

Frankfurt School of Finance & Management

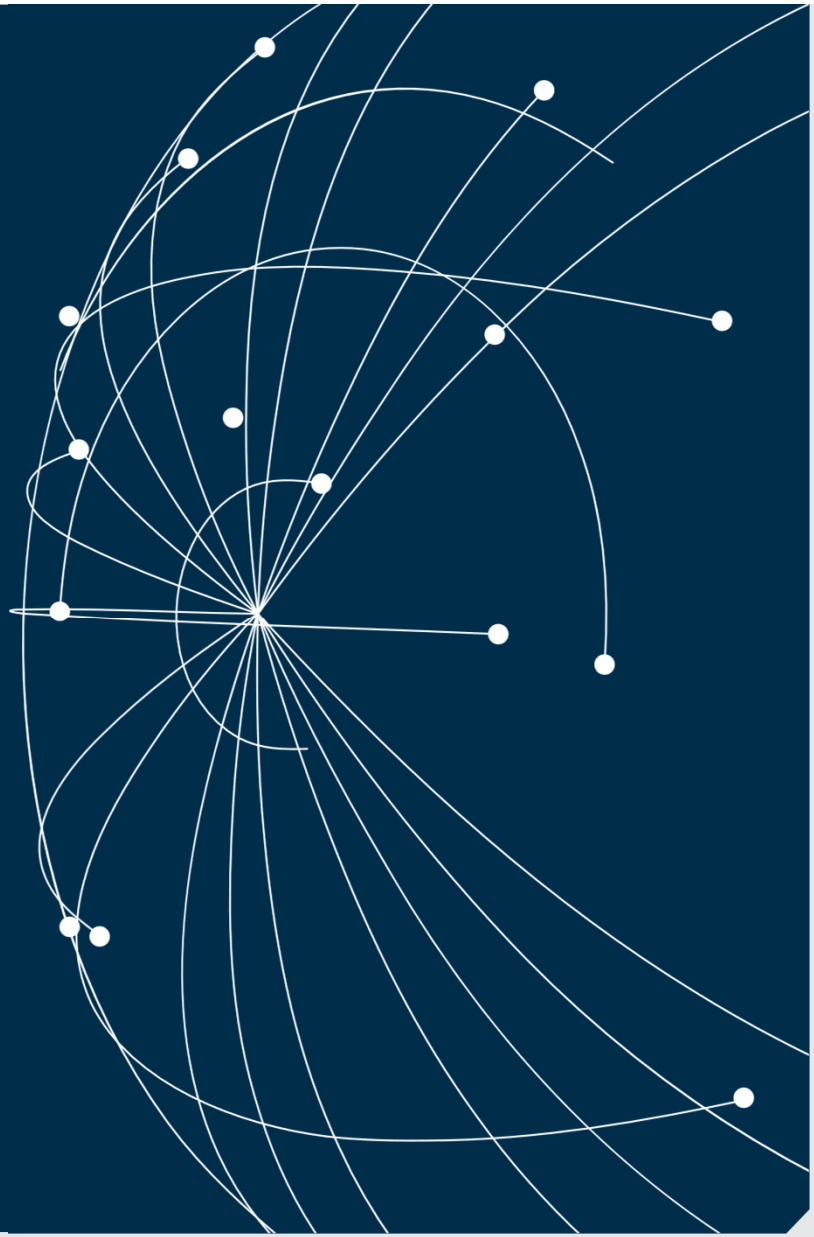
Financing Municipal Resilience

How cities can fund and prioritise climate adaptation And energy resilience measures

PeerConnect Resilience Workshop

Alokananda Nath | 5 November 2026

ABOUT US



A Business School Like No Other

OUR FOUNDATION

- **A leading business school** with Triple Crown accreditation
- **Comprehensive degree and executive education programmes** – from Bachelor's to doctoral studies, as well as practice-oriented training for professionals and executives
- **Where cutting-edge research meets practice –** bringing decision-makers, faculty and students together
- **Knowledge that creates impact** and opens up new opportunities, markets and business models
- **International Advisory Services** – supporting companies and organisations worldwide, particularly in the field of ESG in the Global South.
- **Campus in Frankfurt am Main** – located in the EU's financial capital and one of the world's leading start-up ecosystems, attracting global talent.

Frankfurt School of Finance & Management
A World of Possibilities.



Lifelong Learning at Frankfurt School

Our offerings at a glance

ACADEMIC PROGRAMMES	PROFESSIONAL DEVELOPMENT	EXECUTIVE & PROFESSIONAL EDUCATION	INTERNATIONAL ADVISORY SERVICES	HIGH-LEVEL EVENTS AND CONFERENCES	TRAINING ACADEMY "AUSBILDUNGS-AKADEMIE"	FUTURY
From bachelor's to doctoral degrees Study programmes for different professional backgrounds and experiences – full-time or part-time	Best preparation for leadership positions From Bankfachwirt and Betriebswirt to Fachwirt in Digitalisierung and Management-Studium	For specialists and managers Further training to enhance specialist and management skills (national and international)	International consulting and training projects International programmes and consulting for global financial institutions, governments and companies	Knowledge exchange and networking High-profile events and conferences on trends in finance and management	Hybrid learning and competent training Advising companies, trainers and young professionals on the entire training process	Boost for the start-up-scene Start-up support in the Rhine-Main area from four universities

International Advisory Services

Turning Knowledge Into Impact

Our mission: to **strengthen global financial** systems and support **sustainable economic growth** worldwide

Our locations

FRANKFURT, GERMANY
Head Office

ANKARA, Turkey
Turcasia Regional Office

AMMAN, Jordan
MENA Regional Office

NAIROBI, Kenya
Africa Regional Office

Training & Education

- Customised and bespoke training
- Institution building and strategic partnerships with bank trainings institutes
- Online certifications & post-experience degrees
- Executive education programme

Advisory

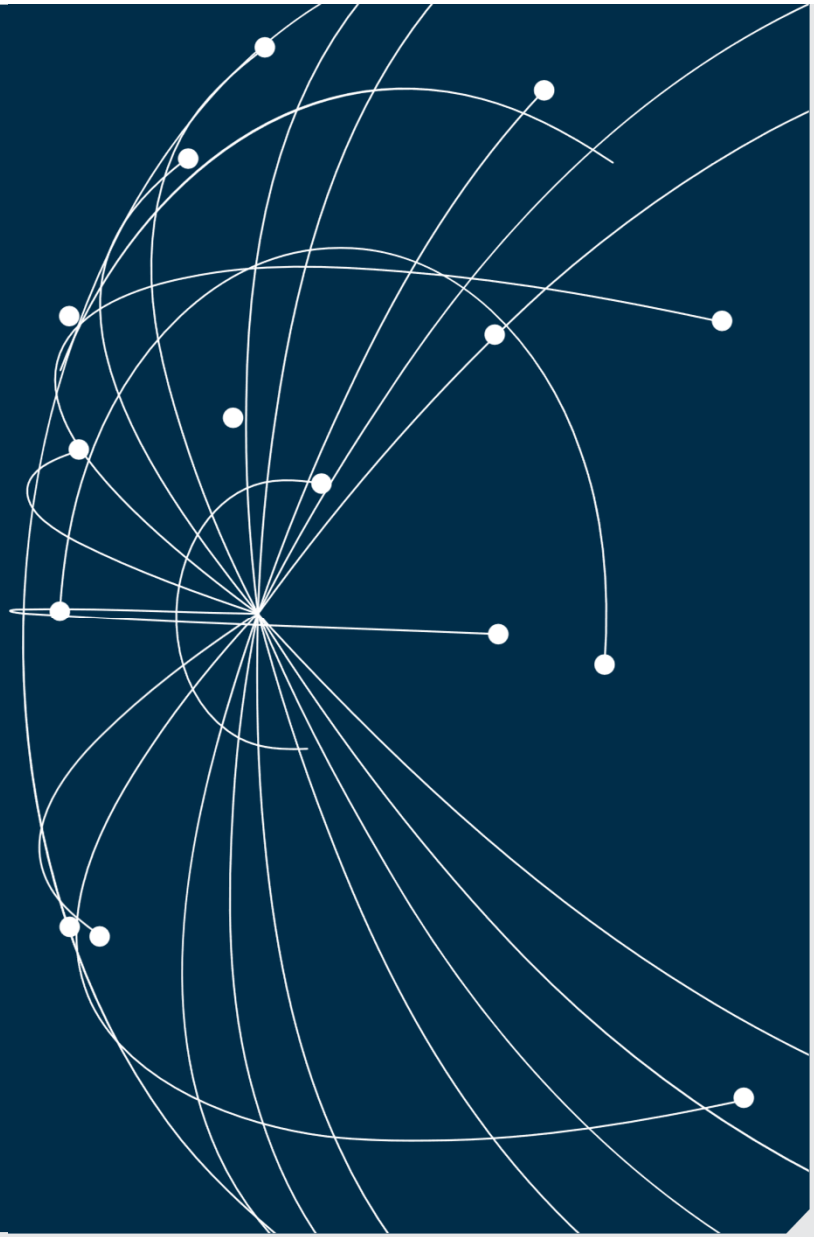
- Financial inclusion
- Banking and central banking
- Sustainable finance
- Food security
- Climate & disaster risk insurance

Research

- Study & in-depth analysis
- Policy advice
- Assessments
- Research & data



THE CHALLENGE OF FINANCING CLIMATE RESILIENCE



Why do we need Climate Resilience?

Climate and energy shocks are interlinked – while budgets and delivery capacity remain constrained.

Climate pressures 01

Heat, floods, drought and extreme weather

Energy disruption 02

Outages, system stress and supply insecurity

Service continuity 03

Schools, water, health and mobility

Fiscal constraints 04

Competing priorities, capital needs and O&M

Resilience is a municipal investment problem

- Climate adaptation is a **critical priority** for urban resilience, yet securing adequate funding remains challenging.
- Adaptation projects usually **do not generate revenues** but rather **result in avoided costs** and other socio-economic **co-benefits**.
- The risks as well as the benefits rarely accrue to a single business which makes it **difficult to scale private sector finance** for adaptation.
- As a result, the **burden of financing** the necessary corrective infrastructure **falls disproportionately on the public budget.**

Adaptation and Mitigation often go together

- WRI analysis of >300 adaptation investments found that over 50% are also expected to reduce GHG emissions in the long run[1]
- Integrated projects provide **dual benefits** – reducing carbon emissions while improving climate resilience
- Dual purpose projects can make it **easier to get (private) financing** for adaptation measures through the (revenue-generating) mitigation projects

Many projects are likely to be a mix of adaptation and mitigation

Sustainable Urban Mobility
Green transit corridors that reduce urban heat island effects and cut emissions

Building Retrofits
Improved insulation increases resilience to extreme heat and reduces energy use

Green-Blue Infrastructure
Urban parks & waterways manage stormwater flooding and sequester carbon

Sources:
1. WRI, 2025, Six Strategies that Achieve Climate Mitigation and Adaptation Simultaneously

Build a portfolio – not a single project

- Most cities depend heavily on municipal budgets, with limited access to external CapEx sources
- Even when CapEx funding is available, ongoing operation and maintenance costs pose significant constraints

Combine investments reducing climate exposure, improving energy continuity and delivering co-benefits

01 **ADAPTIVE INFRASTRUCTURE**

Drainage, flood barriers, water retention

02 **RESILIENT BUILDINGS**

Passive cooling, insulation, critical facilities

03 **ENERGY CONTINUITY**

Storage, backup-ready PV, resilient grids

04 **NATURE-BASED SOLUTIONS**

Trees, shade, permeable spaces

Turn adaptation priorities into investment-ready projects

Project preparation links local risk reduction with costs, delivery arrangements and finance

1

Identify

Define the intervention and public benefit

2

Cost

CAPEX, OPEX and life-cycle costs
Avoided losses, savings and co-benefits

3

Structure

Owner, assets, partners, delivery model, cash flows

4

Finance

Funding gap, legal basis and repayment

5

Prepare

Feasibility, approvals and procurement

Planning output: a prioritised, costed and implementation-ready investment pipeline

Making adaptation projects investment-ready

Monetizing resilience



- **Capturing the new economic value** created by adaptation projects and **monetizing the prevented damages** can reduce reliance on constrained public budgets.
- Many projects can provide **dual benefits** - reducing carbon emissions while improving climate resilience. This makes it **easier to get (private) financing** for adaptation.
- Strengthening **impact measurement and reporting** is essential to demonstrate project value.
- **Integrating adaptation into infrastructure** and spatial planning is an effective strategy to attract financing for climate resilience.

Financing strategies



- Relying on a single source of funding is rarely sufficient – looking to a diverse ecosystem of capital providers and **mixing public budgets, grants and private commercial capital** increases chances of covering the project costs.
- **Philanthropic and Corporate Social Responsibility (CSR)** funding can be considered as viable sources for adaptation initiatives with low or no financial returns.
- Instruments like **green bonds or climate funds** can also allow **bundling** so that less profitable adaptation projects can be financed alongside revenue-generating ones.

Match the financing to project economics

The right instrument depends on who benefits, who pays and whether the investment creates cash flows.

PROJECT TYPE	POTENTIAL FINANCING MIX
Flood protection / green space	Public budget + grants + concessional loans
Building energy efficiency	Municipal borrowing + ESCO / savings models
Solar PV + battery storage	Loans + own funds + support schemes
Critical backup infrastructure	Public finance + grants + utility partnerships
Large integrated infrastructure	Development banks + blended approaches

Start with project economics: public value, identifiable beneficiaries, recurring cash flow and legal authority

Case studies of adaptation projects

Flood management

Bilbao flood-proof district, Spain[1,2]



The Zorrotzaurre peninsula, a former industrial zone in Bilbao, has been redeveloped into a climate-resilient district protected against 100- and 500-year river flood events. The project combines hard flood-protection infrastructure - canals, floodwalls, and storm-water tanks - with large-scale urban regeneration, including new housing and commercial space.

This dual purpose (flood protection + urban development) is key to the PPP financing model: private developers benefit from increased land value and new development rights.

Total investment size: Approximately €30 million for the core flood-protection infrastructure

Financing structure:

- **Public funds (≈51%):** Bilbao City Council + Basque Water Agency + ERDF co-financing
- **Private-sector contribution (≈49%):** Land-owning private partners via Zorrotzaurre Managing Commission - land contributions + redevelopment costs

Green spaces

Climate-proof collective garden in Amsterdam, Netherlands[3]



Vrijburcht is a cohousing complex centred around a collective courtyard garden designed to reduce flooding, heat stress, and water scarcity. The project includes rainwater harvesting tanks, permeable surfaces, green roofs, shaded green spaces, and low-tech nature-based adaptation measures integrated into the residential design.

Total investment size: €16 million total project cost for the building complex, out of which €55,000 for the garden, plus €17,500 for rainwater storage facilities and €30,000 for a greenhouse

Financing structure:

- **Future residents / Vrijburcht Foundation (majority share):** through a "collective private commissioning" model carrying the construction risk
- **Rabobank** provided personal loans to residents at favourable interest rates
- **Housing corporation De Key:** provided financial guarantees and technical know-how and financed 21 housing units and assisted-living housing.

Sources:
1. Climate Adapt, 2025. Public-private partnership for a new flood proof district in Bilbao, Spain
2. Climate Adapt, 2025. Establishing a Flood-Proof District in Bilbao, Spain
3. Climate Adapt, 2025. Vrijburcht: a privately funded climate–proof collective garden in Amsterdam

Institutional Readiness: Finance works only when delivery works

Coordinate departments, asset owners, and partners before approaching potential funders.

CLIMATE + ADAPTATION	**Priorities, risks, and impact**
FINANCE + BUDGET	**Affordability, borrowing, and O&M**
PLANNING + ASSETS	**Land, permits, and technical design**
UTILITIES + OPERATORS	**Energy, water, and service continuity**
COMMUNITY + PARTNERS	**Equity, consent, and accountability**

FIVE ACTIONS MUNICIPALITIES CAN TAKE

From resilience ambition to funded action

01 Map critical risks and services

02 Prioritise transparently and inclusively

03 Build costed, owned project concepts

04 Match the financing mix to the economics

05 Prepare partnerships and delivery capacity

Frankfurt School of Finance & Management gGmbH
Adickesallee 32-34
60322 Frankfurt am Main

Alokananda Nath
Senior Project Manager
Phone: +49 69 154008-436
E-Mail: a.nath@fs.de
www.frankfurt-school.de

https://www.linkedin.com/school/frankfurtschool/

https://www.instagram.com/frankfurtschool/

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