



A Real Mosaic of Solutions to Respond to Loss and Damage from Climate Change

Climate Change Mitigation

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Introduction

This publication is part of a [series of briefs](#) unpacking the pieces of a fit for purpose “mosaic of solutions” to respond to loss and damage from climate change. This series expands on our earlier work, which presented a [five-year vision for Loss and Damage under the United Nations Framework Convention on Climate Change \(UNFCCC\)](#) to look beyond the international climate regime at catalysing a wider mosaic of solutions.

In the [flagship paper](#) of the series, we unpack the pieces of the mosaic. In these thematic briefs, we dive deeper into existing solutions and how they can be strengthened. We also consider any reforms needed and explore emerging solutions.

This brief unpacks the relationship between climate change mitigation and Loss and Damage. It provides a short introduction to what climate change mitigation involves, highlights emerging and existing solutions and related implementation challenges, and how these challenges can be addressed.

What is climate change mitigation?

Climate change mitigation involves reducing or preventing greenhouse gas emissions to limit the severity of global warming. Key strategies include transitioning to renewable energy systems, enhancing energy efficiency, protecting carbon sinks (e.g. forests), and shifting to sustainable land use.

What is the problem?

Earth’s average temperature is approaching 1.5°C (2.7° Fahrenheit) above pre-industrial levels as a result of human activity (e.g. the burning of fossil fuels and unsustainable agriculture).¹ The IPCC is clear that loss and damage from climate change will escalate with every increment of warming.² Yet, despite these risks, current national climate targets put the world on track to a catastrophic 2.3-2.5°C of warming by 2100.³

As a result, loss and damage could cost trillions of USD a year by the end of the century.^{4 5 6} Developing countries, and the frontline communities within them, are disproportionately impacted, despite contributing least to climate change.⁷ The Loss and Damage⁸ finance needs of developing countries are estimated to have been between 128–937 billion USD in 2025 alone⁹ —a figure that is expected to rise into the trillions per year by the 2050s.^{10 11}

Developed countries have failed to take the lead in reducing emissions and providing climate finance to developing countries to transition away from fossil fuels.¹² This has significantly delayed progress on mitigation. Conflicts of interest within the UNFCCC, such as the influence of fossil fuel and agriculture companies on climate negotiations, are further compounding inaction.^{13 14}

What are the existing solutions?

The Paris Agreement set the goal of limiting global warming to 1.5°C by 2100. Under the Paris Agreement, Parties (countries) are required to submit [Nationally Determined Contributions \(NDCs\)](#) every five years, setting out their national plans to reduce emissions. The [International Court of Justice’s \(ICJ\) Advisory Opinion on the Obligations of States in respect of Climate Change](#) has reaffirmed that Parties must progressively increase their mitigation commitments within NDCs in line with what is needed to meet the 1.5°C goal.¹⁵

In 2022, the [Mitigation Work Programme \(MWP\)](#) was launched under the [Paris Agreement](#), with the goal of scaling up mitigation to achieve the agreement’s 1.5°C goal. In 2023, the outcome of the Paris Agreement’s first [Global Stocktake \(GST\)](#) called on countries to transition away from all fossil fuels in energy systems to achieve net zero emissions by 2050.¹⁶ The failure to reduce emissions at the speed

and scale needed has spurred outside initiatives including the [Fossil Fuel Treaty Initiative \(FFTl\)](#) and the [International Conference on the Just Transition Away from Fossil Fuels \(TAFF\)](#), which are intended to increase mitigation ambition under the Paris Agreement.

What do we need to see?

Reductions to annual emissions of 55 percent (compared with 2019 levels) are needed by 2035 to keep us on track with the 1.5°C goal of the [Paris Agreement](#).¹⁷ This necessitates a rapid, systemic, just transition in energy, land use, urban, and industrial systems—including a fair, fast, full, and funded phase out of fossil fuels. For this to happen, at least 4.725 trillion USD in new and additional, high quality climate finance is needed each year.¹⁸ A Fossil Fuel Treaty must also be agreed to ensure fossil fuels will not cause harm again in the future. Table 1 explores how existing mitigation solutions must be strengthened to put us back on track to 1.5°C.

Table 1 : Strengthening existing climate mitigation solutions to prevent loss and damage.

CURRENT SOLUTIONS	HOW DOES IT WORK?	WHAT ARE THE ISSUES?	WHAT NEEDS TO CHANGE?
United Nations Framework Convention on Climate Change	The UNFCCC is the foundational treaty for international climate action. Its goal is to stabilise greenhouse gas concentrations at levels that prevent dangerous human interference with the climate system.	The UNFCCC has weak enforcement mechanisms for emission targets and a reliance on voluntary, bottom-up pledges that fail to ensure accountability. The process is further hindered by consensus-driven, slow decision-making, inadequate climate financing, and significant influence from fossil fuel and other lobbyists.	The UNFCCC must establish a comprehensive conflict-of-interest (COI) policy that excludes or strictly limits the participation of polluters in shaping climate policy. ¹⁹
Paris Agreement	The Paris Agreement sits under the umbrella of the UNFCCC and requires all Parties to submit progressively ambitious NDCs every five years including contributions on emissions reductions.	Despite legal obligations to increase mitigation action, the third round of NDCs put us on track to 2.3-2.5°C of warming if fully implemented.	Revised and enhanced NDCs need to put us back on track to limiting warming to 1.5°C by 2100.

CURRENT SOLUTIONS	HOW DOES IT WORK?	WHAT ARE THE ISSUES?	WHAT NEEDS TO CHANGE?
Mitigation Workplan	At COP 27, the MWP was created to accelerate mitigation efforts with the goal of scaling up actions to achieve 1.5°C.	The MWP has stalled due to a lack of climate finance for developing countries to implement their NDCs.	The Baku to Belém Roadmap to 1.3T must scale up finance to developing countries to at least 1.3 trillion USD per year by 2035 so that they can implement their NDCs. Developed countries must deliver at least 4.725 trillion per year thereafter. ²⁰
Global Stocktake	The outcome of the first GST in 2023 called on Parties to transition away from all fossil fuels in energy systems to achieve net zero emissions by 2050.	No country has included targets for transitioning away from fossil fuels in their NDCs. ²¹	Every country has a target in place for transitioning away from fossil fuels in their NDC. Developing countries are provided with the finance and support they need to meet these targets.
Fossil Fuel Treaty Initiative (FFTI)	The FFTI aims to create a treaty to stop fossil fuel exploration and expansion and phase-out existing production in line with the targets of the Paris Agreement, while supporting a just transition to renewable energy. ²²	To date the FFTI is endorsed by 18 nations, the World Health Organisation (WHO), 193 subnational governments, 37 Indigenous Nations, and 4,200+ civil society organisations. ²³ However, no timeline or mechanism has been put in place to establish the treaty.	The FFTI initiative leads to the establishment of a global binding treaty for a just transition to a fast, fair, and financed forever phase-out of fossil fuels. ²⁴

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International Conference on the Just Transition Away from Fossil Fuels (TAFF)	The first TAFF conference, held in Santa Marta, Colombia from 28-29 April, 2026, aimed to initiate a concrete process through which a coalition of committed countries, subnational governments, and relevant stakeholders can identify and advance enabling pathways to implement a progressive transition away from fossil fuels creating sustainable societies and economies. ²⁵	A total of 57 countries participated in the first TAFF conference. Key outcomes included the establishment of three workstreams focused on: 1. Developing national and regional roadmaps away from fossil fuels; 2. Changing the financial system to better facilitate the transition away from fossil fuels; and 3. Addressing fossil-fuel-intensive trade. Tuvalu and Ireland will co-host a second conference in Tuvalu in 2027.²⁶	The workstreams established must advance transitions away from fossil fuels, creating a coalition of the willing that drives up ambition under the UNFCCC as others see that they are being left behind economically, technologically, and geopolitically. ²⁷

Endnotes

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- 8 Loss and Damage (capital "L" and "D") is used to define the policy agenda at all levels to respond to loss and damage while loss and damage (lowercase "l" and "d") is used to describe the impacts of climate change. Find out more [here](#).
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