CIF CLIMATE INVESTMENT FUNDS

CTF CONTRIBUTIONS TO SUSTAINABLE URBANIZATION

An in-depth analysis of the CTF's achieved results in urban areas

// March 2025

RESULTS DEEP DIVE SERIES //

CIF Program: **Clean Technology Fund (CTF)**

TOPICS

- Results and Impact
- Urban
- Clean Technology

ACKNOWLEDGMENTS

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This report was commissioned by CIF a multilateral climate fund housed within the World Bank, and authored by Shane Suksangium, with contributions from Sandra Romboli and Madu Selvakumar.

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RESULTS DEEP DIVE SERIES

CIF is committed to rigorous and inclusive monitoring and reporting (M&R) on investments' contributions toward net-zero emissions and adaptive, climate-resilient, just, and socially inclusive development pathways. The M&R Results Deep Dive series is a supplement to CIF's annual results reports — while annual M&R provides a systematic synthesis of portfolio performance against each program's core indicators, the Deep Dives provide in-depth reviews of the results within specific thematic or developmental dimensions of climate change. As such, they offer greater granularity on the drivers and implications of various performance characteristics.

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1. INTRODUCTION

According to the Intergovernmental Panel on Climate Change (IPCC), urban areas (i.e., areas with a high density of population whose primary occupation is not in agriculture),[1] account for 50 percent of the total population but 70 percent of the total GHG emissions. Despite covering only a small portion of the planet, by the end of the century, urban areas are expected to account for more than 80 percent of the total GHG emissions,[2,3,4] while also experiencing increasing sea levels as a result of climate change.[5] Nevertheless, there are potential opportunities that, if fulfilled, can support the sustainable development of urban areas, which is an important aspect of global development and the UN SDGs (i.e., UN SDG 11: Sustainable Cities and Communities).[6]

While the Clean Technology Fund's (CTF) primary goal is the deployment of low-carbon technology in middle- and low-income countries, many CTF projects also deploy these groundbreaking technologies specifically in urban areas in sectors such as public transport and sustainable infrastructure. As the need to mitigate the effects of climate change becomes more urgent, CTF's role in climate mitigation in urban areas will become ever more important.

This Results Deep Dive examines how CTF investments have contributed to sustainable urbanization, focusing on specific cases from completed and ongoing CTF projects.

2. RESULTS DEEP DIVE: CTF PROJECTS' CONTRIBUTION TO SUSTAINABLE URBANIZATION

At least 23 CTF projects focus on sustainable urban infrastructure, of which 13 are public sector and 10 are private sector projects. This figure represents over 15 percent of all the MDB-approved projects as of December 2023, and over seven percent of the total expected GHG emissions reduction of the CTF portfolio. With regards to financing, the 23 CTF projects account for more than 16 percent of the CTF funding and have so far co-financed over USD 5.6 billion, which is almost 18 percent of the total achieved co-financing.

Despite the relatively lower contributions towards some traditional CTF indicators, such as GHG emissions reduction and installed capacity, many urban projects tend to have a higher co-financing ratio because they tackle large-scale infrastructure or systems. For example, the Distribution Efficiency Project (WB) in Vietnam successfully modernized and improved transmission lines in Hanoi and Ho Chi Minh City via the introduction of smart grids. This project co-financed two CTF financings—one exceeding USD 600 million and another under USD 20 million—marking a co-financing ratio of over 20. This resulted in annual energy savings of 449 GWh and a reduction of over 360,000 in GHG emissions. Beyond co-financing, many urban projects have additional transformational impacts, such as improved quality of life, enhanced social services, significant financial savings for individuals or city budgets, and increased share of renewable energy in the power grid.

2.1. Energy Efficiency in Urban Areas

Urban areas account for two-thirds of global energy consumption, but several measures, such as improving energy efficiency, can help reduce this number. Consequently, fossil fuel consumption will decrease, leading to increased savings for the local population and, in some cases, an indirect reduction in fuel imports.[7] Such interventions supported by CTF include district heating modernization, grid modernization, and sustainable housing.

Out of the 28 energy efficiency projects in the CTF portfolio, more than 42 percent focus specifically on urban areas, and have so far led to 3,481 GWh in annual energy savings, accounting for over 56 percent of the achieved results in energy savings as of December 2023.

One example of CTF's work in energy efficiency in urban areas is the financing for Kazakhstan's heating frameworks' modernization via the District Heating Modernization Framework (DHMFF). This EBRD project focuses on several Kazakh cities and has so far led to over 158 GWh in annual energy savings while increasing the reliability of these heating systems. Upon completion, the project is expected to cut heat losses by 10 percent and increase private sector participation in the delivery of heat supply in the country.

2.2. Urban Transport

Affordable and sustainable transport systems represent a key sub-indicator for SDG 11[8] and are crucial contributors to sustainable urbanization. Over 87 percent of the transport projects in the CTF portfolio are urban transport projects, covering a variety of technologies, from electric boats along rivers to first-of-a-kind large-scale subway systems.

Even though capital-intensive public transport projects generally have a lower annual GHG emissions reduction potential than other technologies, such as geothermal plants or solar PV farms, they have other additional benefits beyond climate mitigation. For example, they ease traffic congestion, which can subsequently lead to an increase in economic output, reduce road accidents, and improve health by reducing air pollutants, including PM 2.5, carbon monoxide, and nitrogen dioxide. The lowering of air pollution levels can lead to significant financial savings.

To date, these CTF projects have provided low-carbon transport for 434,000 people daily,[9] resulting in over 117,000 tCO_2 in annual GHG emissions reduction across Asia and South America. These CTF projects have also reduced travel times in multiple cities. For example, under the Strategic Public Transportation Systems Program (SETP) (IDB Group) in Colombia, the average travel time in public transport in the city of Armenia reduced from almost 38 minutes to under 28 minutes, while in Santa Marta the average travel time reduced from over 23 minutes to under 15 minutes after the project was completed in 2022.

As traffic and road safety in urban areas represents a major challenge and is a continually increasing problem in many middle-income countries, CTF's ongoing support in urban transport will become ever more important.

2.3. Other Contributions

CTF projects also contribute to other sustainable urban projects all around the world, many of which go beyond CTF's immediate objectives of work.

For example, in Ukraine, the Second Urban Infrastructure Project (UIP-2) (World Bank) works to improve waste management systems in several Ukrainian cities, including Kharkiv, Zhytomyr, and Kirovograd, aligning with one of the sub-goals of SDG 11. To date, the project has led to almost 90 GWh in annual energy savings as a result of energy efficiency measures in water and wastewater facilities. Upon completion, the project is expected to provide an additional 400,000 people with continuous water supply; 600,000 people with access to sanitation services; and 450,000 people with continuous district heating services.[10]

Many projects in urban areas also focus on improving air quality, considering that they reduce combustion of fossil fuels, which contain pollutants such as PM 2.5[11] and nitrous oxide. They do so directly, via increased renewable energy generation, or indirectly, via initiatives such as reduced fossil fuel consumption from sustainable housing or avoided passenger car usage in transport projects,[12] contributing to SDG 11.6.

3. CONCLUSIONS AND FUTURE CONSIDERATIONS

As populations continue to increase in urban areas, and many cities expand rapidly, sustainable urbanization will remain a core priority in international development. CTF's past track record in various areas of sustainable urbanization, including urban waste management and improved energy usage, showcases the fund's flexibility in tackling existing development problems in urban areas from different angles. Even though CTF's core objective is the deployment of clean technology solutions in the middle- and low-income countries, the achievements of the program's work in urban areas show that its reach goes beyond its original objectives of the program. For example, CTF has produced results in pollution reduction (SDG 11.6) and improvements in access to public transport (SDG 11.2).

Over the years, CTF and CIF are increasingly working on tackling other aspects beyond traditional urban projects. For example, they focus on policy support, which is another key pillar towards sustainable urbanization. Under the recent CIF-Technical Assistance Facility (CIF-TAF), the program directly supports policy changes and technical assistance, such as the development of plans for e-mobility projects in multiple cities in Türkiye, as well as the development of efficient lighting programs in Santo Domingo in the Dominican Republic. These aspects are also covered in the newer CIF programs, including the Global Energy Storage Program (GESP), with results areas that specifically track new policies, regulations, codes, or standards adopted as a result of CIF interventions, tackling the decarbonization of urban areas from a policy perspective.

Beyond climate mitigation, CIF's other programs, such as the Pilot Program for Climate Resilience (PPCR) and the upcoming Cities Program, specifically focus on climate resilience in urban areas, complementing CTF's urban projects. CIF's proven track record in working on various sectors, both for climate mitigation and resilience, shows that the fund is a key and future player in sustainable urbanization and the fight against climate change as a whole.

ENDNOTES

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THE CLIMATE INVESTMENT FUNDS

CIF is a $12 billion multilateral fund, mobilizing low-cost finance for energy transitions and sustainable development in more than 80 countries. Established in 2008, CIF delivers funding exclusively through six AAA-rated multilateral development banks. In a world first, in 2025, CIF accessed capital markets to unlock private sector capital through the CIF Capital Markets Mechanism (CCMM).

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