C40 CITIES FINANCE FACILITY

Energy Efficiency and Photovoltaic Solar Energy for Public Buildings in Bogotá, Colombia

Installation of photovoltaic systems and energy efficiency measures in public health and education buildings

Project Sector:
Renewable Energy and Buildings

Project Partner:
City of Bogotá
Secretariat of the Environment

Total investment volume:
1.7 million EUR


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10 million RESIDENTS benefitted

360 estimated JOB-YEARS during construction

upscaling potential **103** PUBLIC BUILDINGS

emission reduction **240,200t** CO_2e over 25 years

Public buildings are multi-sectoral and essential to all aspects of how a city functions. Including them in Bogotá's energy transition approach allows the city to achieve its ambitious climate goals and provide more sustainable public services. As part of the city's Climate Action Plan, Bogotá has developed a first-of-its kind roadmap for integrating technologies to reduce CO_2 emissions by up to 10,000 tonnes by 2030, lower energy costs, and generate up to a 7-fold return on investment.

BEST PRACTICES Through CFF support, city officials recognised that energy efficiency and renewable energy projects have significant positive environmental and economic impacts. This mindset shift fostered an understanding of how projects work and how to develop practical approaches for upscaling, e.g., standardised contracting documents for different business models.

Financing Solution

The city is targeting a power purchase agreement and an energy performance service contract with the public company "Empresas Públicas Medellín". The ZERO CAPEX model will be used for both the renewable energy and energy efficiency components with returns on investment expected in 6 to 8 years.

"It is very important for the city administration to start building its own momentum. This means developing its own mechanisms and ways of addressing issues to support the scalability needed. Without this cooperation with CFF, it would have been very difficult to create this momentum because different departments have competencies and capabilities that are normally strictly confined to silos. So CFF helped us understand common issues and basic elements that we can work on together and through them we can make progress."

JAIRO PAEZ Technical Lead for Energy Management in Public Buildings in Bogotá Project – Secretariat of the Environment

CFF brought an external stakeholder perspective that helped build political commitment to the project.

- Enabled project staff to align the project with specific city directives.
- Strengthened communication of the project's value to high-level decision-makers.

Key studies analysed various contract and business models for deploying clean energy in public buildings:

- Helped the city understand how to implement renewable energy and energy efficient technologies.
- Assessed contract models such as power-purchase-agreements, energy performance services, and related software solutions.
- Enabled the city to evaluate its options and negotiate effectively with potential investors.

Peer exchanges at the City Academy on Finance and Equity (CAFE) and the Conversápolis conference were the most valuable capacity development experiences for the city.

- Enabled city officials to connect with peers from other cities facing similar challenges.
- Fostered lasting connections and ongoing knowledge exchange.
- Strengthened technical, legal and financial capacities for energy efficiency and renewable energy projects.
- Equipped the city to accelerate project implementation and upscale in the future.

CFF demonstrated the value of integrating equity and inclusion into the planning stages of projects.

- Enabled the inclusion of underserved and marginalised groups such as women, youth, people with disabilities, Indigenous communities, and Afro-descendants into the workforce.
- Implemented training and empowerment programmes for women on energy-related topics.
- Promoted fair hiring practices and female leadership in the energy sector.
- Supported equitable distribution of benefits and opportunities between men and women.

KEY CHALLENGES

The city's baseline energy data for public buildings was less robust than expected. To strengthen it, additional energy audits were conducted in 14 buildings. CFF supported the development of criteria to assess these buildings based on energy use, current physical condition, and social impact. These criteria were also integrated into the roadmap developed to upscale the project to 103 public buildings.

LESSONS LEARNED

Public innovation, in collaboration with the private sector and civil society, plays a key role in advancing energy management. Bogotá must strengthen its baseline data for public buildings and group them strategically to support the project's upscaling. Designing appropriate financial mechanisms is important for managing energy savings and building long-term planning capacity. While Colombia's legal framework supports long-term projects, clearer guidance on contracting models and stronger energy governance structures are needed to ensure effective implementation and communication.

OUTLOOK

The city administration now has the capacity to conduct energy audits, apply standardised contract options for finance solutions, and design operational mechanisms for effective implementation. With these foundations in place, Bogotá has a clear path forward to unlock the full potential of public buildings in contributing to its climate goals.

Implementing agencies

giz

C40 CITIES

Funding partners

Federal Ministry for Economic Cooperation and Development

UK International Development Partnership | Progress | Prosperity

AFD Agence Française de Développement

USAID From the American People