



Reducing the Risks of Climate Overshoot

GROUNDBREAKING RECOMMENDATIONS BY
THE CLIMATE OVERSHOOT COMMISSION

PRESS KIT

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CHAIR'S INTRO

Climate change stands as one of the most important and complex challenges confronting our world today. Its urgency is underscored by the frequency of record-breaking temperatures and the intensifying impacts felt not only by the most vulnerable nations in low-latitude regions but, increasingly, by industrialized countries as well.

Action is even more urgent. In 2018, the Intergovernmental Panel on Climate Change (IPCC) asserted that to likely limit global warming to 1.5 °C, greenhouse gas emissions would need to be halved by 2030. As we approach the midpoint to that deadline, emissions have not decreased, but rather increased. The need for action is clear and immediate.

The Climate Overshoot Commission was convened as an independent body of thirteen eminent global leaders in order to propose strategies to mitigate risks should global warming exceed the 1.5 °C target. We are the first high-level group to holistically address all approaches – emissions reduction, carbon removal, adaptation, and solar radiation modification – in a comprehensive strategy, unfettered by typical political constraints.

Our members, including former heads of government, national ministers, directors of inter-governmental organizations, environmental group leaders, and academic experts, bring a wealth of knowledge and experience. We were complemented by a Youth Engagement Group, whose six members from around the world bring both diverse expertise and the invaluable perspective of the generation that will bear the impacts of climate overshoot. Each of us speaks in our personal capacity. Our approach is comprehensive and unconstrained, and we are privileged to be guided by three distinguished international scientists specializing in climate change and Earth systems, ensuring our recommendations are rooted in the most recent scientific evidence.

I am confident that our collective efforts will serve as a catalyst for meaningful action in the face of our current climate crisis. We eagerly anticipate your support and collaboration in debating, deciding and implementing the strategies outlined in this report.



Pascal Lamy

*Chair of the Climate Overshoot
Commission*



THE CLIMATE OVERSHOOT COMMISSION

The Climate Overshoot Commission was conceived out of a critical necessity to address the potential governance gaps in the global response to climate change, specifically in relation to overshoot scenarios. It held the necessary conversations about whether and how additional approaches (mitigation, adaptation, CDR and SRM) could reduce the risks of a warming climate. The Commission is the first high-level group to address all these options in a holistic, integrated manner, free from conventional political constraints. Members include former heads of government, national ministers, directors of intergovernmental organizations, leaders of environmental groups, and academic experts.

The Commissioners

Dr. Muhamad Chatib Basri
Former Minister of Finance
of Indonesia

Ms. Frances Beinecke
President Emerita, Natural
Resources Defense Council;
board member, World Resources
Institute, United States

**The Right Honourable Kim
Campbell**
Canada's 19th Prime Minister,
Founding Member of Club de Madrid

Mr. Jamshyd Godrej
Chairman of the board of Godrej & Boyce Mfg. Co. Ltd. and of the Council on Energy, Environment and Water, India

Ms. Arancha Gonzalez Laya
Dean, Paris School of International
Affairs at Sciences Po, former
Foreign Minister of Spain

**His Excellency Mahamadou
Issoufou**
Former President of Niger Republic,
President of Issoufou Mahamadou
Foundation

Dr. Agnes Kalibata
UN Secretary-General's Special
Envoy to the Food Systems Summit;
President, Alliance for a Green
Revolution in Africa, Rwanda

Ms. Hina Rabbani Khar
Former Minister of Foreign
Affairs of Pakistan

Pascal Lamy
Vice-President of the Paris
Peace Forum; former Director-
General of the World Trade
Organization, France
CHAIR

His Excellency Aote Tong
Former President of the
Republic of Kiribati

Prof. Laurence Tubiana
CEO of the European Climate
Foundation; former Climate
Change Ambassador and Special
Representative for COP21 of France

Prof. Xue Lan
Cheung Kong Distinguished
Chair Professor and Dean of
Schwarzman College, Tsinghua
University, China





The Commission's third meeting, Cairo, November 2022



The Youth Engagement Group

Science Advisors

Prof. Chris Field

Director of the Stanford Woods Institute for the Environment and Professor for Interdisciplinary Environmental Studies

Dr. Thelma Krug

Vice-chair, Intergovernmental Panel on Climate Change (through July 2023)

Prof. Michael Obersteiner

Professor and Director of the Environmental Change Institute, University of Oxford

The Youth Engagement Group

Shirmai Chung, Sustainable finance

Jeremiah Thoronka, Energy & Poverty

Louise Mabulo, Farming & Food systems

Yuv Sungkur, Small Island Developing States

Chandelle O'Neil, Human rights

Alex Clark, Climate economics

RESPONSES TO POSSIBLE CLIMATE OVERSHOOT

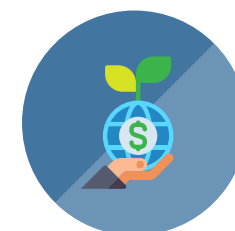
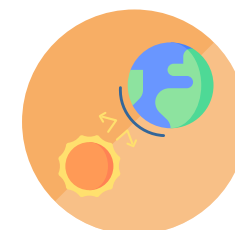
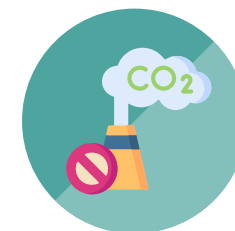
The risk of climate overshoot—that is, of exceeding the Paris Agreement goal of limiting global warming to 1.5 °C—is high and rising, and with it the risk of worsening impacts on human health, food security, water availability, social stability, and ecosystems. No country would be spared from such consequences. The least industrialized countries, who have contributed the least to the problem but are generally more vulnerable, would suffer the most.

Yet none of this is inevitable. The means to change course exist and offer huge economic and political opportunities. People worldwide would welcome a safer, cleaner, more equitable world. All countries could, and should, act now to help bring it about.

The foundational strategy to avoid or limit overshoot is to accelerate deep reductions of greenhouse gas emissions—to stop making the problem worse. Doing so begins with a clear recognition that the era of fossil fuels must end. This requires a graduated, differentiated phase-out of fossil fuels, paired with a redoubled commitment to renewables including in the form of a global green power target. Industrialized countries should lead, aiming not only for net-zero but for net-negative targets, to create space for the least industrialized countries to pursue their clean and sustainable transition while fighting poverty and fulfilling their development imperatives. A global transition should be facilitated by strengthened accountability, technology, and trade mechanisms.

Stopping emissions is essential but will not suffice. Climate harms are already being felt across the globe, are accelerating rapidly, and will continue to grow. Thus, the second approach is to rapidly expand effective adaptation measures driven by an in-depth understanding of local climate risks and adaptation priorities. To gauge the effectiveness of these measures, robust metrics for assessing their impacts should be created. Such metrics should inform new country-led adaptation partnerships that align resilience efforts with sustainable development objectives. Food security, particularly in developing countries, should be bolstered by the promotion of climate-resilient agricultural practices, support for farmers, and further research. Finally, strategies to manage migration shifts induced by climate change should be developed.

Third, to help slow the increase of CO₂ in the atmosphere—and ultimately reverse it—carbon dioxide removal will need to be employed on a significant scale. There are many different methods for removing carbon from the air and storing it securely, and they vary in terms of their advantages and disadvantages. One way to categorize these methods is according to whether the carbon is stored as organic or inorganic material. **Policies for methods that store carbon in plants and soils should aim at maximizing the co-benefits** of these approaches while minimizing the risk that carbon stored is re-released to the atmosphere. Methods that store carbon underground or in ocean waters have greater storage potential but pose physical and societal risks that must be mitigated. **Governance frameworks should**



be provided to scale up high-integrity carbon removal quickly and equitably, while cooperative efforts to finance their implementation should be pursued globally.

Lastly, and most controversially, **solar radiation modification (SRM)–technologies that would reflect sunlight to reduce temperatures—are gaining increasing attention.** They are highly uncertain, would have unwanted or unforeseen consequences, and face significant opposition on a range of social, political and ethical grounds. Early scientific evidence suggests that SRM could reduce some climate risks but would also introduce significant new risks. The world does not yet know enough to make informed decisions about SRM. **The Commission approached the topic with great caution, opposing any use or assumption of use at this stage, but also supporting more research to produce a clearer picture of SRM’s efficacy, risks, and potential benefits, especially with regard to developing countries.** And with little agreed international governance, there is an urgent need for more inclusive global dialogues to address relevant policy dimensions and political implications. **For now, countries should institute a moratorium on the deployment or large-scale outdoor experiments of solar radiation modification, while expanding research, and pursuing international governance dialogues.**

Climate action requires climate finance, yet the current level of such finance falls significantly short of what is needed. For low-income countries, climate and development finance needs are closely intertwined, and the gap between promised and delivered climate finance, which has created distrust, must be closed. To do so, **public actors must mobilize more resources. Development banks must be willing to accept more risk when lending.** Resilience instruments, debt relief, and expanded official development assistance are also needed. **Private capital flows should also be massively scaled up,** especially to support emissions reductions–de-risking strategies, co-financing of investment projects, and other measures should facilitate this. Finally, **new and underdeveloped sources of finance, including more transparent, effective, and efficient carbon markets, should be expanded.**

Pursuing any single approach to reducing risks from overshoot–emissions reductions, adaptation, carbon removal, possibly SRM–may influence the effectiveness of other approaches. Both positive and negative spillovers must be identified and managed within a holistic framework. Overall, the recommendations made by the Commission can be conceptualized as constituting integrated components of a **“CARE Agenda”** for reducing risks from climate overshoot.



Cut emissions

Accelerate emissions reductions and consolidate decarbonization.



Adapt

Expand adaptation and fully mainstream into development.



Remove

Develop and deploy higher-quality carbon dioxide removal to help achieve net-zero emissions targets and beyond.



Explore

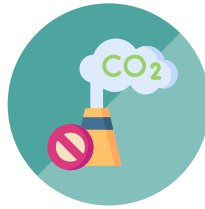
Adopt a moratorium on large-scale solar radiation modification and expand research and governance dialogue.





RECOMMENDATIONS

→ Approach 1



Emissions reductions

First, governments should decide on a phase-out in production and consumption of all fossil fuels and accelerate their trajectories to this end, while broadening and deepening international discussions on this agenda.

- ✓ Reductions should be differentiated according to countries' needs and levels of development.
- ✓ Phased reductions of production and consumption (including subsidies) would follow.
- ✓ As phase-outs approach zero, essential-use exemptions should be provided for the hardest sectors to abate.
- ✓ Fossil fuel phase-out should ultimately – and quickly – be global in scope.
- ✓ The international community should simultaneously pursue a global green power target.

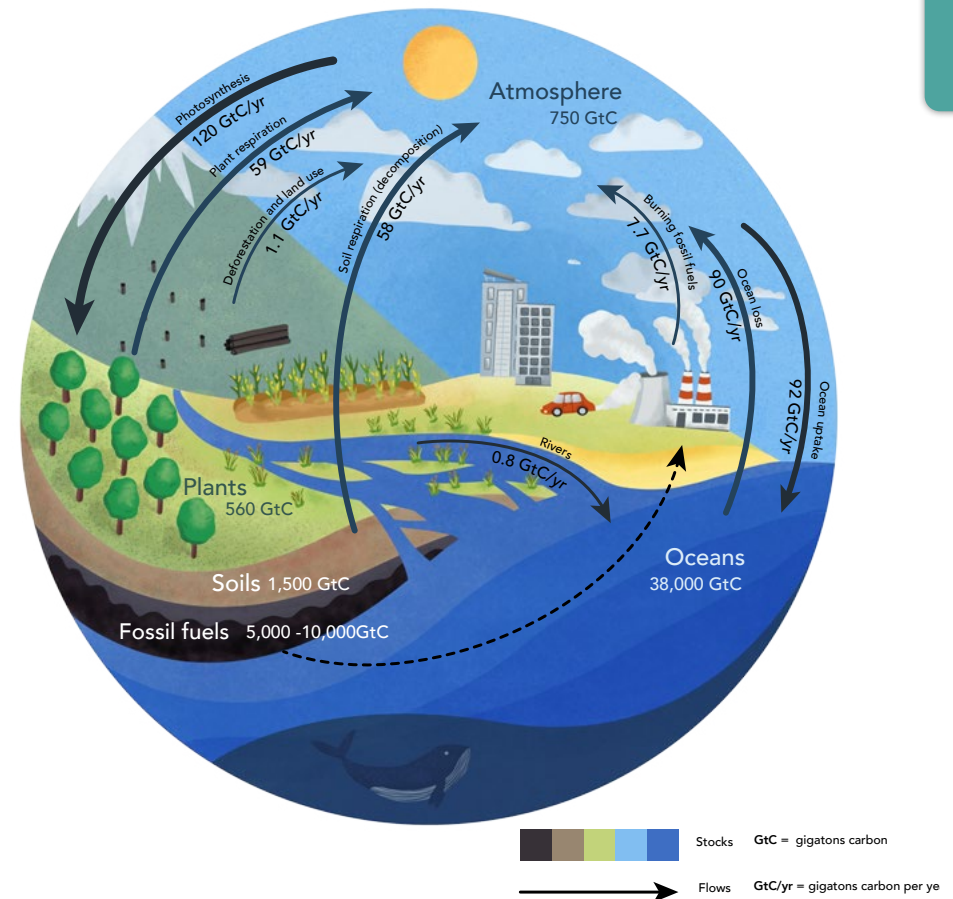
Efforts to control short-lived climate pollutants should be boosted substantially. Second, the world should recognize that developing countries will face particular challenges, and the global energy transition should be paired with imperatives of poverty reduction and development.

- ✓ The richest countries, including the oil exporting countries, need to reduce emissions faster and aim for net-negative targets by 2050 to give least industrialized countries more space to undertake their own transitions

Third, achieving an energy transition that meets the different needs of different countries requires ensuring that key facilitative conditions are met.

- ✓ Accountability systems should be strengthened to make available reliable and relevant information on the impacts and risks of public and private sector activities.
- ✓ International mechanisms should be established to accelerate the deployment of new technologies necessary to the energy transition and ensure worldwide access to them.
- ✓ Mutual recognition of national climate policies should be promoted, and attention should be given to the impact of climate-related trade measures in cases where they negatively affect the exports of poorer developing countries.

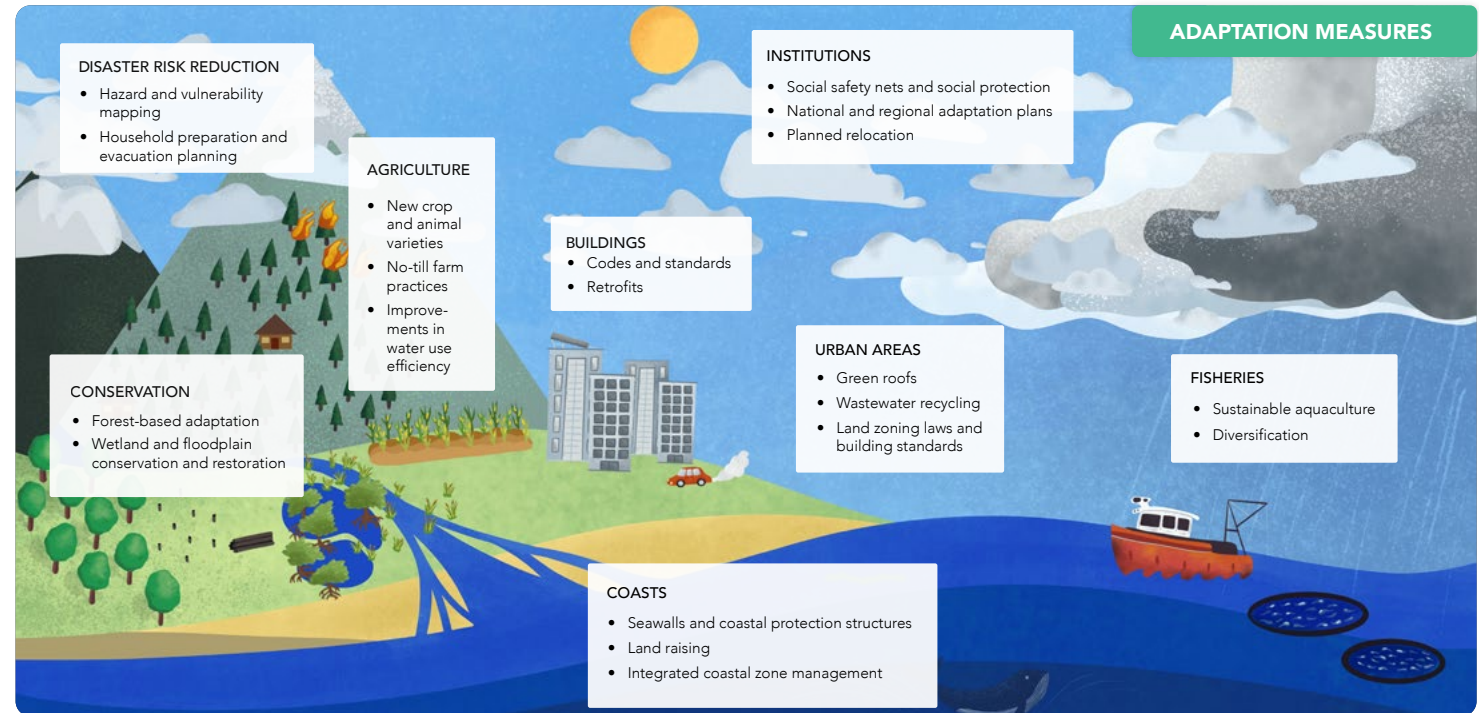
THE CARBON CYCLE





→ Approach 2

Adaptation



First, because adaptation actions are primarily local in nature, international finance and policy support should be informed by a hyperlocal assessment of climate risks and adaptation priorities.

- ✓ A Global Climate Vulnerability Index would enable the design and delivery of effective and customized adaptation measures that meet each region's particular needs and preferences.

Second, to complement and support these assessments, standard metrics for adaptation should be developed.

- ✓ The development and application of a robust system of standard adaptation metrics will enable more strategic investments in climate resilience.

Third, to integrate these assessments and priorities into comprehensive action plans, the Just Energy Transition Partnership (JET-P) model – a country-led investment platform geared toward emissions reductions – should be replicated and reconfigured to support adaptation.

- ✓ A JET-P for adaptation would be based on a long-term, national-level strategy informed by national priorities, supported by international funding commitments, and complemented by a framework for disbursing and monitoring the investments.

Fourth, to strengthen the response capacity of these plans, global efforts to achieve “Early Warnings for All” should be supported.

Fifth, support should be boosted for efforts to address climate mobility – including migration, displacement, and planned relocation, driven by both slow-onset and extreme weather events.

- ✓ International climate migration, including from small island developing states, warrants particular attention among countries and relevant intergovernmental organizations.

Sixth, given the importance of agriculture and agri-food systems for adaptation to climate change in poor countries, supporting interventions that enhance their resilience is particularly critical.



Carbon dioxide removal

First, governments should promote rapid expansion of higher quality carbon dioxide removal (CDR) featuring co-benefits and permanent storage, at scale and speed sufficient to materially reduce mid-century climate risks and contribute to keeping any overshoot as small and short as possible.

- ✓ A way to categorize carbon dioxide removal methods is according to whether the carbon is stored as organic or inorganic material: these methods differ in terms of their risks, challenges, and opportunities.

Second, large-scale CDR will depend on government action, so governments should undertake, require, or incentivize CDR innovation and expansion.

- ✓ Policies and programs should be designed to safeguard permanence, promote co-benefits, and manage risks of CDR methods while considering specific environmental and socioeconomic contexts.
- ✓ Biological carbon dioxide removal methods should aim at maximizing the co-benefits of these approaches while minimizing the risk that carbon stored is re-released to the

atmosphere. Methods that store carbon underground or in the oceans should aim at maximizing secure storage while minimizing possible negative effects on people and ecosystems.

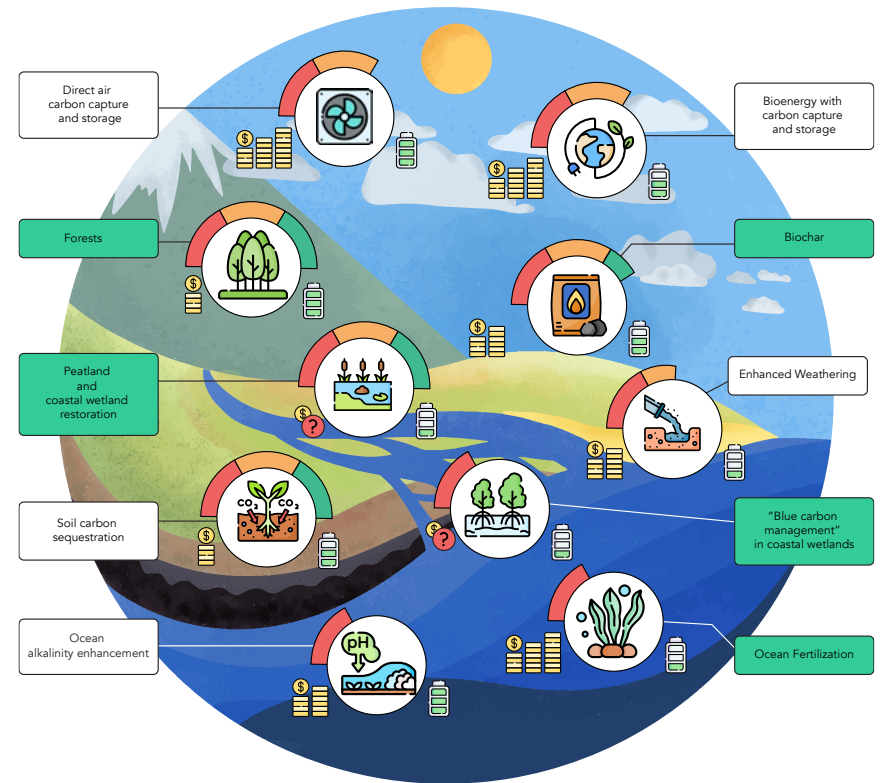
Third, in the short to medium term, international cooperative efforts to finance CDR implementation globally should be pursued.

Fourth, countries should follow the principle that those who cause harm have a duty to remedy it as the global basis for apportioning the costs of large-scale CDR.

- ✓ This includes carbon takeback obligations that would require fossil fuel companies to remove and store a steadily increasing proportion of the carbon generated by the products they sell.

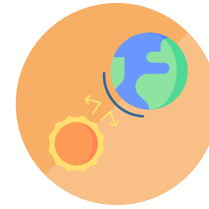
Fifth, given present uncertainties about CDR methods and consequences, policies to promote rapid expansion of higher-quality CDR should be subject to periodic assessment and updating.

CARBON DIOXIDE REMOVAL METHODS



Cost USD/ ton CO2	Status	Removal potential (GtCO2/year)	Carbon stored as
low medium high	Low Medium High	high medium low	inorganic material organic material

Solar radiation modification



First, countries should adopt a moratorium on the deployment of solar radiation modification (SRM) and large-scale outdoor experiments. The moratorium should apply to any intervention with risk of significant transboundary harm, regardless of where it occurs, who carries it out or is responsible for it, what form it takes, or for what purpose.

- ✓ Governments adopting the moratorium should also call for its adoption by others.

Second, governance of SRM research should be expanded.

- ✓ Any outdoor SRM experiments should take place only in jurisdictions with an effective environmental regulatory regime.
- ✓ The data, methods, and findings of SRM research should be transparent, including to international audiences.
- ✓ SRM research should not be led by for-profit firms and should not be funded by sources with an interest in maintaining greenhouse gas emissions, such as fossil fuel interests.

Third, in parallel with strengthening SRM governance, SRM research should also be strengthened; and the two should co-evolve.

- ✓ Expanded research, for instance through joint North-South research projects and research led by scientists in the South, should boost the participation and build the capacity of researchers from developing countries.
- ✓ Given the broad impacts and need for SRM research to be perceived as unbiased and trustworthy, research funding should be transparent.
- ✓ International coordination of SRM research based on shared priorities shaped by policymakers with equitable North-South representation should be significantly strengthened.

Fourth, an international, independent scientific review and assessment of the best available evidence from SRM research should take place every few years.

Fifth, because the potential use of SRM raises multiple concerns, including novel and severe governance challenges, broad consultations and dialogues on these issues are needed.

SOLAR RADIATION MODIFICATION METHODS

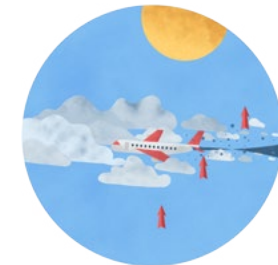
Space-based reflectors



Stratospheric aerosol injection



Cirrus cloud thinning



Marine cloud brightening





Climate finance

First, public bodies should mobilize and deliver more and better resources for developing countries.

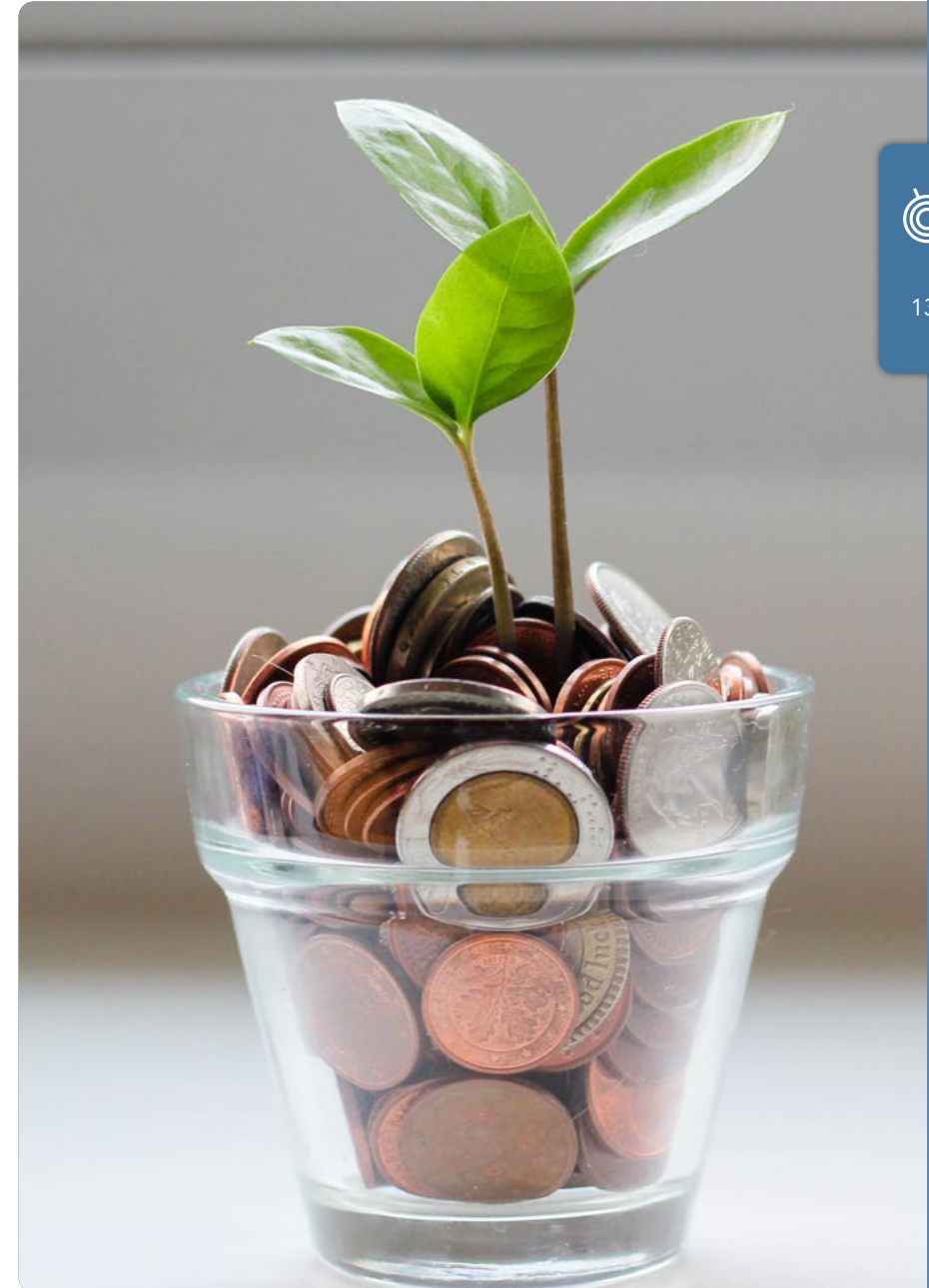
- ✓ International financial institutions need to grow their balance sheets and take more risks.
- ✓ Special drawing rights can be used to finance development and climate activities.
- ✓ Resilience requires specific tools and instruments that can provide liquidity quickly, amply, and unconditionally when disaster strikes.
- ✓ More specific mechanisms could also be used more widely, such as Climate-Resilient Debt Clauses.
- ✓ The global trend of lowering official development assistance must be stopped and reversed, and this assistance should be more focused, prioritizing the poorest and most vulnerable.
- ✓ Domestic resources mobilization and reduction of inefficient and harmful expenditure can complement external financing.

Second, the private sector should massively increase its capital flows in support of climate action, in both developed and developing countries.

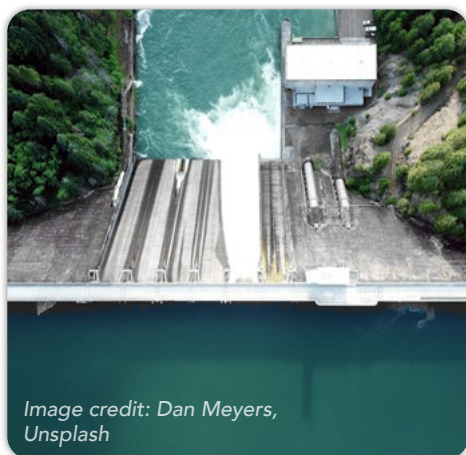
- ✓ Efforts to issue financial standards for sustainability-related disclosures should be supported.
- ✓ To lower the cost of capital, investment projects in developing countries need proper de-risking.

Third, new and underdeveloped sources of finance should be explored and strengthened.

- ✓ New taxes or levies could raise more revenues for climate finance by taxing activities or sectors that contribute to climate change.
- ✓ Transparent, effective, and efficient market mechanisms that can generate carbon credits for emissions reductions or removals should be expanded. An international public certification mechanism should verify the additionality, permanence and environmental integrity of such projects. The World Bank could be entrusted with the responsibility to immediately reinforce the standards currently used in the market.
- ✓ The Commission also suggests exploring mechanisms for making carbon credits eligible for small direct payments, especially for landowners who successfully preserve forested land or who restore degraded landscapes in developing countries.

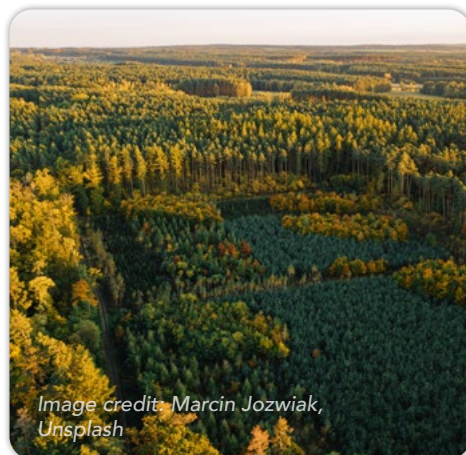


Spillovers

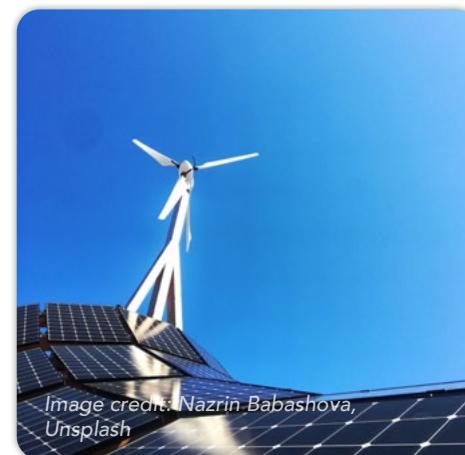


First, in constructing a complete portfolio of climate finance projects, special attention should be paid to projects featuring positive spillovers.

These include, for example, emissions reduction projects that also benefit adaptation, and responses with positive spillovers for broader sustainable development and biodiversity goals.



Second, forestry, and in particular efforts to slow and ultimately stop deforestation, should be given higher priority in climate policymaking.



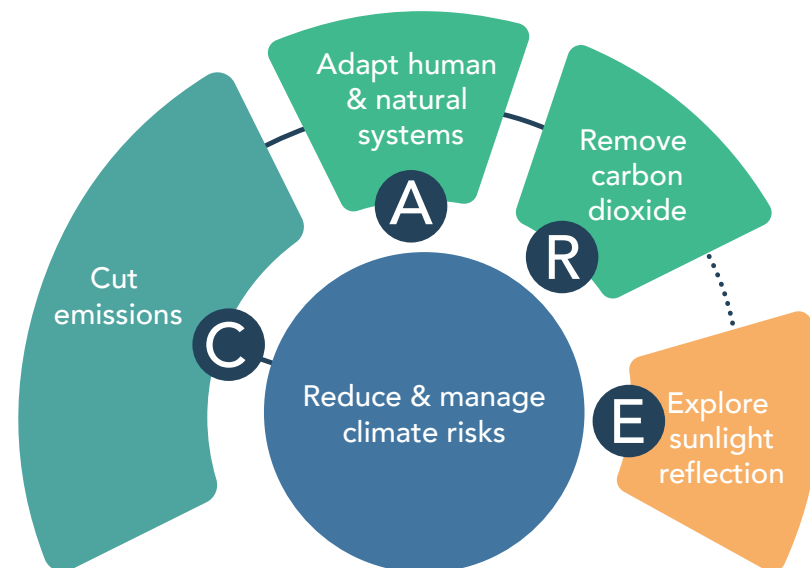
Third, to ensure that CDR does not displace emissions cuts, CDR policies should not treat carbon removals as substitutable for feasible emissions reductions.



Fourth, in pursuing these different approaches, care must be taken not to exacerbate existing inequities, particularly when it comes to historically marginalized groups.

CARE AGENDA FOR POSSIBLE OVERSHOOT

Pursuing any single approach to reducing risks from overshoot—emissions reductions, adaptation, carbon removal, possibly SRM—may influence the effectiveness of other approaches. Both positive and negative spillovers must be identified and managed within a holistic framework. Overall, the recommendations made by the Commission can be conceptualized as constituting integrated components of a “**CARE Agenda**” for reducing risks from climate overshoot.



C

Cut emissions

Accelerate emissions reductions and consolidate decarbonization-

A

Adapt

Expand adaptation and fully mainstream into development.

R

Remove

Develop and deploy higher-quality carbon dioxide removal to help achieve net-zero emissions targets and beyond.

E

Explore

Adopt a moratorium on large-scale solar radiation modification and expand research and governance dialogue.



KEY MESSAGES FOR THE PRESS



The Commission's third meeting, Cairo, November 2022

01

The Commission is the first international independent political body to take a position on how to cope with risks of climate overshoot.

It represents a unique and major international process:

- ✓ Almost two years of deliberations and consultations;
- ✓ Twelve eminent global leaders with former high offices in government and civil society.
- ✓ High-level scientific advisors body to ensure the Commission is grounded in the most robust science and recent evidence.
- ✓ Has involved in its deliberations a Youth Group to include the next generations perspectives and concerns.
- ✓ Also engaged with many intergovernmental organizations and other key stakeholders.



Image credit: Chris Leboutillier, Unsplash

02

Risks of overshooting the 1.5C goal of the Paris Agreement are high and increasing.

- ✓ Impacts on people and planet would be severe and unequally borne, with the most extreme harms falling on climate-vulnerable, low-income developing regions.
- ✓ Overshoot can still be avoided.
- ✓ This report marks an urgent call to confront the rising likelihood and consequences of overshoot and to consider all the tools available to reduce risks: these consequences are serious enough to require much stronger responses than have been considered thus far.



03

The CARE agenda: Cutting emissions, Adapting to impacts, Removing carbon from the atmosphere, Exploring SRM.

- ✓ This is the first major international policy process to bring together a holistic strategy to reduce risks from climate overshoot, built on a set of coherent recommendations.
- ✓ The foundational strategy to avoid or limit overshoot is to accelerate deep emission cuts – to stop making the problem worse. At the same time, this clear priority for action should be complemented by a range of approaches to cool the planet.
- ✓ The CARE agenda integrates a phase-out of fossil fuels, enhanced local adaptation that account for the differentiated possibilities and needs of industrialized and less-industrialized countries, a rapid scale-up of high quality carbon dioxide removal, a moratorium on large-scale solar radiation modification and calls for its governance and research, and a step-change in public and private finance for climate action.

Specifically, the Commission calls for:

- ✓ A graduated, differentiated phase-out of fossil fuels, according to countries' level of revenue, as well as the pursuit of a Global Green Power target.
- ✓ Industrialized countries should lead the way by capping production and consumption at current levels, followed by phased reductions including subsidies.



04

A call for industrialized countries to set not only net-zero goals, but net-negative targets, i.e. removing more CO2 from the atmosphere than they emit.

- ✓ The goal is to create space for the least industrialized countries to pursue their energy transitions while eradicating poverty and fulfilling their development imperatives.
- ✓ For example, for least industrialized countries, transition trajectories might entail expanded access to affordable and reliable energy to help alleviate poverty or replacing traditional biomass cookstoves with liquefied petroleum gas. Within a constrained carbon budget, the richest countries-including oil exporting countries-need to reduce emissions faster to give the least developed countries more space to undertake their transitions.

05

New partnerships on adaptation: replicating the Just Energy Transition Partnership (JET-P) model.

- ✓ Needed intensification of support for adaptation tailored to local needs, through long-term action plans at country level, supported by international funding commitments.
- ✓ A particular focus on agricultural practices in adaptation to address food insecurity risks.

06

A Global Climate Vulnerability Index and international adaptation metrics to inform adaptation actions.

07

Carbon takeback obligations to rapidly expand high-quality carbon dioxide removal alongside robust accounting to prevent greenwashing.

Carbon takeback obligations would require fossil fuel companies to remove from the atmosphere and store a portion of the carbon generated by the products they sell. Carbon removal will be expensive, and carbon takeback obligations is one way to make polluters pay for it.





Image credit: Antonio Garcia, Unsplash



Image credit: ORCA Carbon Capture Machine, Climeworks



Image credit: Thomas Richter, Unsplash

08

A range of instruments to massively increase public and private sources of finance for climate action:

- ✓ A sea-change in lending and grant-making by multilateral development banks.
- ✓ Urgent attention to innovative sources of finance and debt relief mechanisms.
- ✓ Specific tools and instruments that can provide liquidity quickly, amply, and unconditionally when disaster strikes.

09

A new organization of carbon markets in finance.

- ✓ An international public certification mechanism could be established to verify the additionality, permanence and environmental integrity of emissions reduction or removals projects.
- ✓ The World Bank could be entrusted with the responsibility to immediately reinforce the standards currently used in the market.

10

A moratorium on the deployment of solar radiation modification and large-scale experiments when they pose a risk of significant transboundary harm, whilst supporting internationally inclusive research into and assessment of its future potential.

- ✓ SRM is a high stakes, global impacts, and deep uncertainties approach.
- ✓ Countries should adopt such a moratorium without waiting for a formal, legally binding treaty.
- ✓ At the same time they should expand scientific research and pursue international dialogues on how to govern it effectively, prudently, and justly.



CLIMATE
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COMMISSION