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Climate adaptation vs mitigation: two sides of the same coin

01

Introduction

Extreme weather events around the world are affecting key dimensions of human life and business operations¹. Institutional investors see climate change as a source of financial risk² while asset owners are increasing allocations to material environmental issues, particularly climate change and the transition to Net Zero³. As a result, carbon **emissions reduction has become a component of portfolio management**.

Companies are increasingly committed to decarbonising their operations as investors demand credible transition plans and governments incentivize the greening of the economy through regulation, such as the EU's Sustainable Finance Action Plan (SFAP), and fiscal incentives, such as the Inflation Reduction Act (IRA) in the US.

The fight against climate change is currently focused on mitigation actions and these efforts are very welcome. **However, the missing link on the road to carbon neutrality is adaptation**. Adaptation is complementary to mitigation and just as essential.

Imagine a boat with a leak in its hull⁴. To keep it from sinking you must address the main problem: **plug the holes**. In our case, that means mitigating the production of greenhouse gas (GHG) emissions, which are the source of the problem. But you also need to **deal with the water that is already inside the hull and start bailing fairly quickly**. In our example, this means adapting to the situation. To stay afloat and prevent damage to your boat, you need to tackle both issues simultaneously. Similarly, when addressing climate change, humanity must act on both fronts — mitigation and adaptation — at the same time.

1. IPCC 2022 report <https://www.ipcc.ch/report/ar6/wg2/>

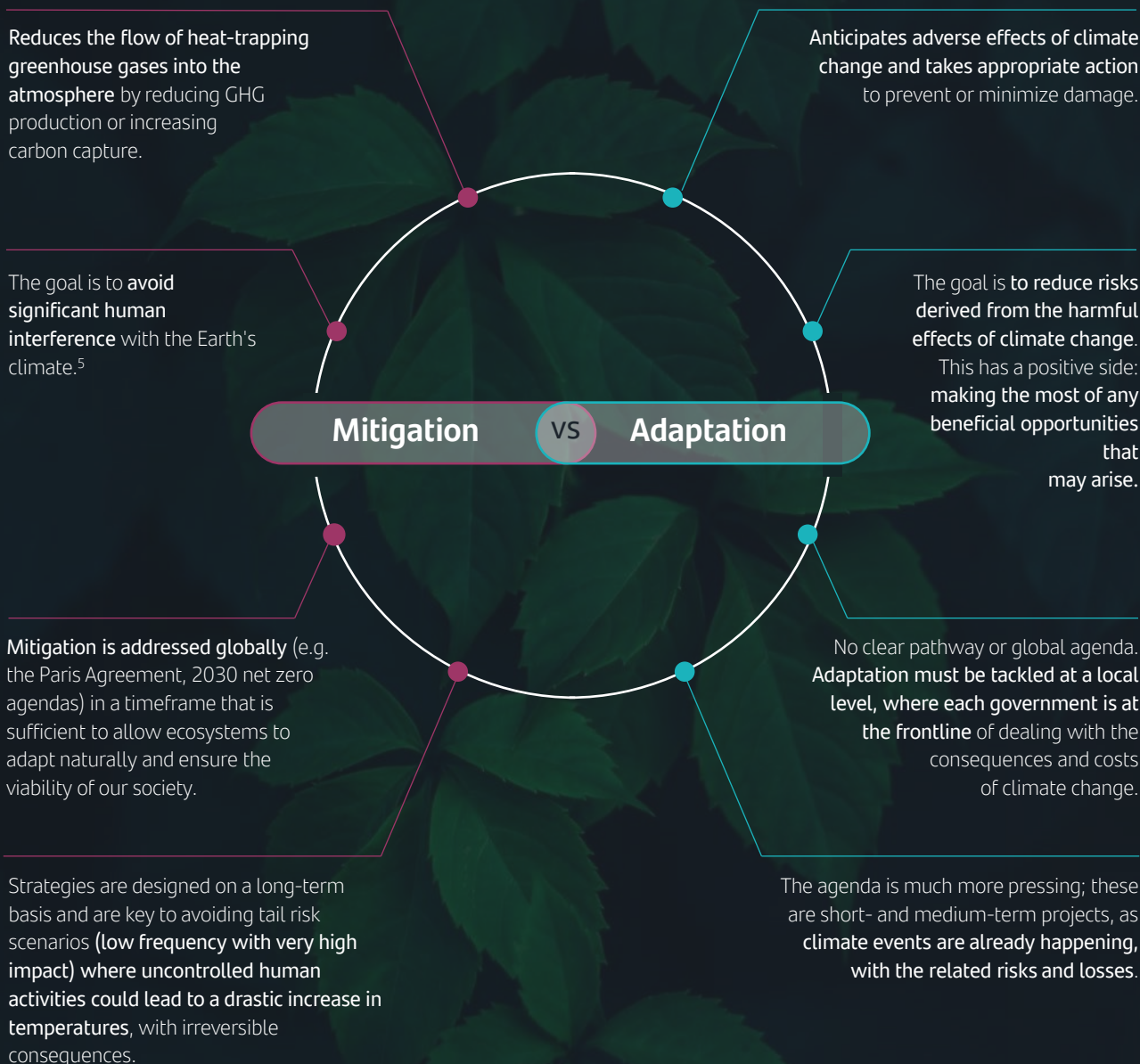
2. Larry Fink's Annual Chairman's Letter to Investors <https://www.blackrock.com/corporate/investor-relations/larry-fink-annual-chairmans-letter>

3. Morningstar's voice of the asset owner survey 2023 <https://indexes.morningstar.com/insights/analysis/blt3274c5e922d86fef/voice-of-the-asset-owner-survey-2023-quantitative-analysis>

4. IMF- Finance and Development <https://www.imf.org/en/Publications/fandd/issues/2021/09/climate-change-what-is-mitigation-and-adaptation-behsudi-basics>

02

What is the difference?



5 NASA – Global Climate Change [https://climate.nasa.gov/solutions/adaptation-mitigation/#:~:text=Key%20Points,pipeline%20\(%E2%80%99Cadaptation%E2%80%9D\)](https://climate.nasa.gov/solutions/adaptation-mitigation/#:~:text=Key%20Points,pipeline%20(%E2%80%99Cadaptation%E2%80%9D))

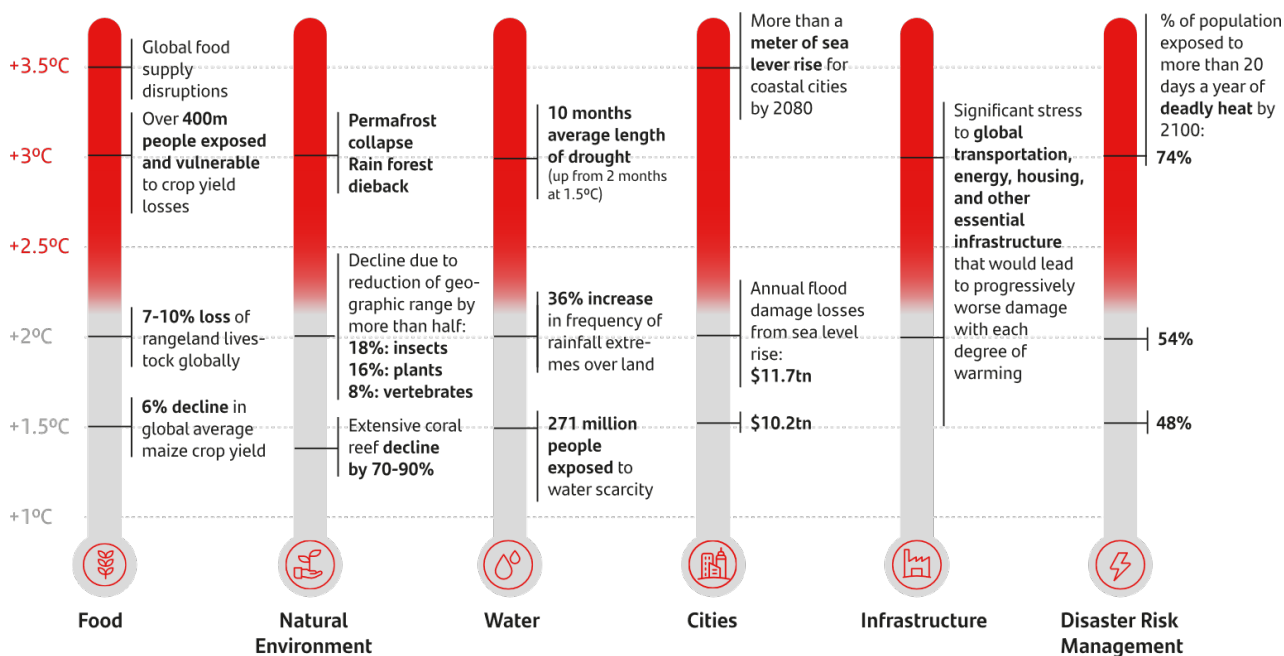
03 Addressing the problem: what can we do?



The Earth experienced its hottest three months on record during the summer of 2023. The extent of Antarctic sea ice reached a record low for the time of year (12% below average), and there is a 66% chance of temporarily exceeding the 1.5°C target in at least one of the next five years⁶. A world that is at least 1.5°C warmer than in pre-industrial times will experience heightened precipitation and more frequent and intense weather events, such as flooding, heat waves and droughts. Events of this type have triggered the rise and fall of certain civilizations in the past.

Figure 1. Risk of events from temperature increases, by sector

Source: Global Commission on Adaptation



6. World Meteorological Organization (the UN system's authoritative voice on weather climate and water) <https://public.wmo.int/en/media/press-release/earth-had-hottest-three-month-period-record-unprecedented-sea-surface>

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There are two key strategies that need to be implemented at both public and private level:

Examples

Mitigation



Addressing the source of emissions: reducing/eliminating the burning of fossil fuels while increasing the share of renewables and reshaping global transport towards a cleaner mobility system



Enhancing "sinks" that can trap GHG: protect the oceans, forests, and soil.



Establishing an international carbon price floor, a measure increasingly viewed as the way to get the world's largest emitters to reduce emissions at scale.

Adaptation



Building more resilient infrastructure, securing water resources, improving crop yields in dryland farming, protecting coastlines



Designing solutions to existing problems: early warning systems for extreme weather events, water desalination and wastewater treatment⁷



Reaping the benefits of the changes: longer growing seasons or increased yields in some regions.

7. Harvard Business Review <https://hbr.org/2022/08/its-time-to-invest-in-climate-adaptation>

Figure 2. Basic elements of climate change adaptation

Source: Global Commission on Adaptation



However, efforts are being focused on climate mitigation, while adaptation, which should be an equally urgent priority, is not receiving the attention that it requires.

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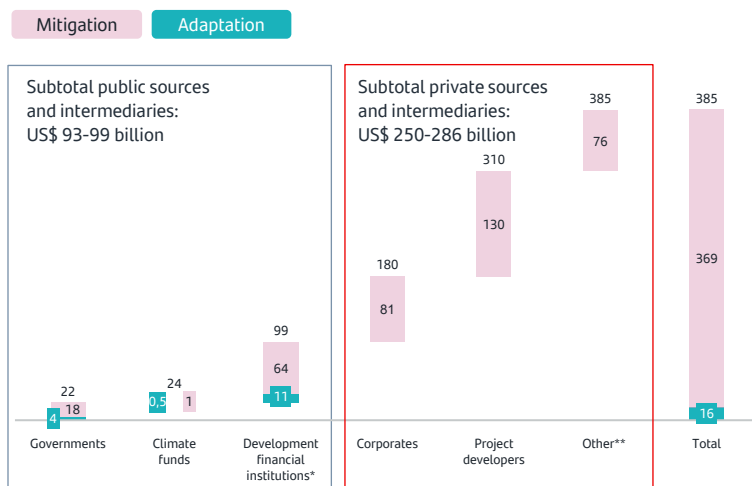
Investment in adaptation: a significant gap and an opportunity

According to recent estimates, the climate adaptation market could be worth USD 2 trillion per year within five years⁸. However, climate adaptation initiatives only receive an estimated 5-7%⁶ of total climate-related investment. Investment comes mostly from the public sector while less than 2% of funds for adaptation⁸ come from private sources. Moreover, investment in adaptation is concentrated mainly in higher-income countries, which increases the gap with low-income countries and exacerbates inequality and poverty.

According to the 2023 revised figures from the UNEP Adaptation Gap Report⁹, the adaptation finance gap is estimated at US\$194–366 billion per year for developing countries. **Adaptation costs/finance needs are 10–18 times higher than current flows, and at least 50 per cent higher than UNEP’s previous estimates.**

Figure 3. Climate change mitigation and adaptation investment, by source of funds (USD bn)

Source: Climate Policy Initiative



*Development financial institutions include national, bilateral and multilateral financial institutions.
 **Other includes institutional investors, households, venture capital, private equity, infrastructure funds and commercial banks

According to the Global Commission on Adaptation¹⁰, every USD 1 invested in adaptation could result in up to USD 10 in net economic benefits. Additionally, the amount of investment in adaptation that is required is a very small share of projected total global investment: less than 1% of projected total gross fixed capital formation in the 2020-2030 period.

8. Bloomberg article on climate adaptation <https://www.bloomberg.com/news/articles/2021-11-17/why-investing-in-climate-adaptation-will-soon-be-very-profitable-green-insight>
 9. UN 2022 Adaptation Gap Report <https://www.unep.org/resources/adaptation-gap-report-2023>
 10. Global Centre on Adaptation <https://gca.org/reports/adapt-now-a-global-call-for-leadership-on-climate-resilience/>



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Challenges and opportunities

Several factors
explain the lack
of investment

Upfront costs

Adaptation requires upfront costs that are a struggle for many developing economies. It is always difficult to take the initiative when the location and timing of hazards are uncertain.

Locally managed

Adaptation efforts will vary across regions. Fragmented responsibilities, poor institutional cooperation, and lack of resources hinder action.

Just Transition

Climate change may impact society asymmetrically and the individuals most affected usually have little power to act.^{9, 11}

Climate change resistance

Failure to adequately convey the scale and importance of the climate change crisis in our societies explains delays in adaptation plans.

11. Oxford Open Climate change <https://academic.oup.com/occc/article/2/1/kgab013/6500302>

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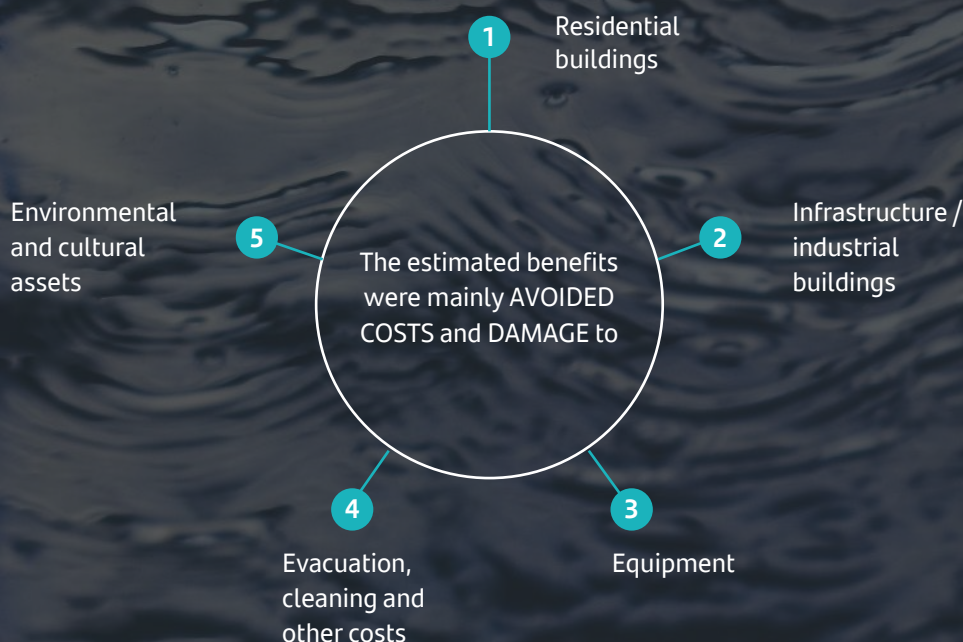
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However, there is a significant wave of innovative **solutions for adaptation that can make a difference while still being profitable now**, such as: vertical farming, hydroponic farming, improved cooling and insulation systems, 3D printed and modular housing, technologies aimed at stemming the spread of wildfires, etc.

Case study¹²

The Prague flood in 2002 was one of the most expensive weather-related disasters in the city's history, causing severe damage to infrastructure, housing and the environment estimated at EUR 1 billion. In response, the city accelerated flood control measures on several infrastructures along the Vltava River, with an estimated cost of EUR 145 billion (2013), including the total cost of implementing the flood control system, installation costs per event, and annual maintenance and storage costs.



A cost-benefit analysis of the adaptation measures showed **that the benefits/avoided damage outweighed the costs even if only one event with a recurrence interval of 50 years** is considered.

¹² Climate Adapt case studies <https://climate-adapt.eea.europa.eu/en/metadata/case-studies/realisation-of-flood-protection-measures-for-the-city-of-prague>

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Climate change is a key challenge for our generation and for many to come. Given that its consequences are inevitable, investments in adaptation are as necessary as in mitigation although the former are lagging the latter. Public-private partnerships will be key to success in the fight against climate change.

Successful adaptation relies on increasing the perception of urgency, leveraging innovation, and increasing the scale of initiatives. It merits more attention from business as many opportunities require lower capital expenditures and may offer faster paybacks than many mitigation investments.

If investments in adaptation and mitigation are coordinated and managed in parallel, they can drive resiliency, productivity and growth, providing social and environmental benefits to our economies. Failing to deliver on adaptation will lead to economic costs and an increase in global poverty.

Other sources used:

United nations framework convention on climate change: https://unfccc.int/sites/default/files/resource/Summary_GCA_COP28.pdf

European environment agency <https://www.eea.europa.eu/help/faq/what-is-the-difference-between>

WEF – Davos agenda 2022 / The green investment report <https://www.weforum.org/agenda/2022/01/trillions-are-being-committed-to-climate-mitigation-but-what-about-climate-adaptation/> & https://www3.weforum.org/docs/WEF_GreenInvestment_Report_2013.pdf

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