



BRIEF 2.3. TRANSFORMING ENVIRONMENTAL CHALLENGES INTO RESILIENCE, ENERGY SECURITY, AND JOB CREATION

From flooding and urban heat to drought and hurricanes, local governments must address the effects of extreme weather events on their communities. Local leaders can take action to increase resilience to these types of events, address their causes, and improve the quality of life of their residents. This brief highlights how local leaders innovate solutions for environmental resilience to benefit their constituents.

1. The challenge: local governments are on the front lines of extreme environmental events.

Environmental disruptions are escalating in frequency and severity, and their effects are having tangible impacts on communities, even changing the viability of local investments and affecting local insurance markets. As no community is immune to these challenges, proactive environmental resilience strategies are essential for economic competitiveness and community well-being. Environmental risks local governments face include:

- Extreme weather events affecting community safety, energy security, and essential services.
- Infrastructure vulnerabilities with cascading risks disrupting economic continuity.
- Financial impacts through investor hesitancy and rising insurance costs in high-risk zones.
- Public health crises from heat waves, flooding, and air quality degradation.
- Supply chain vulnerabilities that impact local businesses, workers, and consumers.

2. Strategic guidance for connecting environmental resilience to global engagement.

Assess and invest in the resilience of critical infrastructure and local public service delivery. Water, power, roads, emergency services, and transport systems need robust planning and systemic evaluation followed by investments to maintain essential services during extreme weather events. Fire stations and hospitals with microgrids, water treatment plants with backup sources, and hardened electric power infrastructure keep communities functioning during extreme weather events while supporting mitigation goals through clean energy integration. These measures not only reduce risk but also attract capital, reduce long-term costs, and support job creation.

Transform environmental challenges into opportunities for innovation. Cities and municipalities drive innovation and generate scalable solutions with global relevance. For instance, the New York Housing Authority, one of the largest real estate owners in the United States, faced the challenge of decarbonizing buildings reliant on individual window units. A partnership with the New York Power Authority and the New York State Energy Research and Development Authority created the Clean Heat for All initiative as a public-private design challenge to develop next-generation heating and cooling systems adapted to urban needs. The challenge generated global interest and stimulated domestic clean-tech innovation in window-unit heat pumps.

Build strategic partnerships for scale and impact. Smaller cities can amplify their influence by acting regionally, partnering with local municipalities to elevate their voices and increase their purchasing power. New York led a cohort of municipalities seeking to purchase sustainable, electric construction equipment unavailable in the United States. By creating collective demand, these initiatives have more visibility in the marketplace.

Public-private partnerships create durability. Sustained environmental action requires collaboration across sectors. The Boston Green Ribbon Commission exemplifies how cross-sector partnerships can endure political transitions and drive impact. This coalition of government, business, and civic actors has led the implementation of the City's Climate Action

Plan through three mayoral administrations, demonstrating how institutionalized partnership offers durability across electoral cycles.

Local governments can export their environmental solutions through strategic partnerships with the private sector. Building on experience with rapid urbanization and pollution, Yokohama created partnerships across Asia, applying their sustainable urban model to emerging cities facing similar issues. Yokohama's Y-PORT initiative demonstrates how local governments can leverage business development with international environmental cooperation—simultaneously advancing global environmental goals and creating international business opportunities for local firms (see case study below).

Effective communication builds community buy-in for sustained investment in environmental resilience. Local leaders must make global challenges tangible and relevant to their constituents.

- **Lift up resident stories.** Mayors, governors, and other local leaders can strengthen the case for climate action by amplifying lived experiences of residents affected by environmental challenges, connecting global environmental challenges to local community impacts. Increasingly, local governments are establishing youth climate councils to create dialogue with youth climate leaders, ensuring environmental strategies reflect diverse community priorities, as well as expanding the city's ability to reach residents through trusted messengers who can extend reach and credibility.
- **Show concrete wins.** Demonstrate success happening on the ground to build support for continued environmental investment. Sharing stories of progress builds momentum and trust. International events, global campaigns, and networks provide opportunities to showcase local environmental achievements.

Insights from the Field



Calgary's leadership in driving global energy security.

The World Energy Cities Partnership convenes cities that host some of the largest energy companies worldwide. Based on their position as hubs for global energy security, these cities and their mayors use this platform to share best practices, coordinate policy approaches, and facilitate private sector partnerships that strengthen regional energy security while advancing sustainable energy transitions.

The partnership took significant steps forward in 2024, expanding participation during Houston's CERA Week and creating an innovative three-track format at the Stavanger Annual General Meeting (AGM) that brings government, business, and academia together for focused collaboration. As its Vice President, Calgary is implementing this successful model as it hosts the 2025 AGM, with enhanced secretariat resources enabling more purposeful collaboration among member cities.¹



The global "Water Fund" of Greater Nancy Metropole.²

As part of its international strategy, Greater Nancy Metropole (France) is actively engaged in international development and solidarity through a global "Water Fund" to increase access to drinking water in communities facing water scarcity. The 2005 French Law Oudin-Santini allows local authorities to allocate 1 percent of their water and sanitation budget to international cooperation projects. In this context, Greater Nancy created a "Water Fund" in line with the United Nations' Sustainable Development Goal 6. With an annual budget of 100,000 euros, this fund has supported nearly fifty projects since its creation in 2006, enabling over 300,000 people to benefit from improved access to water.

¹ Contribution from Calgary Economic Development (Canada)

² Contribution from Greater Nancy (France)



How Yokohama leverages public-private and city-to-city collaboration to export its urban innovation experience³

Local cities must stand at the forefront of solving both local and global issues. Understanding this, Yokohama City launched "Yokohama Partnership of Resources and Technologies" (Y-PORT), an intercity partnership focused on Asia, more than a decade ago.

The initiative builds on Yokohama's experience during Japan's rapid economic growth, when the city faced accelerated urbanization, pollution, and population growth. In response, Yokohama developed a sustainable urban model centered on pollution control, infrastructure development, and active citizen involvement. Today, this knowledge can provide practical value to many emerging Asian cities facing similar issues and is an essential feature of the Y-PORT initiative.

For instance, Y-PORT supported a partnership between a Yokohama-based recycling company and Mandaue City in the Philippines to co-design a community waste management system. The company built a local recycling facility, while Mandaue led waste sorting campaigns to raise awareness. These efforts have led to annual reductions of 4,700 tons of waste and 3,000 tons of CO₂ emissions. By identifying local needs through city partnerships and dialogue, the Y-PORT initiative fosters participation from businesses and citizens to jointly address local and global challenges.

Another key feature is its linkage with multilateral platforms. The Asia Smart City Conference (ASCC), held yearly in Yokohama, brings together city, government, NGO, academic, and business leaders, largely from Asia, to share best practices for sustainable urban development. In 2023, the Mayor of Yokohama and Governor of Bangkok jointly declared a partnership for urban decarbonization, backed

by all 43 Asian cities which participated in the ASCC. This was a major step toward carbon neutrality by 2050 and built on a cooperative relationship that began with an MoU signed between Yokohama and Bangkok in 2013. The two cities have since collaborated on climate planning, public-private partnerships, and tech exchanges between Japan and Thailand. The 2023 joint declaration evolved into a public-private workshop hosted by both cities in 2024, further boosting business ties. ASCC's multilateral knowledge-sharing has also spurred new city projects.

This case shows how local cooperation can link regional action to global sustainability. Looking ahead, GREEN×EXPO 2027, an international horticultural exposition accredited by the Bureau International des Expositions (BIE), will be held in Yokohama. The event will explore and exhibit future sustainability in nature and society. Toward this, the city is accelerating its local and global efforts.



How Dortmund leverages project-based environmental collaboration to increase the value of its international relationships.⁴

In 2023, Dortmund together with its UK sister city Leeds participated in the Urban Diplomacy Exchange Project, funded by the German Federal Foreign Office and carried out by "Engagement Global," a center for municipal development cooperation, in cooperation with the Association of German Cities. It allowed for a targeted dialogue and exchange on the topics of social and environmental sustainability within the United Nations 2030 Agenda through meaningful events and offered an additional framework for reciprocal in-person expert missions. In addition to the staff exchanges, the project also involved youth organizations in Dortmund (Jugendring) and Leeds (CATCH).

Why do we engage in these projects? Because they allow us to deepen the existing partnerships, build capacity, create and expand networks, especially in politically challenging times (post-Brexit) and learn from one another on specific topics of the 2030 Agenda. Furthermore, such projects offer a more systemic approach towards partnership work. Stakeholder analysis is an important tool to consider in

³ Contribution from Yokohama (Japan)

⁴ Contribution from Dortmund (Germany)

preparation for such projects to ensure interest and commitment from both sides.

Another example of a successful thematic collaboration and staff exchanges is Dortmund's project partnership with Pittsburgh, USA on sustainable food systems and food security that was made possible in 2022 through the IURC (International Urban and Regional Cooperation) Program funded by the EU. It helped intensify the partnership with Pittsburgh and created a good basis for further professional exchanges ([including in-person visits in spring 2022](#)), that resulted in the incorporation of suggestions from Pittsburgh into the current implementation of Dortmund's climate action plan "[Climate Air 2035](#)" with regard to agriculture and nutrition, given Pittsburgh's pioneering expertise in the area of food security.



Cairns' Smart Green Economy⁵

Cairns is a tropical city nestled between two UNESCO listed World Heritage sites – the Great Barrier Reef and the Wet Tropics Rainforest. Due to its unique location, Cairns and the region of Far North Queensland have sought to establish themselves as leaders in Australia's Smart Green Economy. This initiative leverages the region's unique environment and expertise to support the following:

- Economic growth and creation of 'new' employment opportunities.
- Low carbon and nature positive economy.
- Economic resilience and security.
- A resilient and thriving natural environment.
- Vibrant and prosperous communities.
- Innovation and entrepreneurial opportunities.
- Indigenous business, traditional knowledge systems, and pathways to employment.
- Climate mitigation, adaptation and resilience.

Project overview:

Launched as a multi-stage strategic planning and feasibility study, the Cairns Smart Green Economy project aims to channel global growth in green technologies and practices to generate local economic, social and environmental outcomes. The initial situational analysis identified the region's unique value proposition which then allowed the concept to be further refined and stakeholders to be consulted. Three key opportunity areas were identified through these initial stages:

- Net zero energy systems – By investing in solar, wind, and other renewable sources, Cairns aims to reduce greenhouse gas emissions and promote sustainable energy consumption.
- Circular economy activation – Focusing on sustainable consumption and production, this cluster seeks to minimize waste generation and optimize resource use.
- Biodiversity and carbon markets – Leveraging Far North Queensland's rich natural heritage to explore opportunities in biodiversity and carbon markets.

Strategic alignment and collaboration:

The project was designed to align with, and support the implementation of, several endorsed strategy positions of all three levels of government. The success of the Smart Green Economy project to date is due to collaboration. Key partners include local, state and federal government representatives, universities, industry bodies, airport, port, and natural resource management organizations, with many of these organizations forming the project working group and co-contributing to initial project costs.

Impacts and achievements:

Although this project intends to set up the region for long-term success, there have been some notable achievements and progress of key projects aligned with the opportunity areas of the Smart Green Economy initiative. A series of case-studies showcasing this progress, such as Sustainable Aviation Fuel, Reef Credits, and a biodiversity credit scheme can be found [here](#).

⁵ Contribution from Cairns Regional Council (Australia)

About this Toolkit: Strategic guidance based on experiences from the field.

State and local leaders receive visiting foreign delegations, opportunities for international partnerships, and pressure to engage globally—but no clear guidance on how to do it right. This Toolkit provides that strategic guidance, building upon the insights and best practices from a group of innovative city, state, and regional government leaders from nine countries: Australia, Canada, France, Germany, Italy, Japan, New Zealand, the United Kingdom, and the United States

The result is a practical guide organized around the core challenges local leaders face most often. It provides strategic guidance to:

- Build an international strategy that serves community's priorities while avoiding common pitfalls (Briefs 1.1, 1.2, 1.3)
- Manage relationships that create economic opportunities and jobs (Briefs 2.1, 2.2, 2.3)
- Navigate security threats and potential risks (Briefs 3.1, 3.2)
- Turn international connections into influence and resilience (Briefs 4.1, 4.2, 4.3)

Each brief includes specific steps and real examples from local leaders, experts, and practitioners. If you're using this Toolkit to apply an innovation locally or have questions or suggestions, [please fill out this short survey](#).