Case study

Resilient Cities

Helping cities around the world become more resilient to the physical, social, and economic challenges that are a growing part of the 21st century.

11 SUSTAINABLE CITIES AND COMMUNITIES

By 2030

- Support positive economic, social and environmental links between urban and rural areas by strengthening national and regional development

- Substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement holistic disaster risk management at all levels

- Support least developed countries in building sustainable and resilient buildings utilising local materials

By 2030, 60 percent of the world's population will live in cities, up from about 50 percent today. Modern cities face numerous issues, with up to 440 million urban households living in sub-standard housing by 2025. The world's cities occupy just 3 percent of Earth's land, but account for 60-80 percent of energy consumption and 75 per cent of carbon emissions. This pattern of rapid urbanisation is exerting pressure on fresh water supplies, sewage systems / infrastructure, the environment and health.

Amec Foster Wheeler recognises the role that business needs to play in delivering the Sustainable Development Goals. Our expertise and experience in climate resilience and infrastructure directly supports the global goal relating to Sustainable Cities and Communities and its related targets.

What is 100 Resilient Cities? A global program aimed to provide urban centres across the world with access to ground-breaking tools that allow them to better plan for potentially destructive weather events. Cities in the 100RC network are provided with the resources necessary to develop a roadmap to resilience along four main pathways:

- Financial and logistical guidance for establishing an innovative new position in city government, a Chief Resilience Officer, who will lead the city's resilience efforts.

- Expert support for development of a robust resilience strategy.

- Access to solutions, service providers, and partners from the private, public, and NGO sectors who can help them develop and implement their resilience strategies.

- Membership of a global network of member cities who can learn from and help each other.

Resilient Cities

Amec Foster Wheeler has been a partner of 100 Resilient Cities (100RC), pioneered by the Rockefeller Foundation, since 2015 and has leveraged this global programme to support cities and clients with our integrated sustainability and climate resilient services. 100RC is a critical component within the Amec Foster Wheeler international climate resilience business and has served to drive collaboration, innovation and secure work contracts over the past year.

We are driven to provide safe and sustainable project solutions for our customers, many of whom include cities and municipalities worldwide. Partnering with 100 RC is enabling us to utilise our expertise in sustainability, emergency management, weather forecasting, environment and infrastructure to enhance cities' capacity to thrive when experiencing shock and stress.

Amec Foster Wheeler is providing 100RC cities – and cities outside the network – with resilience services which include:

- Critical asset data management to help cities identify, prioritise, and track critical city assets that are most vulnerable to shocks and stresses.
- Green infrastructure planning and emergency management response.
- Water scarcity and security.
- Tactical action plans for resilience implementation and grant applications allowing cities to bridge from planning to action and obtain funding for specific resilience projects.

A key component to the above is our provision of highly detailed forecasts on extreme weather patterns and the impacts they will have on localised infrastructure. The forecasting technology will empower cities to prepare comprehensive plans in advance of oncoming tropical storms, blizzards, and other dangerous natural events. With this data, cities will be able to accurately discern which roads will be most impacted in the event of a massive snowstorm or which bridges require additional reinforcement to survive a powerful hurricane. We are also helping cities to develop critical materials for resilience building projects, such as detailed infrastructure project designs and environmental impact assessments.

"At Amec Foster Wheeler, we are driven by providing safe and sustainable project solutions for our customers, many of whom include cities and municipalities worldwide. Partnering with 100RC will enable us to harness our worldwide expertise in sustainability, emergency management, weather forecasting, environment and infrastructure to enhance cities' capacity to thrive when experiencing shock and stress."

Jonathan Lewis
Chief Executive Officer
Amec Foster Wheeler

Resilient Cities

The 100RC programme allows us to further leverage Amec Foster Wheeler's expertise to identify climate change impacts, prioritise projects and complete resilience programmes to reduce our clients' risks. In addition to catalysing the Amec Foster Wheeler global climate resilience segment, our partnership has aligned our business with several strategic teaming partners that have added value to our projects.

Highlights of our 100RC partnership projects to date:

- We have supported City Resilience Workshops in cities around the world, including London, Mexico City, Bangkok, Boston, Tulsa, and Pittsburgh.

- We are supporting OneNYC and the NYC Mayor's Office Recovery and Resilience. Planning support in use of the Clean Soil Bank for implementation of ORR coastal resilience projects. Amec Foster Wheeler was recognised as a key partner in the OneNYC plan for our logistics dashboard programme which integrated our logistics, brownfields and technology leads in the development of a project to simplify soil exchanges through the NYC Clean Soil Bank. Over 60% of this clean soil has been used to make NYC more resilient to climate impacts and has saved city government $3.3M in soil purchase costs.

- We are working with the Paris Climate Resilience Officer and resilience team to model the capacity of a Seine River watershed to develop a natural flood prevention pilot study. This will determine the feasibility of new vegetation to address flood protection and enhance smart-grid power redundancy to flood impacts.

- We supported the City of Norfolk with a flood management programme that is scalable to other city areas, supporting neighborhood revitalisation and can support the City of Norfolk $120M NDRC Watershed resilience programme.

- We are completing a pilot feasibility study that will inform an infrastructure vulnerability framework to assist Los Angeles and the CRO/Team on developing a resilient strategy. Resilience study incorporates the vulnerability of oil infrastructure throughout the city and its potential impact on local communities. We will also develop plans to mitigate the vulnerable infrastructure and respond to potential impacts.

- We lead a resilience workshop for the City of Miami Beach that identified the high priority shocks and stresses to support Miami-Dade County Resilience Plan and Strategy.

- Through our 100RC Partnership, we were one of only 30 private sector firms invited by the Rockefeller Foundation to the May 2017 NATO Interdependency in Resilience summit. This was attended by 32 countries and addressed the resilience agenda within the NATO alliance.

Additional information on our projects can be found in our Resilient Cities, Resilient World booklet.

Learn more about our Climate Resilience Framework.