

Fact sheet



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Climate resilience

The World Economic Forum’s recent Global Risk Reports have identified climate hazards as one of the ‘...most impactful risks for years to come and extreme events as the most likely of risks...’. The World Bank has stated that climate resilience must be ‘...integrated into multi-sector and systems-wide frameworks for infrastructure...’ and businesses and investors are increasingly recognising climate change as one of the top global risks to assets, commerce and investments.



By 2030

- Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries;
- Integrate climate change measures into national policies, strategies and planning.

As discussed in [Our approach to Sustainability](#), we recognise the role that business needs to play in delivering the Sustainable Development Goals, and also the opportunities for growth that they can offer. The Sustainable Development Goal relating to Climate Action is one area where our expertise and innovative services can support the delivery of the targets associated.

Recognising that strong climate resilience strategies and actions are critical in delivering these targets, Amec Foster Wheeler has developed the Climate Resilience Integrated Framework for Action (CRIFA). The framework provides in-depth analysis, practical implementation and development of solutions and opportunities throughout a project’s lifecycle and beyond.

This framework, coupled with the Resilience Infrastructure Sustainable Communities (RISC) programme, which is focused on infrastructure and cities allows Amec Foster Wheeler to access and integrate global experts throughout the lifecycle of any project. Our climate resilience practice embeds climate resilience into any project to manage risk and ensure the long-term viability of our clients’ operations and activities.

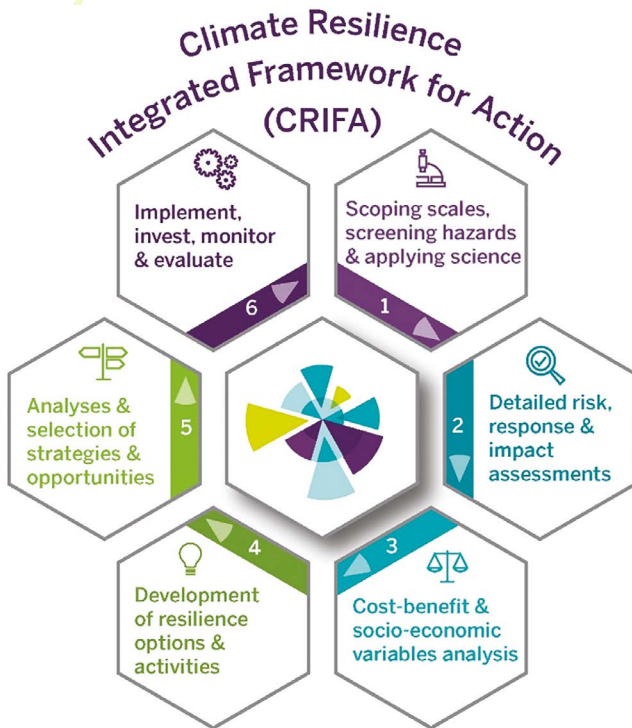
Our approach in this area strengthens financial, operational, social and environmental performance by reducing risk and vulnerability to current and future hazards. It ensures a structured approach to engagement of the key stakeholders and the provision of solutions and is applicable to specific projects, supply chains, investors, government agencies and geographic areas.



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Discrete decision gates within CRIFA enable entry at any stage of a project lifecycle, and part or all of the framework could be implemented dependent on needs and requirements.

Amec Foster Wheeler has an all-encompassing approach to climate resilience. The company provides services across the spectrum, from climate modelling, asset management, business continuity, urban water resilience and risk mapping to economic cost-benefit analysis, resilience engineering and carbon capture and storage. We have seen that incorporating better awareness of, and action on, climate resilience into business, government and infrastructure systems reduces costs via efficiencies such as:

- More effective management processes;
- More efficient infrastructure design;
- Saves money in the future through the protection of assets, faster recovery during and aftershocks;
- Infrastructure and supply chains are better equipped to cope with the vast array of global risks and hazards.

This framework allows Amec Foster Wheeler to integrate world-class experts and regional resources to support our clients within any stage of a project.

By systematically incorporating climate resilience into investments and operations decisions, it ensures a platform from which shocks and stresses can be quickly recovered from. It provides numerous benefits including:

- Reduces disruptions to service provision
- Minimises potential loss of income
- Reduces the risk of environmental and economic damage
- Reduces insurance costs, the prospect of litigation and reputational damage
- Addresses regulations and due diligence requirements

Taking a proactive approach and action to protecting assets and investments reduces the need for additional capital expenditure (CAPEX) and unnecessary increases in operational expenditure (OPEX) in the event of a climate related event. Clients increasingly require climate resilience be part of project delivery.

Amec Foster Wheeler provides design, planning, consulting, engineering, procurement and construction services for climate resilience to benefit clients across multiple sectors and economies around the world.

Climate Resilience Expertise Matrix





Climate resilience



Case studies on Amec Foster Wheeler's innovative work on resilience engineering and climate resilience

Performance-based design framework to integrate and demonstrate value within infrastructure projects (PERINF)

A project conducted under the Joint Program on Resilience Engineering (JPRE) Lloyds Register Foundation

Resilience Engineering is focused on the inherently interconnected capacities of systems, businesses, infrastructures, communities, individuals and institutions to withstand, respond, adapt and grow in a positive, sustainable manner, despite the impacts of short-term acute shocks and longer-term chronic stresses.

Amec Foster Wheeler is working with the Lloyds Register Foundation in London, conducting a pioneering and innovative study to consolidate knowledge between and within critical infrastructure sectors. This will further drive climate resilience into our projects and align our work with the financial sector that are funding many of our clients projects.

The project is providing a performance-based framework to integrate and demonstrate value to accelerate the integration of resilience. It will provide resilience engineering as the new normal for infrastructure projects, promoting resilience engineering as an essential approach with a quantifiable value. Infrastructure clients are increasingly asking 'what is the value for integrating resilience into our infrastructure projects?' and this project begins to define that value within our project delivery and outcomes.

Lions Gate Secondary Wastewater Treatment PPP project, British Columbia

Amec Foster Wheeler is increasingly leveraging its integrated climate resilience to win and execute world-class infrastructure projects. The Environment & Infrastructure business line was part of the recently awarded Metro Vancouver Accionaled-team (ADAPT Consortium) that was selected for the Lions Gate Secondary Wastewater Treatment PPP project. Our Environment & Infrastructure business is providing climate resilience and design services to the team, with anticipated fees of \$11.5m. A key component of this work will be the ADAPT design that address both shocks and stresses to the project. This will provide the flexibility and innovation required for the asset to return to operations quickly after a disaster and meet post-disaster recovery requirements. The design meets these requirements by building in contingencies and redundancy to critical facility components such as communication systems, critical facility assets, material supply, transportation, utilities and vendors for future climate shocks and stresses scenarios.

Climate resilience project for the Greater Toronto Airports Authority (GTAA)

Amec Foster Wheeler recently completed a climate resilience project for the Greater Toronto Airports Authority (GTAA). This included the integration of climate change vulnerability and future flood risk into the overall airport master planning and engineering to align with GTAA strategic initiatives and growth.

These examples are just a few that highlight how we are integrating climate resilience into projects through our Climate Resilience Integrated Framework for Action (CRIFA) and Resilience Infrastructure Sustainable Communities (RISC)

program. This leads to resilient infrastructure and sustainable projects. Utilising our in-house resilience, infrastructure, asset management and economics expertise, coupled with world class partnerships such as 100 Resilient Cities and LRE, we are examining and investigating the Resilience Return on Investment (RROI) value for projects.

We are examining applicable resilience engineering practices with a range of clients that are currently integrating elements of resilience into engineering projects. We are outlining best practices for the performance-based design framework to integrate and demonstrate resilience value within infrastructure projects.

Some other examples of our projects and expertise in this area include:

- Addressing flood events and impacts of climate change in the Caribbean
- Climate focused environmental impact assessments for housing developments, transport networks and major infrastructure in UK/Europe
- Working with the City of Paris to address the need for more green spaces in the flood expansion zones of the River Seine
- Developing a performance-based design framework to evaluate the rate of return on investment in resilience engineering
- Analysing storm data and updating hydrology for USA water resource projects
- Conducting studies on large-scale hydrogen decarbonisation
- Addressing climate resilience needs for health services
- Working as a Platform Partner with the Rockefeller Foundation's 100 Resilient Cities initiative around the world



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