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Protecting the Future: An Agenda for Building Climate-Resilient Economies

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Executive Summary

The frequency of extreme weather events has become an unmistakable signal of long-term climate change, demanding urgent investment in adaptation and resilience as core priorities - not optional responses. Even if net zero is achieved, some degree of climate change is already locked in.[1]

But efforts to invest in climate resilience and adaptation have been more talk than action – rarely translating into meaningful policy shifts or large-scale investment. This is evidenced by the growing adaptation-finance gap, estimated to be between $194 billion and $366 billion per year.[2]

To date, the conversation has largely been framed as a fiscal challenge, with the focus on the immense price tag associated with adaptation – rather than the economic case for resilience. As a result, resilience has been viewed as a discretionary expense, making it politically difficult to justify against more immediate economic or political priorities.

Political leaders need a new approach to climate resilience and adaptation – one that shifts the focus from disaster response to proactive economic resilience. Leaders must bolster national resilience by putting climate preparedness at the heart of economic strategy instead of reacting disaster to disaster.

Reframing adaptation as an economic imperative, not just a climate policy, enables leaders to demonstrate tangible payoffs – from supply-chain security to infrastructure resilience to long-term financial stability. By making these benefits visible and relevant to daily life, leaders can build public trust, strengthen political support and position climate action as a driver of long-term prosperity. Countries that recognise this and act decisively will gain a competitive edge, securing long-term economic stability and growth in an increasingly volatile climate.

Smart politics is about delivering real, measurable benefits before disasters strike – not just responding after they happen. This shift does not mean accepting climate failure or shifting focus away from decarbonisation efforts, but there is also no guarantee that net zero will be achieved as planned. This makes adaptation not just important, but vital.

This shift towards a more economically strategic approach is now more feasible than ever, steered by significant advances in technology and innovations in financial instruments – giving governments and investors the tools to scale resilience in ways previously impossible. AI-driven climate-risk models, digital twins and geospatial mapping now offer real-time insights, helping governments anticipate threats, allocate resources effectively and integrate climate resilience into national planning. Predictive analytics, monitoring systems enabled by the internet of things and early-warning networks enable a shift from reactive crisis management to proactive risk reduction, preventing costly disruptions before they happen.

At the same time, innovative financing mechanisms are creating new opportunities to finance adaptation and resilience projects, easing the financial burden that has traditionally rested on the public sector. By helping to price climate risk more accurately and better quantifying the economic value of adaptation benefits, these mechanisms boost investment confidence and direct capital towards projects aimed at building resilience.

Blended finance, risk-adjusted lending and the development of resilience credits are aligning financial markets with climate realities – embedding climate considerations into investment decisions, de-risking adaptation projects and shifting capital flows towards resilience initiatives that yield long-term economic and social dividends. By sharing financial risks between the public and private sectors, these tools enable governments to invest in proactive resilience measures without shouldering the entire financial burden alone, ensuring that economies can adapt while maintaining fiscal stability.

Leaders – and importantly finance ministers – need to harness these advances to create climate-resilient economic strategies that enhance stability and growth opportunities by:

- **Embedding climate risks into national economic planning by using technology to identify and prioritise action:** Leaders should use technology – supported by accurate data and institutional coordination – to map climate risks onto political and economic priorities, ensuring that adaptation strategies are both strategic and actionable.
- **Adopting practical and innovative financing approaches that correct market failures:** Leaders need to apply a rich financing stack in ways that prioritise action and incentivise investment into the projects that promote resilience. They need to combine financial tools to create clear investment opportunities, align market incentives and correct the chronic under-pricing of climate risk and adaptation benefit.
- **Implementing regulatory policies and deploy technology to deliver on-the-ground resilience:** Leaders should create **clear adaptation mandates, enforce climate-risk disclosures and set resilience performance standards** for infrastructure and industries. In parallel, governments should look to **scale digital tools such as AI-driven risk analytics, real-time climate monitoring and automated early-warning systems** to enhance disaster preparedness and improve decision-making at local and national levels.

Reimagining adaptation requires governments to rethink economic planning, embedding resilience not as a secondary concern but as a core driver of national prosperity. Mobilising capital markets, deploying a suite of financing mechanisms and leveraging technology is critical to ensuring these investments translate into real economic gains. Countries that recognise resilience as an economic opportunity – not just a cost – will not only protect themselves from escalating climate risks but also position their economies for long-term growth, investment and competitiveness in an increasingly volatile climate.

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The Politics of the New Normal

The nine years from 2015 to 2023 were the warmest on record, with global average near-surface temperatures reaching 1.45 degrees Celsius above pre-industrial levels.[3] This trend continued into 2024, which became the hottest year ever recorded. The evidence of this warming is increasingly visible in the growing frequency and severity of extreme weather events worldwide – creating a "new normal" that leaders around the world need to grapple with.

Heat waves once considered rare have become commonplace, with heat extremes intensifying worldwide since the 1950s.[4] In Europe in 2022, the summer shattered temperature records as the United Kingdom breached 40 degrees for the first time – a threshold once thought impossible in the British climate. The ten warmest years in the country since 1884 have all occurred since 2002, and the length of warm spells has more than doubled, with the average length of a warm spell increasing from 5.3 days in the years spanning 1961 to 90, to 13 days in the period 2008 to 2017.[5] On 10 July 2024, a new record was set when 44 per cent of the globe was affected by "strong" to "extreme heat stress" – 5 per cent more than the average annual maximum.[6] Severe heat waves that happened only once every 50 years are now happening roughly once a decade, transforming once-exceptional events into recurring threats.

These shifts align with scientific findings on climate change, as rising global temperatures contribute to increased evaporation and changes in precipitation patterns – and these changes in patterns are leading to more pronounced variations between wet and dry extremes globally. Severe flooding has impacted communities worldwide. For instance, Pakistan's 2022 floods affected more than 33 million people and caused economic damages exceeding $30 billion.[7]

At the same time, prolonged droughts have persisted in regions such as California and the Horn of Africa, reducing water availability, stressing agriculture and extending wildfire seasons. Climate change has increased the likelihood of fire-favourable conditions, with the frequency of extreme

events increasing 2.2-fold from 2003 to 2023, with the six most extreme taking place in the past seven years.[8] In California, 15 of the 20 most destructive wildfires in state history have occurred since 2015 – including the most recent Eaton and Palisades Fire in early January 2025.[9] In 2023, Canada experienced its most severe wildfire season on record, with fires emitting nearly 2 billion tonnes of CO_2 – equivalent to a decade's worth of typical wildfire emissions and nearly four times the emissions resulting from aviation in 2022.[10] While much of this carbon will eventually be reabsorbed as Canada's forests regrow, it will take decades for the trees to grow back and pull that carbon out of the atmosphere.

Similar trends are seen in the intensity and frequency of hurricanes and other extreme storms – none of which are isolated incidents but interconnected symptoms of a changing climate, with impacts that directly affect people and economies worldwide. Australia's 2019 to 2020 "Black Summer" bushfires exposed more than 80 per cent of the population to smoke, with researchers estimating that this resulted in 417 excess deaths and 3,151 hospitalisations for respiratory and cardiovascular conditions.[11] In Japan, increasing temperatures have led to a dramatic rise in heat-related hospitalisations, with more than 7,000 people in Tokyo alone hospitalised due to suspected heatstroke in 2023 – the highest in five years.[12]

Climate Adaptation

The process of adjusting systems, practices and policies to reduce harm or take advantage of opportunities arising from current or expected climate impacts.

Climate Resilience

The ability of a system, community or economy to withstand and recover from climate-related shocks and stresses.

Despite these clear trends around the impacts of climate change, investing in adaptation has dropped from 7 per cent of total climate finance in 2019 to 2020 to 5 per cent in 2021 to 2022.[13] Part of the challenge is that the success of adaptation and resilience efforts is measured by what *doesn't* happen – disasters averted, economic losses avoided and disruptions prevented. Because their benefits are largely invisible until failure occurs, adaptation and resilience efforts are often deprioritised in favour of urgent, tangible expenditures that offer immediate political returns. This reinforces short-term decision-making, where governments direct funds toward pressing political and fiscal demands while adaptation – despite its long-term value – remains underfunded.

Climate adaptation and resilience also requires cross-sectoral coordination, yet most economic and financial institutions still lack the mandates, capacity or technical expertise to integrate climate risk into their core decision-making processes. While several promising efforts have emerged to embed climate data and analytics into practical decision-making, such as the Aim-Build-Contingency framework developed by the Climate Financial Risk Forum in the UK, data and analytic gaps still exist, further complicating this integration, as many countries lack the high-quality climate risk assessments and predictive models needed to make informed investment decisions.

This has created a cycle of reactive spending rather than strategic investment. For example, between 2019 and 2021, international donors committed approximately $94 billion to emergency response in developing countries, while during the same period annual adaptation finance flows were about $63 billion.[14] Governments treat climate impacts as external shocks rather than fundamental economic drivers, leading to policies and financial systems that inadequately account for climate risks and vulnerabilities – and significant economic impacts.

In 2023 alone, weather-related natural disasters caused $268 billion in global losses,[15] and over the past decade such events have resulted in global economic losses totalling approximately $2 trillion.[16] In the United States, the reported economic losses from natural disasters attributed to climate change were $700 billion between 2000 and 2023, with the estimated productivity losses from climate change totalling $4 trillion – almost six times greater over the same period.[17] This trend has continued, with the National Oceanic and Atmospheric Administration documenting 25 separate billion-dollar disasters in 2023 alone, totalling $92.9 billion in damages.[18] Without investments in adaptation and resilience, climate change could reduce global GDP by up to 19 per cent by 2050.[19]

03

The Economic Case for Climate Adaptation

The economic case for climate adaptation and resilience has traditionally been framed around avoiding catastrophic losses, but the reality is far more expansive. Evidence consistently demonstrates that strategic adaptation investments not only reduce the financial toll of climate impacts but also generate important economic returns.

While the economics of individual adaptation and resilience investments may not always appear financially viable – particularly for private investors who struggle to capture direct returns – the broader economic case is clear. Countries including the UK are increasingly recognising that rather than simply being a cost, investing in climate resilience is a form of economic resilience. In New Zealand, studies on the longer-term economic impacts of natural disasters – such as earthquakes – have shown that early investment in resilience efforts as well as recovery can help prevent the long-term decline of towns and cities by protecting property values, sustaining local businesses and preserving critical infrastructure.[20] This, in turn, helps maintain economic stability, safeguards tax revenues, and ensures that communities remain liveable and investable rather than facing costly cycles of disaster recovery and population decline.

The Global Commission on Adaptation estimates that a $1.8 trillion investment in adaptation through to 2030 could yield $7.1 trillion in economic benefits.[21] Its work highlights benefit-cost ratios between 2:1 and 10:1 for different adaptation strategies, with early-warning systems exhibiting particularly high returns, ranging from 4:1 to 36:1. In the US, federal resilience grants have saved $6 for every $1 invested. Building-code improvements have yielded even higher returns, saving $11 per $1 invested, with infrastructure resilience measures reducing long-term maintenance costs by 25 to 30 per cent.[22]

Yet the economic benefits of adaptation extend far beyond damage prevention, driving growth resilience and competitiveness across multiple sectors – while also often supporting key mitigation and decarbonisation efforts in the process.

In real estate, adaptation investments have demonstrated their ability to increase asset values and strengthen local economies. In Miami-Dade County, for example, natural green infrastructure has been associated with a 9.6 per cent increase in housing prices, while structural elevation has led to a 6.6 per cent increase.[23] Meanwhile, climate-resilient buildings command rents that are on average 7 per cent higher than comparable properties.[24] These gains are important because they also translate into increased municipal tax revenue and economic stability, reinforcing adaptation as an essential urban-development strategy.

Natural infrastructure solutions offer particularly significant returns, providing long-term environmental and social co-benefits, such as improved public health, job creation and ecosystem services.[25] Coastal wetlands, such as mangroves and salt marshes, act as natural buffers against storm surges, sea-level rise and flooding. These ecosystems sequester significant amounts of carbon in their soils and biomass, helping to reduce greenhouse gas concentrations. Mangrove forests not only safeguard an additional $16.3 billion in coastal property value and protect 6.1 million people from flooding annually,[26] but they could also store as much as 20 billion tonnes of carbon.[27] A wetland restoration project along the Illinois River in the US generated an estimated $1,827 per hectare annually in net economic benefits, including enhanced water quality, carbon sequestration and biodiversity protection.[28]

The adaptation and resilience economy also stimulates innovation and job creation.[29] The International Labor Organization estimates that adaptation projects create between seven and 14 jobs per $1 million invested, with green infrastructure initiatives generating 15 to 24 jobs per $1 million, compared to six to 14 jobs for traditional infrastructure.[30] In the European Union, studies show that adaptation-related sectors will create 500,000 new direct jobs by 2050, spanning engineering, environmental services and

technology development.[31] These opportunities support economies at every level, providing high-quality employment across skill sets and geographic regions.

The private sector is increasingly recognising the financial imperative of climate adaptation and resilience, with companies seeing tangible benefits from resilience investments. For example, Unilever's water-conservation initiatives have led to cumulative cost savings of €60 million between 2008 and 2017, alongside improvements in water efficiency and production reliability.[32] The adaptation market itself is projected to be worth $2 trillion annually by 2026, offering businesses a substantial opportunity to balance climate risks while enhancing market performance.[33] Companies that have delivered adaptation and resilience products or services have, on average, generated greater returns on investment than the market.[34]

The investment community is responding to adaptation's value proposition, recognising that climate resilience enhances financial stability. Following the model of "green taxonomies" defining mitigation investments for the financial and corporate community, adaptation and resilience organisations such as the Resilient Planet Finance Lab and the Climate Bonds Initiative have developed taxonomies to define and guide relevant asset allocations, with the Dominican Republic's recent sustainable taxonomy being the world's first to explicitly include resilience assets and activities.[35],[36],[37] This effort has included developing and publishing guidance outlining a comprehensive process for incorporating resilience considerations into each step of the investment process.[38] And banks and other financial institutions have started advertising their relevant offerings, while also sponsoring or co-developing further guidance with multilateral institutions such as the United Nations Office for Disaster Risk Reduction.[39],[40]

As climate risks intensify, the economic imperative for adaptation and resilience will strengthen, making early action increasingly advantageous for both public- and private-sector leaders. Taken together, these findings make a compelling case for scaling up adaptation and resilience now.

04

A Climate-Resilient Economic Agenda

To build stable, competitive economies in an era of increasing climate volatility, leaders must integrate climate adaptation and resilience into their core economic strategies. This means embedding adaptation and resilience into national development plans, fiscal policies and economic strategies, and investment frameworks, ensuring that adaptation and resilience are not treated as separate environmental concerns but as fundamental drivers of economic security, growth and competitiveness. Achieving this requires a structured approach across three key areas: embedding climate risk into economic planning, harnessing a new approach to financing resilience and adaptation projects, and delivering on-the-ground adaptation and resilience outcomes.

Embedding Climate Risk in Economic Planning – and Harnessing Tech to Prioritise Action

Integrating climate risk into economic planning enables leaders to understand how climatic shocks will impact industries, sectors and populations, as well as where and when these disruptions may occur. This knowledge can inform national development plans, fiscal policies and investment strategies that are more resilient. However, this will not happen without strong political leadership. Leaders must elevate climate risk and resilience from an environmental concern to a core political and financial priority, ensuring it is embedded in national decision-making at the highest levels.

Yet few leaders have comprehensive plans that fully integrate climate risk into economic and financial systems. While many governments have National Adaptation Plans (NAPs) – designed to identify and address climate risks across key sectors – these plans are often complex, fragmented across ministries and technically complex. They provide detailed risk assessments but lack structured frameworks to help leaders prioritise

actions based on economic urgency, investment returns and political feasibility. As a result, leaders face an overwhelming set of priorities without clear direction, leading to policy inertia, inefficient spending and scattered adaptation efforts that fail to deliver systemic resilience.

For example, while most NAPs identify sectoral adaptation needs, they rarely provide decision-making frameworks to help leaders determine which actions should take precedence given budgetary constraints, political trade-offs and long-term economic goals. This disconnect between climate risk assessments and economic planning has led to chronic underinvestment in adaptation and resilience, leaving economies exposed to escalating climate threats.

For adaptation and resilience strategies to be effective, leaders require politically relevant insights – not just climate risk assessments but clear economic justifications that link climate threats to national growth, job security, financial stability and investor confidence. Without this direct political and economic framing, adaptation and resilience efforts will remain sidelined.

Technology – supported by accurate data and institutional coordination – can help do this, enabling leaders to better align climate risks with political priorities. Advances in climate modelling, AI and geospatial analytics now allow governments to:

- Quantify the cost of inaction, using machine learning to model GDP losses, employment risks and market instability due to climate disruptions.
- Prioritise adaptation and resilience measures based on economic stability, mapping climate threats onto critical industries and infrastructure to guide high-impact investments.
- Leverage real-time risk intelligence, using IOT-enabled climate monitoring to track flood risks, drought patterns and extreme weather events, ensuring timely, actionable decision-making.

For instance, companies such as Jupiter Intelligence are using AI-powered climate risk analytics to help cities, insurers and infrastructure developers assess physical climate risks and make more informed investment decisions. Other companies like One Concern use digital-twin modelling to simulate disaster scenarios and identify vulnerabilities across urban systems, helping city leaders prioritise investments based on potential socioeconomic disruptions. In the public sector, the UK's Environment Agency leverages high-resolution flood-risk mapping and predictive modelling to direct flood-defence spending toward the most economically and socially impactful areas.

The Tony Blair Institute for Global Change is working with Planet, a leading Earth-observation and satellite-imaging company, and Thinking Machines Lab, a Philippines-based AI and data-science company, to use satellite imagery and machine learning to create automated landslide hazard maps to improve detection and risk modelling, and support faster, cheaper and more accurate risk identification. This will enable governments to better prioritise disaster preparedness and reduce future causalities and infrastructure damage.

The scale and urgency of adaptation and resilience efforts require leaders to harness these technological advances to strategically determine where to act and how to allocate resources, especially amid competing political and economic pressures. To do this, leaders should actively collaborate with technology providers to leverage advanced capabilities that translate complex risk assessments into actionable political insights.

By identifying which sectors and industries are most at risk, and aligning those insights with political agendas, governments can ensure that adaptation and resilience efforts are both impactful and politically feasible. Those who effectively integrate these approaches will be better positioned to prioritise climate actions that enhance long-term economic stability and resilience, as they will align risks with areas where there is strong political will to act.

To galvanise this kind of data-driven, tech-informed action, leaders need to also ensure that they have the right data infrastructure and data-governance systems in place. The success of predictive analytics, AI-driven modelling and real-time climate monitoring depends entirely on the quality and integration of underlying data sets – in other words, data out are only as good as data in.

Yet climate-risk data remain fragmented across government agencies, financial institutions and private-sector entities, which leads to gaps in risk assessments, duplication of efforts and inconsistencies in decision-making.[41] Without strong political leadership, these inefficiencies will persist, preventing adaptation and resilience from being integrated into national development strategies. Leaders must therefore ensure that data systems are interoperable, allowing for seamless data-sharing. APIs and cloud-based data exchanges can facilitate real-time data integration, ensuring policymakers have access to up-to-date, standardised climate-risk information to directly inform economic planning.

AI and machine learning can further enhance data governance by automating data validation, detecting inconsistencies and improving the accuracy of climate models. AI-driven climate-risk platforms can aggregate data from satellites, IOT sensors and economic-risk models, allowing decision-makers to develop more precise risk projections and targeted adaptation and resilience strategies. Digital-ledger-based data systems can also enhance transparency and traceability, ensuring that climate risk assessments and adaptation financing are verifiable and resistant to manipulation.

By investing in data infrastructure and governance, leaders can ensure that climate-risk insights are accurate, actionable and effectively embedded into economic planning. Without this foundation, technology-driven adaptation efforts will remain fragmented and resilience strategies will fail to deliver meaningful economic impact.

But technology alone will not solve the governance challenge – leaders must establish the right institutional structures to drive accountability. Success ultimately requires strong political commitment and centralised

coordination. This means creating high-level climate-resilience councils or task forces with direct accountability to the head of government. Without high-level political ownership, adaptation and resilience efforts will remain fragmented and underpowered.

The Netherlands' Delta Programme provides a strong model for this approach. With an independent commissioner reporting directly to Parliament, the programme transcends political cycles, ensuring that climate risk assessments directly inform national infrastructure investments and spatial-planning decisions. The Delta Programme maintains authority across multiple government departments, enabling a cohesive, long-term approach to flood protection and climate adaptation.

Governments should establish similar councils to unify climate-risk governance across economic, infrastructure and financial ministries, ensuring that climate-risk data inform policy decisions, investment strategies and national resilience planning. These institutions must also monitor progress, using real-time data to adjust policies and financing mechanisms as climate risks evolve.

Adopting a New Approach to Financing

Understanding the climate risks and impacts that a country faces, and integrating these into economic planning, is essential to creating a more resilient economy. But to make change happen on the ground, actual projects that help adapt and build resilience to climate change are needed, together with the capital to finance them. These adaptation projects can span multiple scales, from large public infrastructure to localised solutions, with capital requirements falling into three key categories:

- **Capital needed for public goods and infrastructure projects:** This includes large-scale public goods and infrastructure projects that are essential for economic and societal resilience but lack direct revenue streams, making them reliant on public financing or blended finance. These projects provide widespread benefits, such as protecting

communities from climate impacts, safeguarding critical ecosystems and ensuring the continuity of public services. Examples include flood defences, early-warning systems and nature-based solutions.

- **Capital needed for adaptation solutions at the industrial level:** This focuses on privately owned infrastructure and technologies that are crucial for adapting to climate risks. These investments enable businesses and private entities to adopt resilient practices and technologies, ensuring the stability and functionality of critical economic assets. This could include ports and transportation systems, industrial and energy systems, real estate and commercial properties.
- **Capital needed to deploy solutions at the local level:** This addresses the deployment of adaptation solutions to end users, including households, small businesses and food producers. These investments are critical for ensuring that vulnerable populations and smaller economic actors can access and adopt the technologies and practices needed to build resilience. Examples include smallholder farmers, householders, enterprises and community-level adaptation.

Each of these kinds of projects need to be financed. But the growing adaptation-finance gap, which is estimated to be $194 billion to $366 billion per year,[42] shows that capital is not flowing into adaptation and resilience projects at the scale or speed required. This challenge is particularly stark in the Global South, where countries facing the most severe climate risks often have the least financial resources to address them. Wealthier nations in the Global North can typically leverage stronger financial markets and government-backed initiatives, but many developing countries struggle to access affordable capital for adaptation and resilience. This is why valuing climate risks and adaptation and resilience benefits is crucial – not only to encourage national investment but also to enable international adaptation-focused finance flows that prioritise vulnerable regions and communities.

Driving this financing gap is a fundamental disconnect between traditional financial models and the value of adaptation and resilience. Investors seek immediate, quantifiable returns, whereas adaptation and resilience projects generate long-term economic stability and societal benefits that markets struggle to properly value. This misalignment systematically undervalues resilience investments, making it difficult to attract capital for projects that

primarily yield avoided costs – such as reduced flood damages, lower disaster-recovery expenses or improved public health. Since these benefits do not create direct cash flow or balance-sheet gains, high-capital adaptation and resilience projects often fail to meet the financial criteria of private investors, reinforcing a cycle of underinvestment.

Beyond this valuation gap, structural barriers further constrain adaptation and resilience financing. Markets for adaptation solutions remain underdeveloped, limiting demand for climate-smart technologies such as drought-resistant seeds or efficient irrigation systems, particularly when end users, such as smallholder farmers, face financial constraints. Many local-scale initiatives, from community water management to decentralised energy projects, are too small to attract institutional investors due to high transaction costs and a lack of aggregation mechanisms. Adaptation and resilience are also inherently local and so quantifying the benefits of adaptation and resilience investments is complex, as outcomes depend on location-specific variables such as geography, infrastructure, socioeconomic conditions and policy environments.

Meanwhile, perceptions of high risk – especially in developing economies with creditworthiness concerns, untested project performance and policy uncertainty – deter private-sector engagement. Insufficient data on climate risks and adaptation and resilience outcomes compound the problem, making it harder for investors to evaluate project viability and accurately price climate risks. Fragmented governance across governments, businesses and development organisations further delays and complicates adaptation and resilience financing, leading to inefficiencies, misalignment and missed opportunities to scale investments before climate shocks occur.

To overcome these challenges, leaders – including finance ministers, who are uniquely positioned to embed climate risk and resilience into fiscal planning, investment strategies and public financial-management systems – must embrace a new approach to financing adaptation and resilience that combines new financing tools and market-based strategies to more effectively value both climate risk and the benefits gained from adaptation and resilience measures. Doing so can help better mobilise resources, reduce strains on public balance sheets, allocate public funding more

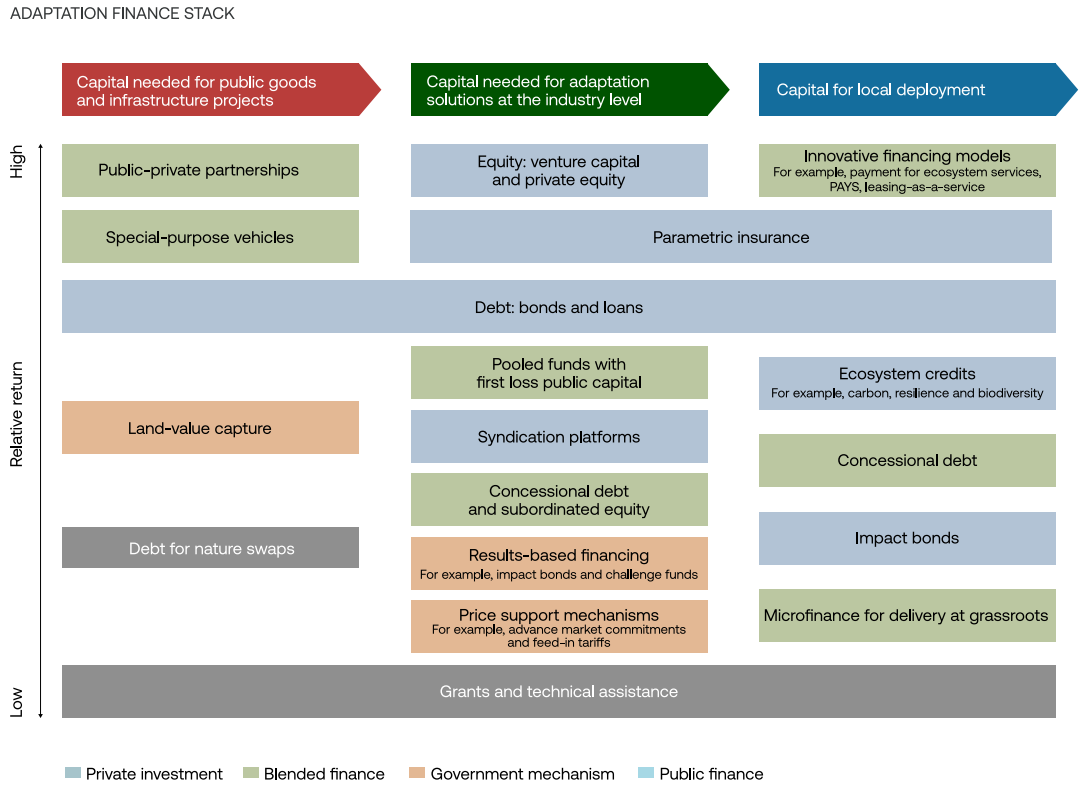
effectively and justify adaptation spending. This not only helps leaders deliver adaptation and resilience projects on the ground, but it also bolsters economic planning.

These financing tools and approaches enable markets to more accurately price climate risks and quantify adaptation and resilience benefits. By establishing clearer valuation frameworks for avoided costs and broader societal gains, governments can help markets recognise the long-term economic stability and value that adaptation and resilience provides. This, in turn, reinforces efforts to integrate resilience into economic planning by demonstrating the tangible benefits of adaptation investments – which leaders can then use to align with political priorities.

A diverse financing stack already exists, and leaders now need to apply this in ways that prioritise action, incentivise investment and reshape economic systems to account for climate risk and resilience.

FIGURE 1

Finance enables three categories of adaptation



Source: TBI

Note: Please see Annex for more detail on each tool

Leaders need to create clear investment opportunities, revenue streams and ROI that work to value adaptation and resilience, and attract capital into adaptation and resilience initiatives. The appropriate tools will depend on the

specific barriers preventing financing from flowing into a project. Because most projects face multiple challenges, financial solutions can – and often must – be tailored and layered to address these barriers.

Depending on the specific challenges that governments face in financing different types of adaptation and resilience projects, a variety of financial tools and solutions can be applied. As detailed below, there are five key, high-level financial-market challenges that hinder adaptation and resilience projects from securing funding. Each of these barriers can be addressed through tailored financial mechanisms, using a mix of public, private and blended finance approaches to unlock capital and accelerate adaptation investments. By strategically deploying the right combination of financing tools, governments can overcome market failures, and ensure that climate-resilience projects are bankable, scalable and sustainable. A more detailed, technical version of the options to address these challenges can be found in the Annex.

1. Governments do not have enough money for public adaptation projects

Many climate projects, such as flood defences, early-warning systems and nature-based solutions, help prevent disasters, but because they provide a public service and do not always make money directly, they are harder to finance. If the financial benefits and revenue streams are not clear, governments and investors may not prioritise them. To tackle this, governments can:

- Show how projects save money in the long run by preventing disasters.
- Explore ways to make projects profitable, such as selling carbon credits from projects that also deliver carbon sequestration, or resilience credits that generate revenue by valuing the long-term benefits of adaptation and attracting private investment.
- Use financial tools such as impact bonds, which tie returns to successful outcomes.
- Encourage long-term investment by making adaptation and resilience projects part of government contracts.

2. There is not enough demand for climate adaptation solutions

The financing of industrial-level adaptation and resilience projects, such as supply-chain resilience and climate-proof infrastructure, faces particular challenges around the lack of a strong and consistent market for adaptation and resilience solutions. Unlike renewable energy, where government policies such as feed-in tariffs and power purchase agreements create long-term demand, adaptation- and resilience-related investments often lack similar financial structures. This uncertain demand discourages private investors, who do not see clear revenue streams or stable market opportunities for adaptation and resilience products and services. Without financial certainty, businesses and financial institutions are hesitant to invest in climate-resilient infrastructure, drought-resistant crops, or water-saving irrigation systems. To address this challenge, governments can:

- Establish financial incentives such as tax credits, subsidies, or public procurement commitments to drive early demand and encourage private-sector participation.
- Implement advance market commitments (AMCs), where governments commit to purchasing adaptation-related products, ensuring companies have a guaranteed buyer.
- Use risk-sharing mechanisms such as climate-resilience bonds and insurance-backed incentives to reduce the perceived risk of adaptation and resilience investments.
- Mandate climate-risk disclosures to encourage businesses and financial institutions to integrate adaptation and resilience into their long-term planning, creating a stronger pull for adaptation and resilience solutions.

3. Investors think adaptation and resilience projects are too risky

Many adaptation and resilience projects are in countries with unstable economies, unpredictable regulatory environments or weak credit ratings, making investors hesitant to commit funding. Without clear risk-sharing mechanisms, private capital remains limited, leaving critical adaptation and resilience projects – such as flood defences, industrial resilience initiatives and climate-proof infrastructure – underfunded. To overcome these

challenges, governments and financial institutions can implement risk-reduction strategies that make adaptation and resilience projects more attractive to investors:

- Share risks with private investors by offering insurance, loan guarantees, or concessional funding to reduce financial exposure.
- Use government-backed funds or concessional finance to take on higher-risk positions and improve the risk-return profile for investments.
- Offer special bonds, such as resilience bonds or catastrophe bonds, to provide investors with stable returns while protecting them from climate-related financial losses.

4. Small climate projects are too expensive to set up

Many adaptation and resilience projects are small and locally focused, such as community flood defences, smallholder-farmer resilience programmes and decentralised water-management systems. The cost of setting up financing for these projects is often disproportionately high, making them unattractive to large investors who typically seek larger-scale opportunities with lower transaction costs and higher returns. As a result, critical local adaptation and resilience initiatives struggle to secure funding, even when they deliver significant benefits for vulnerable populations. To make small-scale adaptation and resilience projects more investible, governments and financial institutions can:

- Aggregate small projects to create larger, investible portfolios, making them more attractive to institutional investors.
- Offer “pay-as-you-save” financing, allowing businesses, households and communities to implement adaptation and resilience measures without upfront costs, with repayments tied to cost savings or long-term benefits.
- Use digital platforms to streamline financing processes, reduce paperwork and lower administrative costs, enabling faster and more efficient capital deployment.

5. Governments, businesses and investors are not working together
Climate financing is often fragmented, with different stakeholders working on separate solutions without alignment, leading to duplicated efforts, inefficiencies and missed investment opportunities. Without a unified strategy, funding is often allocated ineffectively, and adaptation and resilience efforts fail to deliver the maximum possible impact. To create a more effective and coordinated approach to adaptation and resilience finance, governments should:

- Build partnerships that bring together governments, private investors and businesses to align goals and coordinate funding for adaptation projects.
- Require climate risk reports so that companies, financial institutions and governments can better understand where investment is most needed and prioritise funding accordingly.
- Establish clear rules and standards for climate-friendly projects, ensuring that public and private investors have a common framework for financing adaptation and resilience initiatives.

WHAT THIS MEANS IN PRACTICE

In practice, this means that governments looking to build flood defences, for example, but lacking immediate financing, can explore alternative funding mechanisms that distribute costs over time while ensuring critical infrastructure is built before disasters strike. One approach could be to implement a local infrastructure tax or levy, spreading the financial burden over ten to 20 years through small, incremental additions to property or sales taxes, or utility bills. This makes funding more politically and financially feasible while securing long-term resilience.

This approach could also be combined with other financing tools. For example, resilience bonds could attract private investors by tying financial returns to reduced flood damage, making flood defences more investible; land-value-capture mechanisms could allow governments to recover costs by leveraging increased property values resulting from improved flood protection – not only through tax revenues, but also by capturing value at the point of sale; and public-private partnerships could enable private entities to co-fund projects in exchange for long-term revenue streams (for

example, Hamberg's HafenCity development did this successfully by providing developers with prime waterfront land access in return for financing flood-proof infrastructure). By integrating these financing strategies, governments can make large-scale adaptation projects viable without overwhelming public budgets.

Creating a Multilayered Approach: Miami's Forever Bonds

A good example of a multilayered approach using a number of these tools is Miami's Forever Bonds. The city faces severe climate threats from sea-level rise, with projections suggesting 30 per cent of the city could be underwater by 2045 – but traditional infrastructure funding mechanisms have been insufficient to build the desired protective infrastructure. In 2017, Miami voters approved the $400 million "Miami Forever Bond", with approximately $192 million dedicated to flood protection and sea-level rise adaptation:

- Municipal revenue bond: The bond structure spreads costs over multiple decades, aligning payment timing with the long-term benefits of adaptation infrastructure.
- Property tax increment: Rather than increasing tax rates, the city uses natural growth in its property tax base to service the bond debt.
- Resilience dividend capture: Projects are designed to protect property values and create new economic opportunities, helping to expand the tax base that services the debt.

- Stormwater utility fees: Miami implemented dedicated stormwater fees which provided a reliable revenue stream for ongoing maintenance and additional leveraging capacity.

Through this programme the city has been able to fund numerous adaptation projects including pump stations, raised roadways and improved stormwater management. Property values in improved areas have shown resilience and the city's bond rating has remained stable. The initiative has been followed by Miami-Dade County's $1.6 billion Sea Level Rise Strategy, which incorporates similar financing principles.[43]

Enabling Delivery

Climate change is experienced locally, where it impacts lives, livelihoods and essential services. Due to the market failures surrounding adaptation efforts, governments play a critical role in helping to deliver adaptation and resilience efforts on the ground. Government efforts are needed to ensure that people (from the household level up to industry level) use, leverage and adopt agile and resilient practices, allowing them to respond to immediate risks while simultaneously building the systems and infrastructure needed to adapt to a changing climate. By fostering short-term agility to protect economic growth from immediate climate impacts and investing in long-term resilience to address future risks, governments can drive more risk-adjusted, resilient economies.

CREATING GREATER AGILITY TO ADAPT TO SHORT-TERM CLIMATE RISKS

To enable communities to adapt quickly to the immediate impacts of climate change, governments must focus on delivering projects and solutions that build local capacity, improve access to resources and strengthen adaptation and resilience. By doing so, governments can help protect lives and livelihoods while supporting short-term economic growth, as well as reducing disruptions, maintaining productivity, and unlocking immediate opportunities for investment and innovation. While delivery will be deeply linked to and informed by their risk-informed political agendas, leaders broadly need to invest in tools, infrastructure and financial mechanisms to help people and businesses anticipate, absorb and recover from short-term shocks – with financing for these efforts being done through a combination of the different types of financial mechanisms and approaches laid out above.

Key actions that government leaders should take are:

- **Identifying the financial and market barriers blocking adaptation and resilience investments:** Leaders need to define which types of projects need funding (for example, public infrastructure, private-sector resilience or community-level adaptation) and diagnose the financial and market barriers blocking investment. Are projects struggling due to unclear revenue streams, high perceived risks, outdated regulations or lack of investor confidence? Engaging financial institutions and investors can help pinpoint these challenges and shape risk-sharing mechanisms, blended finance models and regulatory incentives that make adaptation and resilience projects more attractive. By actively diagnosing the barriers to adaptation and resilience investments, leaders can take targeted actions to remove obstacles and make adaptation and resilience a more integrated and better-funded priority.
- **Deploying localised early-warning systems and climate data tools:** Governments must prioritise real-time tools and systems that enable communities and businesses to anticipate, prepare for and respond to immediate climate risks. They should partner with telecom providers to deliver hyper-local, real-time alerts through mobile apps, SMS and

community networks. These tools protect communities while helping businesses avoid costly operational disruptions and remain productive during climate shocks. To help communities use and adopt climate data tools, such as early-warning apps, water-saving devices and drought-resistant seeds, governments should consider providing targeted subsidies or financial incentives for households and businesses to adopt tools that enable short-term agility and resilience.

- **Expand access to affordable, rapid-response financial tools for local recovery:** Governments should expand financial mechanisms to help households, small businesses and farmers recover quickly from climate shocks, ensuring that local economies remain active and resilient. To do this, leaders can introduce fast-tracked, low-interest micro-loans to help communities rebuild assets and recover productivity after climate disruptions. Such loans can support the restoration of assets, livelihoods and productivity while maintaining the continuity of local economies. In parallel, linking reduced insurance premiums to the adoption of adaptive technologies and risk-reducing measures can further strengthen financial resilience and incentivised climate-smart investments. As insurance markets adjust to growing climate risks, proactive adaptation and resilience policies can help maintain insurability and prevent the withdrawal of coverage from vulnerable areas.
- **Scale up smart, pre-arranged insurance solutions to protect against climate shocks:** Governments and financial institutions should also work with the insurance industry to design and deploy affordable catastrophe bonds (cat bonds) and parametric insurance products, which provide rapid payouts following extreme weather events. Parametric insurance, for instance, provides automatic payouts when predefined climate conditions (rainfall thresholds, wind speeds or temperature extremes, for instance) are met, eliminating lengthy claims processing. By integrating these tools with smart contracts and blockchain systems, payouts can be made automatically and transparently, ensuring that funds are disbursed quickly and without bureaucratic delays – ultimately helping communities rebuild more effectively.
- **Strengthening local delivery systems and support services:** Investing in local systems and services ensures that individuals and businesses have the resources, technical support and financing needed to adopt

adaptive practices and build long-term resilience. Governments should explore how to expand agriculture extension services to other critical priority sectors and industries. For instance, leaders could create local resilience resource hubs to provide technical assistance, resources and financing for individuals and businesses. These hubs could offer training on climate-smart practices, connect users to financing tools and distribute preparedness resources for heat, drought and flood risks.

- **Practising smart politics:** Leaders should showcase successful projects such as flood defences, renewable-energy installations and urban greening initiatives to demonstrate the tangible benefits of resilience investments. A smart political approach highlights the economic and social returns of adaptation and resilience efforts, including job creation, reduced disaster-recovery costs and improved quality of life. By framing climate action as a practical and profitable investment, rather than an abstract environmental issue, leaders can broaden public appeal and win support across political divides. Furthermore, transparent reporting and compelling storytelling can inspire confidence in adaptation and resilience projects, galvanising diverse stakeholders (from businesses to local communities) around shared goals.

DELIVERING RESILIENCE FOR THE LONG TERM

While agility addresses immediate risks, governments must also focus on delivering long-term resilience to ensure more stable economic growth. This requires targeted investments, enabling policies and innovation to prepare economies for future climate challenges. While specific actions will be country and context dependent, and again will be funded through a package of financial instruments and approaches, as above, key actions leaders should take include:

- **Incentivising adaptation and resilient investments:** Governments can encourage climate-resilient upgrades and investments by creating financial incentives and reducing cost barriers for businesses, homeowners and communities. This may include a combination of financial incentives such as tax breaks, low-interest financing or grants, as well as raising information awareness for businesses and homeowners to

invest in climate-resilient infrastructure. Governments could also reward communities in the form of "resilience dividends" for implementing projects that enhance resilience by sharing savings from avoided damages, insurance reductions or performance-based financing.

- **Driving targeted investment through the establishment of climate resilient investment zones (CRIZs):** Designate zones in climate-vulnerable areas that offer financial incentives, streamlined permitting and technical support to attract private investment in climate-resilient solutions. CRIZs could be in drought-prone regions or flood-prone urban centres and could encourage businesses to invest in efficient irrigation systems, renewable energy and green infrastructure.
- **Streamlining planning, permitting and approvals for adaptation and resilience investments:** Leaders must simplify processes and establish clear, climate-smart policies to accelerate the implementation of adaptation and resilience solutions. This includes simplifying administrative processes and reducing bureaucratic barriers to climate-smart infrastructure or retrofits. Fast-tracked approvals can accelerate the adoption of solutions such as rooftop rainwater harvesting and climate-resilient building upgrades. Governments should similarly develop and enforce climate-resilient building codes and introduce "resilience impact assessments" for infrastructure projects, so that climate risks are accounted for during planning and implementation.

05

Conclusion

Building resilience to the impacts of climate change is not just about identifying risks – it requires fundamentally integrating climate considerations into the core of economic systems. Governments must take decisive steps to embed climate risk into economic planning by harnessing technology to translate climate data into actionable economic insights, leveraging AI-driven risk-modelling and predictive analytics to guide investment decisions. Capital markets must play a central role in scaling adaptation finance, using resilience bonds, blended finance, and climate-contingent instruments to mobilise private capital and de-risk investments. At the same time, efforts must focus on accelerating the on-the-ground delivery of adaptation and resilience projects – strengthening regulatory frameworks, streamlining permitting processes and integrating adaptation into national infrastructure plans. These actions provide a foundation for deeper, systemic reforms to ensure climate risk is fully integrated into global financial and economic systems.

Yet these steps are only the beginning. The real prize – the end goal of these efforts – is a global economic system that is structurally resilient to climate risks. This means mainstreaming climate risk into financial markets and governance structures at every level, ensuring that resilience is not treated as an afterthought but as a core driver of economic planning and investment.

At the heart of this challenge lies a critical question: how do we price climate risk, and how do we value adaptation and resilience? Financial systems must reflect the true cost of climate risk, with adaptation and resilience valued as a strategic asset rather than an expenditure. Sovereign credit ratings, asset valuations and insurance markets must fully account for climate-related risks, while robust adaptation and resilience valuation frameworks ensure that resilience investments are recognised for their long-term economic returns. Global financial institutions and regulators – including central banks, development banks and multilateral institutions – have an essential role in this transformation, aligning financial incentives with climate resilience and embedding adaptation financing into the global economic architecture.

Pricing climate risk is not just a technical challenge – it is a political and economic imperative. Without bold leadership, climate risks will remain mispriced, adaptation and resilience will continue to be underfunded and economies will become increasingly vulnerable to climate shocks. Leaders must recognise that adaptation and resilience is not a costly burden, but a strategic investment in long-term economic stability, competitiveness and security. The choice is clear: either continue operating in a system that ignores climate risk and faces escalating economic disruptions, or pursue a deliberate, systemic shift that embeds resilience into economic structures. The latter path requires urgency, innovation and coordinated action – moving from integrating climate risk into national planning today to restructuring financial markets for long-term climate security. In the end, success will not be measured by short-term adjustments but by the creation of economies that can withstand climate shocks, sustain growth and secure prosperity for future generations.

Adaptation is not optional; it is the foundation of economic resilience in the 21st century. Now is the time for leaders to act decisively, build systemic resilience and reshape economies to thrive in a changing world.

06

Annex

FIGURE 2

When to Use What

What is the problem?	There are solutions!	Examples of solutions in practice
Unclear ROI and uncertain revenue		
Many adaptation projects generate indirect or long-term benefits (such as avoided costs or societal benefits) rather than direct financial returns, creating a mismatch between investor time horizons and adaptation projects. Lack of clear mechanisms to quantify adaptation benefits and generate income are compounded by adaptation's indirect impacts, long payback periods and underpriced climate risks – making these projects unattractive to investors. **Example:** A flood-defence project may save millions in damages but lacks direct revenue generation. If avoided costs are not quantified or communicated effectively, ROI is unclear to stakeholders.	Quantify and create commoditisation of non-monetary benefits: • Developing payment-for-ecosystem-services (PES) programmes. • Adopting PES model and developing payment-for-adaptation-services programmes. • Monetising natural assets (such as carbon credits, resilience credits, biodiversity offsets) and creating a marketable financial instrument. • Embedding climate-risk pricing into financial systems using stress-testing, better risk models and standardised disclosures. • Using financing instruments such as impact bonds to tie returns to measurable outcomes. • Land-value-capture mechanisms. Secure predictable, long-term revenues by using models based on advance market commitments* (such as purchase agreements, contracts for difference) as well as long-term investment vehicles (that leverage pension funds and SWFs) to align with adaptation timelines.	Costa Rica pays landowners to protect forests, which helps prevent floods and store carbon. Zurich Insurance updates flood models so investors understand the financial risks. The UK's Contracts for Difference (CfD) programme ensures stable returns for renewable energy and could be adapted for resilience projects. While resilience credits are still nascent, they can help create revenue streams by monetising the benefits of resilience projects and providing a marketable financial instrument. PPAs for desalinated water could incentivise investment in water resilience.
Fragmented or lack of demand		
Underdeveloped markets for adaptation outputs discourage private investment. Weak or inconsistent demand makes it difficult for investors to justify financing. **Example:** There is little market demand for flood-resistant building materials, so manufacturers do not scale production, which keeps costs high and limits availability.	Create markets and incentivise demand for adaptation outputs through public procurement, feed-in tariffs and subsidies. Use advance market commitments to ensure demand certainty for resilience-related goods (such as climate-resilient crops or building materials) and incentivise private investment. Use insurance-linked incentives to create demand for adaptation measures (for example, resilient seeds, water management systems).	Germany's renewable energy programme guarantees prices for green electricity – this could be adapted to support climate-friendly infrastructure. Malawi's weather-linked insurance programme lowers insurance costs for farmers who use drought-resistant seeds.
High real and/or perceived investment risk		
Adaptation projects, particularly in many developing countries, are perceived as risky due to the insufficient creditworthiness of borrowers, credit risks, political risks, untested project performance, or dependency on government policies. **Example:** Private investors are hesitant to fund large-scale flood-protection projects in developing countries due to concerns over political instability and uncertain long-term revenue streams.	Deploy blended finance structures to share risks between public and private stakeholders. When used in combination with equity mechanisms this can improve bankability. Approaches include: • Using debt guarantees, subordinated equity, or first-loss capital to de-risk projects for private investors. • Providing concessional financing or credit guarantees for vulnerable groups. Resilience bonds to provide investors with a structured way to fund climate-proof infrastructure while mitigating potential losses from climate impacts.	African Risk Capacity pools sovereign risk to support resilience investments. Debt guarantees for municipal flood-protection projects reduce perceived risks. A hydropower project could purchase a derivative to cover lost revenue during dry seasons, ensuring stable cash flows for investors.
High transaction costs		
Small-scale adaptation projects face disproportionately high transaction costs and lack economies of scale, deterring private investment. **Example:** A small-scale irrigation system for a single community may generate significant benefits locally but is not attractive for institutional investors.	Develop pooled finance mechanisms to aggregate projects and reduce transaction costs. Use syndication platforms to bundle projects into larger, investible portfolios. Use leasing and pay-as-you-save (PAYS) models to reduce upfront costs for households and businesses. Use digital financing platforms to reduce transaction costs.	Innovate UK's pooled equity investment in agtech aggregates projects for scale. The European Bank for Reconstruction and Development's Climate Syndication Platform mobilises private capital for resilience infrastructure. Rockefeller Foundation Resilience Bonds aggregate projects and secure public and philanthropic funding as a first-loss buffer to attract private investors to high-impact adaptation projects.
Coordination and information gaps		
Fragmented responsibilities and lack of coordination delay and complicate adaptation financing. Governments, NGOs and private investors may duplicate efforts or work at cross-purposes, creating inefficiencies. Investors and communities may also underestimate climate risks due to limited information or lack of awareness. For example, failure to recognise flood risks results in underinvestment in resilient infrastructure until after a disaster occurs. **Example:** Local governments, private investors and NGOs in coastal cities may work on separate flood-resilience projects without coordination, leading to duplicated efforts, inefficient spending and gaps in protection.	Build multi-stakeholder coordination efforts. Mandate climate-risk disclosures to ensure visibility for investors and stakeholders and ensure quality. Standardise taxonomies and metrics for evaluating adaptation projects to ensure clarity. Leverage climate insurance mechanisms to incentivise climate risk-modelling, geospatial data collection, and predictive analytics.	City of London's financial consortiums bring together diverse stakeholders to co-develop and co-finance impactful climate projects. EU Sustainable Finance Taxonomy streamlines evaluation processes. Bank of England's Climate Stress Testing creates transparency for climate-related financial risks. France's Article 173 requires climate-risk disclosures.

*While the primary purpose of these tools (PPAs, CfDs, Feed-in Tariffs, and Advance Market Commitments) is to guarantee demand and incentivise markets for adaptation outputs, they are versatile tools that can address both "Unclear ROI" and "Lack of Demand", depending on their application.

The Adaptation Financing Stack

CATEGORY DEFINITIONS

- **Private investment:** Financing mechanisms driven by private investors, focused on generating financial returns and aligning environmental, social or governance (ESG) goals
- **Blended finance:** A mix of public and private funding designed to de-risk investments and attract private capital into projects that deliver both financial returns and public benefits
- **Government mechanisms:** Financing tools led or initiated by governments, often aimed at mobilising additional investment or directing funds towards specific policy objectives, such as climate resilience
- **Public finance:** Funds sourced from public budgets, multilateral institutions or grants, typically used to finance public goods and social projects, often without a direct expectation of financial returns

FIGURE 3

Private Investment

Tool	Description
Equity: Venture capital and private equity	Equity provides long-term, risk-tolerant capital to early and growth-stage companies developing resilience solutions. It suits projects with long timelines but demands high returns and exit paths, limiting use where returns are slower or indirect.
Parametric insurance	Parametric insurance provides fast, pre-agreed payouts based on specific climate triggers such as rainfall or wind speed, enabling quicker recovery from disasters – although trigger design must be precise to ensure fair payouts.
Debt: Bonds and loans	Bonds and loans provide predictable, relatively low-cost finance and help spread financial risk, making them well suited for scaling up resilience when paired with performance-linked or concessional terms.
Ecosystem credits	Ecosystem credits – such as carbon, biodiversity or resilience credits – generate revenue by quantifying and monetising environmental services such as carbon storage or flood protection.
Syndication platforms	Syndication platforms connect multiple investors – public, private and institutional – to co-finance large-scale climate adaptation projects, making them accessible to smaller investors, spreading financial risk, and helping scale investment and promote collaboration.
Impact bonds	Impact bonds provide upfront capital for adaptation projects, with repayment and returns tied to achieving specific outcomes. Governments or development agencies repay investors only if agreed results – such as improved water access or reduced disaster risk – are delivered.

FIGURE 4

Blended Finance

Tool	Description
Public-private partnerships (PPPs)	PPPs bring together governments and private companies to co-finance and deliver adaptation projects, aligning public goals with private-sector capabilities. They help share risks, reduce public spending and unlock private capital for complex resilience initiatives.
Special-purpose vehicles (SPVs)	SPVs are legally separate entities created to manage specific projects or investments, often used to isolate financial risk and streamline complex project financing. SPVs can be used to bundle multiple adaptation projects, making it easier to attract capital and manage implementation.
Pooled funds with first-loss public capital	These funds mix public and private finance, with public capital taking the first loss to protect private investors. This structure helps attract private investment into higher-risk adaptation projects, especially in vulnerable or underserved areas.
Concessional debt and subordinated equity	Concessional debt and subordinated equity improve the risk-return profile of adaptation projects by offering better-than-market lending terms or absorbing more risk. They help attract private capital for projects with long-term public benefits but limited short-term returns.
Innovative financing models	Innovative financing models typically combine elements of public, private and philanthropic capital and help fund adaptation projects that deliver public value but are hard to monetise. They include tools such as advance market commitments, payment for ecosystems services and leasing as a service.
Microfinance	Microfinance provides small loans and financial services to individuals and small businesses that lack access to traditional finance. It helps vulnerable communities adopt resilience measures – such as water storage and climate-smart farming – building adaptation from the ground up.

FIGURE 5

Government Mechanisms

Tool	Description
Land-value capture	Land-value capture raises funds for adaptation by taxing the increase in property value from public investments such as flood defences or green infrastructure. It creates a local, sustainable revenue stream to support future resilience projects.
Results-based financing	Results-based financing ties funding to outcomes – such as reduced flood risk or better access to water – so payments are made only when goals are achieved. This helps ensure money is spent effectively, encourages innovation and attracts private investors by linking returns to impact.
Price-support mechanisms	Price-support mechanisms guarantee a minimum return for resilience-related goods or services, such as climate-resilient crops and water-efficient technologies. By reducing market risk and giving producers certainty, they help grow new adaptation markets and encourage investment in overlooked solutions.

FIGURE 6

Public Finance

Tool	Description
Debt-for-nature swaps	Debt-for-nature swaps restructure sovereign debt in exchange for investment in climate resilience and environmental protection. They free up fiscal space for adaptation, helping countries – especially in the Global South – invest in adaptation without adding to public debt.
Grants and technical assistance	Grants offer non-repayable funding, and technical assistance provides expert support to help get adaptation projects off the ground – such as by building local capacity or developing project plans. While not scalable alone, they are essential for removing early barriers and unlocking larger investments.

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