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Investing in adaptation to protect value and provide essential services

Policymakers and investors are pursuing the global economy's transition to net zero. While efforts to decarbonise accelerate, investors and operators must also be mindful of increasing the resilience of existing infrastructure to a changing climate.

Transitioning the global economy to net zero will arguably be the most significant structural change undertaken since the industrial revolution. Much of the focus of action is, rightly, on reducing emissions and reaching net zero. But as the impacts of climate change accelerate, investing in adaptation and climate resilient infrastructure must be prioritised alongside decarbonisation.

Losses from natural catastrophes, such as floods and storms, set a global record in the first half of 2023, costing \$120bn, 46% above the 10-year average of the last decade¹. These extreme weather events – set to become more frequent and more severe as climate change continues² – have a wide range of financial implications, including direct damage to assets and indirect impacts such as supply chain disruption, workforce security and safety.

This means infrastructure investors and operators not only need to place an aggressive focus on emissions reductions and growing value as the world decarbonises, it also means building the resilience and adaptability of infrastructure to continue to provide essential services in a changing climate. As well as enabling the critical community services infrastructure provides to continue, adaptation reduces risk for infrastructure investors and protects the value of these assets.

Investing for a resilient future

There is a clear economic rationale for substantial investment in adaptation. According to the Global Commission on Adaptation, convened by 23 countries in 2018, extending the lifetime of assets by investing in early warning systems and securing existing infrastructure had benefit-cost ratios ranging from 2:1 to 10:1.³ Investment in adaptation can be viewed as returning a triple dividend of avoided losses, increased productivity and resulting social and environmental benefits. In its global call for leadership on climate resilience, the Commission estimated that if \$1.8trn were committed to adaptation in the decade to 2030, it would yield net benefits in excess of \$7trn – a roughly \$4 benefit per dollar spent on adaptation.⁴

All currencies in USD unless otherwise stated.

¹ Swiss Re (2023)

² IPCC Summary for Policymakers

³ ADAPT NOW: A GLOBAL CALL FOR LEADERSHIP ON CLIMATE RESILIENCE

⁴ Ibid.

⁵ United Nations Environment Programme (2023). *Adaptation Gap Report 2023: Underfinanced, Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed.*

⁶ Tracking Investments in Climate Resilient Infrastructure, December 2022.

⁷ It's Time to Invest in Climate Adaptation (hbr.org)

⁸ Sustainability accounting and valuation standards (such as the International Financial Reporting Standards (IFRS) Sustainability Disclosure Standards) are evolving to focus on financially material Environmental Social and Governance (ESG) risks and opportunities. This creates an increasing need for investors and management of businesses to assess the value drivers of businesses with not just a financial lens but also with an ESG lens.

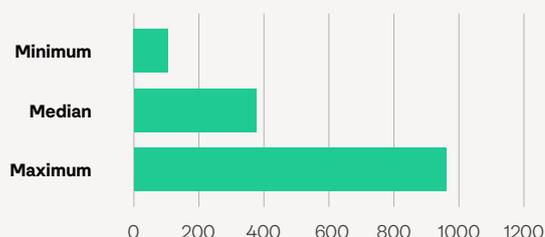
Yet despite the strength of the business case and benefits for investors, the financing gap for adaptation remains staggering (Figure 1).⁵ Climate mitigation investments such as in renewable energy infrastructure have received more finance than adaptation investments.⁶ This is partly because many adaptation projects are not directly linked to a cashflow generating activity. Instead, they deliver value by reducing the losses from extreme weather events, which are uncertain and complex to quantify.

Despite this uncertainty – there is a strong business case for private adaptation investment in solutions that are low cost, proven to be effective, and have immediate impact, such as early warning systems for extreme weather events, coastal barriers, or improved cooling and insulation systems.⁷ The climate adaptation opportunity is already enormous, and the need for adaptation solutions is likely to grow as climate impacts become more prevalent.

For infrastructure investors, as outlined in the case studies throughout this article, adaptation can positively affect the cashflows of portfolio companies, by helping to ensure revenue-generating services are more resilient to increasing physical risk, thereby protecting the value of these assets.⁸

FIGURE 1

ANNUAL GLOBAL ADAPTATION FINANCE NEEDS IN US\$ BILLION FROM 2021-2030



Source: *Adaptation Gap Report 2023: Underfinanced, Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed.*

The need for locally tailored approaches and community involvement

As a responsible infrastructure manager, IFM Investors reviews its infrastructure portfolio to seek to ensure the services provided by assets can remain reliable during extreme heat, storms, floods, and other extreme weather events. Such risks are becoming apparent in countries such as Australia, where IFM has significant holdings.

The Intergovernmental Panel on Climate Change (IPCC) advises that proactive adaptation can substantially reduce the overall costs of climate change,^{9,10} and that successful adaptation to climate change requires strategies to be context-specific and responsive to local needs, a view fully shared by IFM in the context of infrastructure.¹¹

Accordingly, investment in adaptation will not always see identical steps taken across all assets in a portfolio, as adaptation needs are sensitive to local circumstances. In concept, a desire to address flood risk could see investment in early warning systems, dams and flood levies, all the way through to relocation of certain operations if a location is no longer viable.

Approaches that are place-based and tailored to asset-specific circumstances are illustrated through three case studies of how assets in IFM's infrastructure portfolio are working to enhance their climate change resilience. We have selected examples from Australia, mindful of Australia's acute adaptation needs insofar as it has already experienced average temperature increases of around 1.47°C since 1910.¹²

CASE STUDY

Electricity distribution in Australia

Ausgrid (in which IFM is a major investor) is the largest electricity distributor on the east coast of Australia and services its most populous state, New South Wales. Ausgrid is exposed to a range of climate risks, including storms, heatwaves, and bushfires, which can put the community at risk of prolonged power outages. To address and mitigate these risks, the company works directly with communities to develop local resilience plans, and understand the kinds of support it is best placed to offer – such as more resilient overhead power structures that are further insulated, or establishing community support hubs.

Additionally, the company has established an asset inspection and maintenance regime to identify bushfire risks, and employs aerial scanning using light detection and ranging (LiDAR) to ensure vegetation is cleared around assets ahead of bushfire and storm seasons.



⁹ Where costs are defined as the economic implication of either repairing damage or, in the case of user and indirect costs, of failing to repair the damage.

¹⁰ See, e.g., IPCC, 2022: Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)], Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 doi:10.1017/9781009325844. (p. 955 citing Wright et al. (2012) for the proposition that proactive interventions to strengthen bridges in the USA would reduce adaptation costs by 30%).

¹¹ AR6 synthesis report 3.4.2, stating that "Integrated, inclusive planning and investment in everyday decisionmaking about urban infrastructure can significantly increase the adaptive capacity of urban and rural settlements."

¹² NSW Environment Protection Authority, [Increasing frequency and intensity of extreme weather events \(nsw.gov.au\)](https://www.nsw.gov.au).

Long-term investors and financing infrastructure adaptation

The Brookings Institute in the US conducted extensive research on the barriers to financing a more resilient built environment in the US and found that the lack of climate investment was partly due to a planning process that often overlooks climate risks, costs, and benefits and a project financing approach that focuses on individual projects in isolation of the overall system of interconnected developments.¹³

To address these challenges, adaptation financing frameworks for resilient infrastructure need to recognise interdependencies across the built environment and climate risks, costs and benefits.

As the Port Kembla example on the right shows, the interdependencies mean any impact can easily cascade across networked systems, meaning no single actor can be expected to address all risks. Governments should be involved in coordinating – through an appropriate regulatory framework – and helping direct financing of adaptation.

These interdependencies also affect the economics of adaptation investment. As noted by the IPCC, some adaptation actions create public goods that benefit many, and in such cases private actors generally cannot capture all of the gains, resulting in them not undertaking a socially desirable level of adaptation without public support.¹⁴

 **Adaptation financing frameworks for resilient infrastructure need to recognise interdependencies across the built environment and climate risks, costs and benefits.**

CASE STUDY

Seaport operations

The physical impacts of climate change not only affect assets, but also affect their workforces, supply networks, and other stakeholders. Well-considered adaptation plans therefore need to consider not just the asset itself, but the broader network of relationships necessary for its effective operation. This is the situation that confronted **Port Kembla**, part of **NSW Ports** in Australia (in which IFM is a major investor), in 2022, following one of the country's worst flood disasters. Following the flood, the port itself was unaffected, but the infrastructure allowing its customers to deliver and retrieve freight was damaged. The continuity plan was initially successful: customers were able to reroute grain and steel delivery through Sydney's busy metropolitan rail network, where capacity allowed. But following a landslide, further disruptions saw the port cut off from the train network.

NSW Ports maintains a proactive crisis management strategy which includes Disaster Recovery Plans and Business Continuity Management Plans. In addition, NSW Ports continues to advocate for rail upgrades in priority regions.



¹³ SA new climate finance framework for investing in urban resilience | Brookings

¹⁴ See IPCC, 2018: Economics of Adaptation at 171. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

Where collaboration with the private sector is appropriate, government can assist through blended finance and de-risking projects. Governments and public sector entities could offer concessional loans that may include lower-than-market interest rates, longer loan maturity, or longer and more flexible grace periods before the payment of principal and interest is due as a way of distributing the cost of protecting essential infrastructure to the broader beneficiaries.

In conjunction, governments can also help de-risk investments in adaptation through policies that proactively address physical climate risks, such as in infrastructure planning and standards that promote resilience, and a strong information architecture for climate data and physical risk disclosures.

Private investment in infrastructure by long-term, patient capital can also help promote adaptation. Long-term capital that prioritises the future of an investment will be better able to consider the physical climate risk over decades and factor this into the business case for adaptation, mindful of the

importance of customers and the wider community in the success of the business. We believe Public-Private Partnerships, such as our co-ownership of Ausgrid alongside the New South Wales government, are most successful when the partners have strong incentives to consider the long term. Infrastructure investment by pension funds and similar long-term investors can help to supply the capital required to fund the adaptation required globally.

The efforts to accelerate innovation in climate adaptation – whether through financing, technology or knowledge transfer – need to deliver on all points. Any platforms for adaptation need to bring together stakeholders and tools to mobilise capital and deliver resilient infrastructure at scale. In time, scalable models designed with trusted partners must be able to deliver more resilient infrastructure globally.

The climate is changing rapidly. Alongside decarbonisation, infrastructure investors and managers can protect and grow the cashflows and value of portfolio companies by helping to ensure revenue-generating services are resilient to climate risk, thereby protecting the value of these assets.

CASE STUDY



Airport operations

Queensland is the most disaster-prone state in Australia, and the most impacted financially. The state experienced significant flooding in 2022, the costliest in Australia's history, and flooding risk is increasing due in large part to climate change.¹⁵ Brisbane Airport (in which IFM is a major investor) is the main airport for the state of Queensland and, in constructing its newest runway – a AU\$1.1bn, privately funded undertaking – Brisbane Airport Corporation took account of the flood risk it faces. Bordering directly onto the ocean in an area often subject to cyclones, it was accepted that flood risk would only increase in coming years as extreme weather events became more common. In anticipation of the risks posed by extreme rainfall, floods and sea level rises, the airport flood model incorporated a range of climate scenarios, and determined that 98% of assets remain above the flood level for a 1 in 100 year flood event. It has further developed asset management plans to inform the upgrade and replacement of key airport infrastructure that takes account of the same climate scenarios, and incorporates the risks into design standards. Because of the close integration of climate risk, in some sense the capital expenditure program is also an adaptation investment program.

¹⁵ 20683 ICA Final_WebOptimised_SpreadsView.pdf (insurancouncil.com.au)

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