

LIMITING OVERSHOOT, COMMS KEY MESSAGES

As global temperature rise gets set to cross 1.5°C above pre-industrial levels, within the next few years, climate risks and impacts will reach dangerous new heights. The world must strive to minimize peak temperatures, return to 1.5°C or below as soon as possible, and reduce the vulnerability of societies, communities and economies to those impacts that cannot be avoided.

SPECIFIC MESSAGES

Despite some progress on addressing climate change, global temperature rise is set to cross 1.5°C above pre-industrial levels, likely within the next few years. There are no good outcomes in remaining above 1.5°C.

Risks and impacts above 1.5°C intensify with every fraction of a degree. They can either grow with time or emerge suddenly, and include:

- Intensified extreme weather, ecosystem loss, and submersion of Small Island Developing States (SIDS) and low-lying coastal cities. For warming up to/less than 3 degrees, glaciers could lose more than a quarter of their mass by 2100, raising sea levels by 12.5 cm, while damaged or fragmented ecosystems can accelerate climate change.
- Severe damage to human health, food security, water supplies, nature, cities, infrastructure and economies. For example, global food production could decline by up to 14 per cent by 2050 in the absence of effective adaptation.
- Crossing thresholds that become difficult or impossible to reverse on human timescales. Potential tipping points include irreversible changes to ice sheets, the Atlantic Meridional Overturning Circulation and the Amazon rainforest.

Following an ‘overshoot, peak and decline’ pathway is the best remaining option to bring temperatures to or below 1.5°C by the end of the century, which remains the goal, and adapt to unavoidable impacts.

- Such a pathway follows three phases that can coexist across time and geographies: immediate response, coping and containment, and long-term resilience.
- These phases aim to minimize peak temperature rise through rapid and sustained cuts to greenhouse gas emissions, including methane, on the road to net-zero – an essential milestone that cannot be skipped – and bring them below 1.5°C by the end of the century through long-term net-negative emissions.
- Achieving net-negative emissions will require Carbon Dioxide Removal in addition to rapid emission reductions, not as a substitute for a failure to reduce emissions.

- At the same time, the phases envision evolving and growing actions to reduce vulnerability to the current, expected or unexpected impacts of climate change – including lasting adaptation where irreversible limits have been reached.
- In practice, multiple phases will coexist across time and across and within regions. Impacts are expected to accumulate dynamically across the overshoot, peak and decline pathway, with each phase inheriting the legacies of those that preceded it.

Rapid, collective and global action is vital: lower peak warming and shorter exceedance duration will reduce risks and impacts, make efforts to help communities cope less difficult and less expensive, and increase the chances of bringing temperatures back down.

- Tipping point risks increase with every fraction of warming; reducing peak warming through early action and progress to net-zero remains one of the most effective ways of reducing these risks.
- Strong political will and multilateralism, effective policies, inclusive governance and finance are all important enabling conditions for action. How quickly and strongly this action happens will define the trajectory of the pathway.
- Climate interventions also deliver co-benefits, such as improved air quality, better public health, lower energy costs, secure access to electricity, enhanced equity and less pressure on energy systems.

Equity and justice must form the core of strategies to protect the vulnerable, create a just transition and secure a liveable future for coming generations.

- Countries with greater historical responsibility for climate change should act the hardest and fastest. Countries disproportionately impacted by climate change must be an integral part of global decision-making and action. This generation needs to act, not just the next.

Mitigation and adaptation are interconnected and mutually reinforcing. They must advance together, while being responsive to emerging risks.

- Interventions that achieve both mitigation and adaptation goals – such as passive cooling – should be prioritized.
- Weak mitigation will increase impacts and potentially divert funds to emergency responses, while mitigation efforts that are not adapted will be vulnerable.
- Adaptation set up now forms the foundation for efforts to come, but it must become transformational and responsive to evolving non-linear and abruptly arising risks.

Carbon Dioxide Removal (CDR) – the process of removing carbon from the air and storing it through afforestation or other means – will be needed in addition to, not instead of, sustained reductions in greenhouse gas emissions, but these methods come with risks and trade-offs that limit their potential and need to be carefully governed.

- CDR can only contribute credibly to a return to below 1.5°C if peak warming remains well below 2°C and all remaining emissions are reduced. Even optimistic CDR scaling is unlikely to lower temperatures more than a few tenths of a degree this century.
- Strong governance frameworks on CDR are needed to manage implications for equity, scale and uptake – and to provide guardrails for the exploration of new and uncertain technologies that could have unintended negative consequences.

A return to or below 1.5 is uncertain. Even if a return to below 1.5°C is secured, many nations and communities will face irreversible losses and permanently changed conditions. This raises issues of justice, power and political legitimacy, which will require new, inclusive governance arrangements.

- As a result of permanent changes, many communities may have relocated or changed livelihoods, while societies will face the challenge of re-adjustment.
- Governance arrangements will have to evolve to resolve difficult issues, such as deciding what gets rebuilt, how livelihoods are reconfigured, how loss and damage is addressed, and how the sovereignty and entitlements of SIDS and their peoples are respected even as their territories potentially disappear.