme & World Meteorological Organization (2011) [Integrated Assessment of Black Carbon and Tropospheric Ozone](file:///C%3A%5CUsers%5Ctrinacthorbjornsen%5CDropbox%5CIGSD%20Research%20%E2%80%93%C2%A0for%20Background%20Note%5C%2ABackground%20Note%5CIN%20PROGRESS%5Cat%20https%3A%5Cwww.ccacoalition.org%5Cen%5Cresources%5Cintegrated-assessment-black-carbon-and-tropospheric-ozone), 254 (“Evaluating global mean temperature change, it was found that the targeted measures to reduce emissions of methane and BC could greatly reduce warming rates over the next few decades (Figure 6.1; Box 6.1). When all measures are fully implemented, warming during the 2030s relative to the present would be only half as much as in the reference scenario. In contrast, even a fairly aggressive strategy to reduce CO2 emissions, as for the CO2-measures scenario, does little to mitigate warming until after the next 20-30 years (Box 6.2). In fact, sulphur dioxide (SO2) is coemitted with CO2 in some of the most highly emitting activities, coal burning in large-scale combustion such as in power plants, for example, that are obvious targets for reduced usage under a CO2-emissions mitigation strategy. Hence such strategies can lead to additional near-term warming (Figure 6.1), in a well-known temporary effect (e.g. Raes and Seinfeld, 2009), although most of the nearterm warming is driven by CO2 emissions in the past. The CO2-measures scenario clearly leads to long-term benefits however, with a dramatically lower warming rate at 2070 under that scenario than under the scenario with only CH4 and BC measures (see Figure 6.1 and timescales in Box 6.2). Hence the near-term measures clearly cannot be substituted for measures to reduce emissions of long-lived GHGs. The near-term measures largely target different source sectors for emissions than the CO2 measures, so that the emissions reductions of the short-lived pollutants are almost identical regardless of whether the CO2 measures are implemented or not, as shown in Chapter 5. The near-term measures and the CO2 measures also impact climate change over different timescales owing to the different lifetimes of these substances. In essence, the near-term CH4 and BC measures are effectively uncoupled from CO2 measures examined here.”). [↑](#endnote-ref-7)
8. Intergovernmental Panel on Climate Change (2022) [*Summary for Policymakers*](https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_SummaryForPolicymakers.pdf), *in* [Climate Change 2022: Mitigation of Climate Change](https://www.ipcc.ch/report/ar6/wg3/), *Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Shukla P. R., Skea J., Slade R., Al Khourdajie A., van Diemen R., McCollum D., Pathak M., Some S., Vyas P., Fradera R., Belkacemi M., Hasija A., Lisboa G., Luz S., & Malley J. (eds.), SPM-31 (“In modelled global low emission pathways, the projected reduction of cooling and warming aerosol emissions over time leads to net warming in the near- to mid-term. In these mitigation pathways, the projected reductions of cooling aerosols are mostly due to reduced fossil fuel combustion that was not equipped with effective air pollution controls.”). *See also* Szopa S., Naik V., Adhikary B., Artaxo P., Berntsen T., Collins W. 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In contrast, even a fairly aggressive strategy to reduce CO2 emissions, as for the CO2-measures scenario, does little to mitigate warming until after the next 20-30 years (Box 6.2). In fact, sulphur dioxide (SO2) is coemitted with CO2 in some of the most highly emitting activities, coal burning in large-scale combustion such as in power plants, for example, that are obvious targets for reduced usage under a CO2-emissions mitigation strategy. Hence such strategies can lead to additional near-term warming (Figure 6.1), in a well-known temporary effect (e.g. Raes and Seinfeld, 2009), although most of the nearterm warming is driven by CO2 emissions in the past. The CO2-measures scenario clearly leads to long-term benefits however, with a dramatically lower warming rate at 2070 under that scenario than under the scenario with only CH4 and BC measures (see Figure 6.1 and timescales in Box 6.2). Hence the near-term measures clearly cannot be substituted for measures to reduce emissions of long-lived GHGs. The near-term measures largely target different source sectors for emissions than the CO2 measures, so that the emissions reductions of the short-lived pollutants are almost identical regardless of whether the CO2 measures are implemented or not, as shown in Chapter 5. The near-term measures and the CO2 measures also impact climate change over different timescales owing to the different lifetimes of these substances. In essence, the near-term CH4 and BC measures are effectively uncoupled from CO2 measures examined here.”); *and* Wanser K., Wong A., Karspeck A., & Esguerra N. (2023) [Near-term Climate Risk and Intervention: *A Roadmap for Research, U.S. Research Investment, and International Scientific Cooperation*](https://mcusercontent.com/effa7b2192dde9046ae5e5444/files/a0044c66-13d7-7109-c7f1-614554333266/Near_Term_Climate_Risk_Report.pdf), SilverLining, 12 (“Particles (i.e., aerosols) in the atmosphere generally increase the total amount of sunlight reflected to space by scattering incoming sunlight. Anthropogenic activities produce both GHGs and other particulate matter; while GHGs warm climate, aerosols have a cooling effect both by directly scattering sunlight (i.e., the aerosol direct effect) and indirectly as the aerosols interact with clouds, increasing their brightness and/or their duration (i.e., the cloud–aerosol effect) … The potential global cooling effect of all anthropogenic aerosols is estimated at 0.5–1.1℃ (see Figure 6). Thus, these effects are potentially very large while also serving as a large source of uncertainty, making reducing these uncertainties among the highest priorities for climate research, particularly in the context of assessing near-term climate risk. Particles from emissions produced by human activities are also associated with significant adverse health and environmental effects. Actions are ongoing around the world to substantially reduce them, including recent regulation to substantially reduce sulfate emissions from ships. As the world reduces these particulate emissions, the loss of this cooling “shield” could lead to rapid substantial warming.”). [↑](#endnote-ref-8)
9. Xu Y. & Ramanathan V. (2017) [*Well below 2 °C: Mitigation strategies for avoiding dangerous to catastrophic climate changes*](http://www.pnas.org/content/114/39/10315), Proc. Nat’l. Acad. Sci. 114(39): 10315–10323, 10321 (“The SP [super pollutant] lever targets SLCPs. Reducing SLCP emissions thins the SP blanket within few decades, given the shorter lifetimes of SLCPs (weeks for BC to about 15 years for HFCs). The mitigation potential of the SP lever with a maximum deployment of current technologies … is about 0.6 °C by 2050 and 1.2 °C by 2100 (SI Appendix, Fig. S5B and Table S1).”). *See also* Szopa S., Naik V., Adhikary B., Artaxo P., Berntsen T., Collins W. D., Fuzzi S., Gallardo L., Kiendler-Scharr A., Klimont Z., Liao H., Unger N., & Zanis P. (2021) [*Chapter 6: Short-lived climate forcers*](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter06.pdf), in [Climate Change 2021: The Physical Science Basis](https://www.ipcc.ch/report/ar6/wg1/), *Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Masson-Delmotte V., *et al.* (eds.), 6-7 (“Across the SSPs, the collective reduction of CH4, ozone precursors and HFCs can make a difference of global mean surface air temperature of 0.2 with a very likely range of [0.1–0.4] °C in 2040 and 0.8 with a very likely range of [0.5–1.3] °C at the end of the 21st century (comparing SSP3-7.0 and SSP1-1.9), which is substantial in the context of the Paris Agreement. Sustained methane mitigation, wherever it occurs, stands out as an option that combines near- and long-term gains on surface temperature (*high confidence*) and leads to air quality benefits by reducing surface ozone levels globally (*high confidence*). {6.6.3, 6.7.3, 4.4.4}”). [↑](#endnote-ref-9)
10. Shindell D., *et al.* (2012) [*Simultaneously Mitigating Near-Term Climate Change and Improving Human Health and Food Security*](http://www.sciencemag.org/content/335/6065/183), Science 335(6065): 183–189, 183–185 (“The global mean response to the CH4 plus BC measures was –0.54 ± 0.05ºC in the climate model. …Roughly half the forcing is relatively evenly distributed (from the CH4 measures). The other half is highly inhomogeneous, especially the strong BC forcing, which is greatest over bright desert and snow or ice surfaces. Those areas often exhibit the largest warming mitigation, making the regional temperature response to aerosols and ozone quite distinct from the more homogeneous response to well-mixed greenhouse gases… . BC albedo and direct forcings are large in the Himalayas, where there is an especially pronounced response in the Karakoram, and in the Arctic, where the measures reduce projected warming over the next three decades by approximately two thirds and where regional temperature response patterns correspond fairly closely to albedo forcing (for example, they are larger over the Canadian archipelago than the interior and larger over Russia than Scandinavia or the North Atlantic).”). *See also* United Nations Environment Programme & World Meteorological Organization (2011) [Integrated Assessment of Black Carbon and Tropospheric Ozone](https://www.ccacoalition.org/en/resources/integrated-assessment-black-carbon-and-tropospheric-ozone), 254, 262 (“Evaluating global mean temperature change, it was found that the targeted measures to reduce emissions of methane and BC could greatly reduce warming rates over the next few decades (Figure 6.1; Box 6.1). When all measures are fully implemented, warming during the 2030s relative to the present would be only half as much as in the reference scenario. In contrast, even a fairly aggressive strategy to reduce CO2 emissions, as for the CO2-measures scenario, does little to mitigate warming until after the next 20-30 years (Box 6.2).”; “Large impacts of the measures examined here were also seen for the Arctic despite the minimal amount of emissions currently taking place there. This occurs due to the high sensitivity of the Arctic both to pollutants that are transported there from remote sources and to radiative forcing that takes place in areas of the northern hemisphere outside the Arctic. The 16 measures examined here, including the measures on pellet stoves and coal briquettes, reduce warming in the Arctic by 0.7 ºC (range 0.2 to 1.3 ºC) at 2040. This is a large portion of the 1.1 ºC (range 0.7 to 1.7 ºC) warming projected under the reference scenario for the Arctic, and hence implementation of the measures would be virtually certain to substantially slow, but not halt, the pace of Arctic climate change.”). [↑](#endnote-ref-10)
11. *See* Zaelke D., Picolotti R., Campbell K., Dreyfus G., Chiemi T., Bloomer L., Hite B., Ghosh K., & Taillant D. (2022) [The Need for Fast Near-Term Climate Mitigation to Slow Feedbacks and Avoid Tipping Points: *Critical Role of Short-lived Super Climate Pollutants To Address the Climate Emergency*](https://www.igsd.org/wp-content/uploads/2020/09/Science-Supporting-Need-for-Fast-Near-Term-Climate-Mitigation-Sept2020.pdf), Background Note, Institute for Governance & Sustainable Development & Center for Human Rights & Environment. [↑](#endnote-ref-11)
12. Renshaw N., Adoo-Kissi-Debrah R., Kumar A., Massawudu Musah L., & Burson J. (2022) [*A healthy future for children and adolescents*](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2822%2901604-X/fulltext), The Lancet 400(10358): 1100–1101, 1100 (“Today, over 90% of children breathe dangerously polluted air, and in low-income and middle-income countries this figure is 98%.”); *citing* World Health Organization (2021) [WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide](https://apps.who.int/iris/handle/10665/345329). [↑](#endnote-ref-12)
13. World Health Organization (2018) [Air pollution and child health: prescribing clean air](https://www.who.int/publications/i/item/WHO-CED-PHE-18-01), 5, 12–13 (“• Some 543 000 deaths in children under 5 years and 52 000 deaths in children aged 5–15 years were attributed to the joint effects of ambient and household air pollution in 2016. • Together, household air pollution from cooking and ambient air pollution cause more than 50% of acute lower respiratory tract infection (ALRI) in children under 5 years in LMICs. • Of the total number of deaths attributable to the joint effects of household and ambient air pollution worldwide in 2016, 9% were in children.”; “There is strong evidence that exposure to ambient air pollution can negatively affect children’s mental and motor development…. There is robust evidence that exposure to air pollution damages children’s lung function and impedes their lung function growth, even at lower levels of exposure. Studies have found compelling evidence that prenatal exposure to air pollution is associated with impairment of lung development and lung function in childhood. Conversely, there is evidence that children experience better lung function growth in areas in which ambient air quality has improved…. There is substantial evidence that exposure to ambient air pollution increases the risk of children for developing asthma and that breathing pollutants exacerbates childhood asthma as well.”). [↑](#endnote-ref-13)
14. United Nations International Children's Emergency Fund (2022) [The Coldest Year of the Rest of their Lives: *Protecting children from the escalating impacts of heatwaves*](https://www.unicef.org/media/129506/file/UNICEF-coldest-year-heatwaves-and-children-EN.pdf), 24 (“There are deep and terrible effects of failing to limit global heating to 1.7 degrees. Although exposure to high heatwave duration is expected to increase in both emission scenarios, the difference in projections between low and very high emission scenarios means that by 2050, over 370 million more children will be exposed to high heatwave duration under the very high emission scenario.”). [↑](#endnote-ref-14)
15. Kwauk C. (2022) [The Climate Change Education Ambition Report Card: *An analysis of updated Nationally Determined Contributions submitted to the UNFCCC and National Climate Change Learning Strategies*](https://www.ei-ie.org/en/item/25344%3Athe-climate-change-education-ambition-report-card), Education International, 14 (“Overall, based on real scores: Every country failed … Graded on a 42-point curve, all but 33 countries failed”). [↑](#endnote-ref-15)
16. Auz J. (2022) [*Human Rights-Based Climate Litigation: A Latin American Cartography*](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4037490), J. Hum. Rights Environ. 13: 114–136, 124 (“Constitutional reforms in the region have also created more expeditious constitutional mechanisms for preventing and redressing fundamental rights violations, such as amparos.70 The amparo proceeding or remedy is present in all Latin American constitutions. Depending on the jurisdiction, the amparo may take varying forms, but is essentially a writ to protect fundamental rights in an expedited manner, which can usually be filed against public or private actors at any time and without legal representation.71 The IACtHR has stressed that, besides constitutional recognition of the amparo, states must also address effective injunctions against human rights violations, enable appropriate redress, and ensure that all persons can exercise their rights without discrimination.72 Indeed, environment-related litigation benefits from these amparos’ characteristics, especially those cases related to generous rules of locus standi for applicants and for the enforceability of collective or diffuse rights, such as the right to a healthy environment.”). [↑](#endnote-ref-16)
17. Corte Suprema de Justicia [C.S.J.] [Supreme Court], Civil. abril 5, 2018, M.P. L. A. T. Villabona, STC4360-2018, No. 11001-22-03-000-2018-00319-01 ([Future Generations v. Ministry of the Env.](https://consultaprovidencias.cortesuprema.gov.co/visualizador/L29wdC9zb2xyLTkuMS4xL2ZpbGVzL1NBTEEgREUgQ0FTQUNJ004gQ0lWSUwvMjAxOC9Eci4gTHVpcyBBcm1hbmRvIFRvbG9zYSBWaWxsYWJvbmEvU2VudGVuY2lhcy9TVEM0MzYwLTIwMTguZG9jeA%3D%3D/Tutelas)) (Colom.). [↑](#endnote-ref-17)
18. Climate Action Tracker (9 November 2022) [*Colombia*](https://climateactiontracker.org/countries/colombia/policies-action/), Policies & Action (“**Forestry:** Colombia signed the Glasgow Leaders Declaration on Forest and Land Use at COP26. Deforestation continues in Colombia continues increasing. Total deforestation in 2021 was 1.5% higher than in 2020 (Ministerio del Ambiente y Desarrollo Sostenible, 2022), and further measures still need to be implemented more rigorously. Deforestation continues to be a major source of emissions for the country. Its updated NDC includes a commitment to reduce the rate of deforestation to 50,000 ha/year in 2030, which means reducing deforestation three times faster than current values (about 174,000 hectares in 2021). Colombia also has a complementary target of reducing deforestation of natural forests to zero ha/year in 2030 using the Article 6 mechanism. Additionally, the updated NDC integrates other policy efforts regarding deforestation such as the strategy for deforestation control and forest management. In Glasgow, Colombia committed to declaring 30% of its territory as protected areas in 2022.”). [↑](#endnote-ref-18)
19. United Nations Framework Convention on Climate Change (2022) [Synthesis Report: *Nationally determined contributions under the Paris Agreement*](https://unfccc.int/sites/default/files/resource/cma2022_04.pdf), FCCC/PA/CMA/2022/4, 6 (“The contribution of Working Group III to the AR613 concludes that, in scenarios of limiting warming to 1.5 °C (with over 50 per cent likelihood by 2100) with no or limited overshoot, GHG emissions are reduced by 43 (34–60) per cent by 2030 relative to the 2019 level. For the subgroup of scenarios in which net zero emissions are also achieved in line with Article 4, paragraph 1, of the Paris Agreement, the emission reductions are slightly less, at 41 (31–59) per cent by 2030; and for the subgroup of scenarios in which net zero emissions are not achieved this century, the near-term emission reductions by 2030 tend to be slightly stronger, at 48 (35–61) per cent. In scenarios of keeping warming likely below 2 °C (with over 67 per cent likelihood) with mitigation action starting in 2020, emissions in 2030 are 27 (13–45) per cent below the 2019 level…. Full implementation of all latest NDCs (including all conditional elements) is estimated to lead to a 3.6 (0.7–6.6) per cent emission reduction by 2030 relative to the 2019 level; while implementation of all latest NDCs excluding any conditional elements is estimated to result in 3.1 (0.2–6.0) per cent higher emissions in 2030 than in 2019.”). [↑](#endnote-ref-19)
20. United Nations Environment Programme (2022) [The Closing Window: *Climate crisis calls for rapid transformation of societies*](https://www.unep.org/resources/emissions-gap-report-2022), Emissions Gap Report 2022, xix (“**Globally, the NDCs are highly insufficient, and the emissions gap remains high** The emissions gap for 2030 is defined as the difference between the estimated total global GHG emissions resulting from the full implementation of the NDCs, and the total global GHG emissions from least-cost scenarios that keep global warming to 2°C, 1.8°C or 1.5°C, with varying levels of likelihood.”). [↑](#endnote-ref-20)
21. *See generally* Givetash L. (10 November 2019) [*Young female climate activists face hateful abuse online. This is how they cope*](https://www.nbcnews.com/news/world/young-female-climate-activists-face-hateful-abuse-online-how-they-n1079376), NBC News.; *and* Readfearn G. (11 April 2022) [*Teen climate activist subjected to sexist and racist abuse amid federal court climate case*](https://www.theguardian.com/law/2022/apr/12/teen-climate-activist-subjected-to-sexist-and-racist-abuse-amid-federal-court-climate-case), The Guardian. [↑](#endnote-ref-21)
22. Glazebrook T. & Opoku E. (2018) [*Defending the Defenders: Environmental Protectors, Climate Change and Human Rights*](https://doi.org/10.2979/ethicsenviro.23.2.05), Ethics Environ. 23(2): 83–109. [↑](#endnote-ref-22)
23. Goldberg S. K. (21 March 2023) [*Remembering Tortuguita, Indigenous queer and non-binary environmental activist and forest defender*](https://www.hrc.org/news/remembering-tortuguita-indigenous-queer-and-non-binary-environmental-activist-and-forest-defender), Human Rights Campaign. [↑](#endnote-ref-23)
24. Factora J. (14 March 2023) [*Autopsy Shows Activist Tortuguita Was Sitting With Hands Raised When Shot by Police*](https://www.them.us/story/tortuguita-cop-city-atlanta-protest-autopsy-police), Them. [↑](#endnote-ref-24)
25. Uyeda R. L. (8 November 2022) [*How criminalizing protests stifles climate justice*](https://prismreports.org/2022/11/08/criminalizing-protests-stifles-climate-justice/), Prism Reports. [↑](#endnote-ref-25)
26. Zaelke D. & Cameron J. (1990) [*Global Warming and Climate Change - An Overview of the International Legal Process*](https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1582&context=auilr), Am. U.J. Int’l L. & Pol’y 5(2): 249–290. [↑](#endnote-ref-26)
27. *See generally* Chiemi T., Nagireddy H., & Ponce N. (28 March 2023) [*How to Act Now on Intergenerational Climate Justice through an Advisory Opinion on Climate Change*](https://medium.com/%40faceintergenerationaljustice/how-to-act-now-on-intergenerational-climate-justice-through-an-advisory-opinion-on-climate-change-61b178911ceb), Medium. [↑](#endnote-ref-27)