

International Finance Corporation, Climate Change, And Investments In Cities

By Gaurav Dwivedi

The briefing note discusses the International Finance Corporation's (IFC) analysis and estimates of the investment opportunities in infrastructure development opening up, primarily for the private sector, in the urban areas due to the aggravating climate crisis. It also looks into the financial collaborations, instruments and projects that IFC is engaged in India with municipal governments and private corporations in different capacities.

IFC is a sister organization of the World Bank and member of the World Bank Group—is the largest global development institution focused exclusively on the private sector in developing countries¹.

IFC states that it is uniquely positioned to help mayors and municipal leaders meet these demands. Through the Cities Initiative it has forged strategic partnerships with cities around the world to take a holistic view of needs and offer solutions in urban transportation, water and waste management, street lighting, affordable housing, energy efficiency, and climate resilience. IFC can mobilize commercial financing for priority projects, connect cities with capital markets, and help improve credit-worthiness through financial management training².

¹ https://www.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/about+ifc_new

² https://www.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Infrastructure/Priorities/Cities?WCM_PI=1&WCM_Page.348821804b00b3a18827b9b94e6f4d75=2

IFC is also a member of the Smart Cities Council³ and is actively participating in India's Smart Cities Mission through providing advisory services as well as investments in equity participation and project financing.

IFC, held 2017 Climate Business Forum in New Delhi, India. The event looked to provide innovation in technology, entrepreneurship, and private sector sustainability approaches in multiple industries, including climate-smart agriculture, smart cities, green finance, renewable energy and energy storage, and green buildings⁴.

Some of the recent analysis presented by IFC makes an attempt to link climate change with investments in cities in climate smart technologies. Some of the recent initiatives launched by IFC are climate change focused and are aligned with Smart Cities Mission of the Government of India.

A recent International Finance Corporation (IFC), the World Bank Group's private sector participation promoting agency, analysis released in 2018 – *Climate Investment Opportunities in Cities* – links city level policy decisions and actions to mitigate climate change with opening of new investment avenues to take a green, climate-friendly approach to urbanization and investments in green transport, buildings, and other low-carbon and resilient infrastructure.

In the backdrop of Paris Agreement, limiting global warming and building urban climate resilience it says that – “cities cannot achieve their climate ambitions alone and must collaborate with all stakeholders, including business and investors. City governments play a key role in creating enabling conditions to attract private investment to reduce emissions, manage risks, and build climate resilience. The private sector can play a central role in supporting cities through a combination of innovation, know-how, financing, and new service delivery models, and there is growing interest from the private sector to invest in **climate-smart cities**”. (Emphasis added)

³ <https://smartcitiescouncil.com/members/international-finance-corporation>

⁴ https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/events/ifc+climate+business+forum+2017



Further elaborating the approaches for to finance climate-smart investments in cities it says that to build urban resilience strategies and achieving mitigation targets linking cities with finances would be essential. To make climate-smart investments, cities would rely on reallocation of existing budgets and the ability to raise revenue. It says that though the investment barriers faced by cities, such as creditworthiness, bankability, and the lack of a viable project pipeline, limit what they can do on their own and pose an obstacle to attracting private finance.

Despite not so encouraging experiences with Public Private Partnerships (PPPs), it continues to pursue them as a primary mechanism to finance capital-intensive, sustainable infrastructure along with targeted taxes and incentives can also be used to encourage investment in such infrastructure. It suggests that land value capture mechanisms can encourage green infrastructure development while leveraging private finance as well as debt financing instruments such as **green bonds** could allow cities to acquire long-term debt at stable prices. (Emphasis added)

It notes that in addition to these traditional approaches, innovative financial mechanisms to bridge the gap between resilient infrastructure needs and financing such as resilience bonds and climate insurance are already being piloted for the creditworthy metro cities. For the mid-level cities it says will require sustained and disciplined attention to policies to support creditworthiness, and to establish solid and stable climate finance ecosystems and integrate climate considerations into development frameworks. Adding that innovative financial and collaborative approaches will be key to preparing bankable projects, developing domestic financial markets, and mobilizing private financing for local investment.

The IFC analysis estimates that there is a cumulative climate investment opportunity of \$29.4 trillion across six urban sectors in emerging market cities to 2030. Majority of it is in green buildings (\$24.7 trillion), covering both new constructions and retrofits, improvements in low carbon mobility solutions, driven by public transport infrastructure and the expected surge in electric vehicles, account for \$1 trillion and \$1.6 trillion respectively. The availability and



management of water resources is a consistent primary concern for cities, presenting a \$1 trillion opportunity in climate-smart water and wastewater management and infrastructure.

A similar IFC analysis of *Climate Investment Opportunities in South Asia* estimates a \$3.4 trillion climate investment opportunity for South Asia in key sectors between 2018 and 2030, assuming that each country will fully meet its Nationally Determined Commitments⁵ (NDC) and relevant sectoral targets and policy objectives as stated. This number exceeds the \$2.2 trillion investment potential estimate for South Asia included in the 2016 global Climate Investment Opportunities report, as more countries and new sectors such as electric vehicles are included in the analysis. For example, the estimate for India now includes electric vehicles, urban water, and climate-smart agriculture, which were not covered in the 2016 analysis and represent a sizeable portion of this increase, along with increased renewable energy potential reflecting the scaled-up energy access targets.

The current investment estimates include sectors like – renewable energy, large hydro, green buildings, transport infrastructure, transport electric vehicles, municipal solid waste, climate smart urban water and climate smart agriculture.

The report states that while the Nationally Determined Commitments (NDCs) are an essential building block to signaling a market for climate investments, they need to be supplemented by a comprehensive approach to creating markets for climate business across these sectors.

It further says that this opportunity cannot be achieved by the public sector alone. A strong and engaged private sector is often better placed to implement and execute projects; what they need is a market opportunity and a risk adjusted return. While the NDCs⁶ identify potential markets for climate investments, a comprehensive approach to creating markets for climate business is needed across these sectors. This involves establishing regulatory and policy frameworks; promoting competition and innovation; achieving demonstration effects that encourage replication; and building capacity and skills to open new markets.

⁵ For a list of all nationally determined contributions, see: http://unfccc.int/focus/indc_portal/items/8766.php

⁶ The World Bank NDC Platform - indc.worldbank.org

It makes clear that to unlock private investments bankable projects and an attractive investment climate are needed. PPPs, the identification and appropriate allocation of risks to lower costs, and the enabling and mobilizing of finance will also be necessary. Creating these conditions will require strong political leadership and continued, consistent, and clear signals to provide certainty to companies and investors. IFC stands ready to work with partners across the region to build on the progress to date to further unlock investment and support South Asian countries as they work to achieve their objectives.

Another IFC report named *Climate Investment Opportunities Report – Creating Markets for Climate Business* – provides the following table giving the description of the climate-smart urban water infrastructure sector market snapshot and growth forecast, along with a set of proven policies and regulations, financial innovations, and business models.

Sector	Market snapshot	Highest growth markets	Key actions to attract private investment
Climate-Smart Water Infrastructure	<ul style="list-style-type: none"> · More governments are looking to the private sector for climate-friendly water supply and treatment investment · In 2015, private sector water investment totaled \$5.3 billion · More than 100 countries mention the water sector in their NDCs 	<ul style="list-style-type: none"> · Investment for water supply and sanitation could exceed \$13 trillion by 2030, with \$8 trillion needed in the Asia-Pacific region alone · The global market for water recycling technologies is \$23 billion, and rapid growth will continue 	<p>Step 1: Establish water access, cost recovery and service quality goals, increase inter-government coordination and foster water-smart public awareness.</p> <p>Step 2: Ensure financial sustainability by implementing water pricing and removing subsidies.</p> <p>Step 3: Make public-</p>

			private cooperation deliver increased water efficiency via guarantees, PPPs, project preparation funds and performance-based contracting. Step 4: Build capacity through training, regional cooperation, public awareness, home/equipment certification, auditing and benchmarking.
--	--	--	---

The sector wise investments estimated by the IFC in Climate Investment Opportunities in South Asia Fact Sheet by 2030 totaling to around \$ 3.1 trillion –

- Renewable Energy - \$ 448 b
- Transport Infrastructure - \$ 250 b
- Green Buildings - \$ 1.4 t
- Electric Vehicles - \$ 667 b
- Climate Smart Agriculture - \$ 194 b
- Municipal Solid Waste Management – \$ 11 b
- Climate Smart Urban Water - \$ 128 b

In April 2017, IFC partnered with asset management company Amundi to launch the world’s largest green-bond fund dedicated to emerging markets—a \$2 billion initiative aimed at unlocking private funding for climate-related projects.



IFC, one of the earliest issuers of green bonds, launching a green bond program in 2010 to catalyze the market and unlock investment for private sector projects that support renewable energy and energy efficiency. As at 30th June 2017, IFC's had issued \$5.8 billion in green bonds in twelve currencies.

IFC's *Strategy and Business Outlook Update FY19 – FY 21*, elaborates that for green bonds the most recent mobilization platform is the Green Cornerstone Bond Fund (GCBF). It is the world's largest green-bond fund dedicated to emerging markets, creating a vehicle for channeling investment from global institutional investors to climate-smart bank financing in the developing world. Created in partnership with asset management company Amundi, GCBF represents a novel approach that simultaneously creates supply (through investment support), and demand (through the fund) for bond financing. Both are essential in achieving the goal of creating a new market that will accelerate and expand climate finance in the developing world. The investment support creates supply by strengthening the capacity of developing country financial institutions to issue green bonds, provide information disclosure to investors, and support the development of debt capital markets. The combination of the fund and the investment support helps to attract large institutional investors who might otherwise not participate in higher-risk markets.

IFC's *Green Bond Impact Report, Financial Year 2016* notes that the Paris Agreement is a major turning point for the global climate change agenda, laying a green path for greater opportunities for the private sector. Aligned with COP21 agenda, IFC is in an unprecedented position to help its private sector clients capture opportunities through investments, innovative financing, and advisory work to address regulatory and policy obstacles to green growth.

The Green Bond Impact Report for FY 2016 indicates several private sector projects in solar and wind farm renewable energy, constructing green residential buildings as well as scaling-up investments (local and international) by a financial intermediary in renewable energy projects.



It states that throughout FY16, IFC continued its leadership role in developing the Green Bond market as an active member of the Executive Committee (EXCOM) for the Green Bond Principles (GBP).

IFC has also been a key member of the G20 Green Finance Study Group (GFSG) set up in January 2016, tasked with the mandate to “identify institutional and market barriers to green finance, and based on country experiences, develop options on how to enhance the ability of the financial system to mobilize private capital for green investment.” Emerging from the GFSG’s work are a number of options for the G20 country authorities to consider for voluntary adoption to enhance the ability of the financial system to mobilize private capital for green investment. In September 2016, at the G20 Summit in Hangzhou, China, global leaders endorsed a set of recommendations to boost green finance and called on the IFC-supported Sustainable Banking Network (SBN) and other partners to help lead the implementation. This marks the recognition of the central role the financial sector plays in reducing climate change and advancing environmentally sustainable growth. Formed in 2012, SBN brings together central banks, regulators and trade associations from across emerging markets that seek to transform domestic financial systems to advance national goals on climate change and sustainable growth.

Some of the investments made by IFC in India along with the private companies – Jain Irrigation Systems Limited, Azure Clean Energy Private Limited, Hero Future Energies Private Limited, Tata Cleantech Private Limited, Rewa Ultra Mega Solar Park and Punjab National Bank Housing Finance Limited.

IFC is also collaborating with municipal corporations of Bhubaneswar and Thane. In Bhubaneswar the project looks to develop a sustainable model for e-waste management in the city with the goal of establishing a first-of-its-kind collaboration between the local government entities, including BMC, State Pollution Control Board, IT Department and the private sector to address e-waste management challenges. The Clean e-Bhubaneswar Project is a part of the IFC-European Union Eco-Cities program. The Eco-Cities India is a multi-year climate-change focused program aligned with Government of India’s Smart Cities initiative as it is structured

around designated ‘Smart Cities’ – Bhubaneswar, Bengaluru, Chennai, Mumbai and Pune. The long-term objective is to help India meet its nationally determined contributions (NDCs) by reducing greenhouse gas emissions and mobilizing private sector finance through a combination of established and innovative interventions designed for the Indian market. The implementation of the project is being undertaken by the consortium of Sofies Sustainability Leaders Pvt. Ltd. and city-based Siddha Development Research and Consultancy⁷.

In Thane, Mahindra & Mahindra (M&M), has signed a Memorandum of Understanding (MoU) with the Thane Municipal Corporation (TMC) to provide end-to-end last mile mobility solutions. This would be done through the deployment of Mahindra’s electric vehicles for first and last mile connectivity across Thane. In the initial phase of the project, Mahindra would deploy 100 electric vehicles and the partnership would be active for a period of 5 years. The project is supported by the Eco-Cities Program of the International Finance Corporation (IFC).⁸

IFC has also provided advisory to cities of Bhubaneswar, Jaipur, Berhampur, Cuttack, Rourkela, and Sambalpur improve their street lights through PPPs⁹. In Bhubaneswar¹⁰ and Jaipur¹¹ the PPP project was implemented with support from DevCo¹², a multi-donor facility affiliated with the Private Infrastructure Development Group¹³.

⁷ <https://india.smartcitiescouncil.com/article/pundits-call-strategic-approach-make-bhubaneswar-e-waste-free>

⁸ <https://www.mahindra.com/news-room/press-release/mahindra-signs-mou-with-thane-municipal-corporation-to-provide-end-to-end-last-mile-mobility-solutions>

⁹

https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/cm-stories/street-lights-brighten-indian-cities

¹⁰ https://www.ifc.org/wps/wcm/connect/4445388a-b1c6-4eaa-a4f6-67beee0abbba/PPPStories_India_BhubaneswarStreetLighting.pdf?MOD=AJPERES

¹¹

https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/impact-stories/a-partnership-brightens-residents-prospects-in-indian-cities

¹² DevCo is funded by the UK’s Department for International Development (DFID), the Austrian Development Agency, the Dutch Ministry of Foreign Affairs, the Swedish International Development Agency, and IFC.

https://www.ifc.org/wps/wcm/connect/industry_ext_content/ifc_external_corporate_site/ppp/partners/devco

¹³ <http://www.pidg.org/about-us>

Varanasi city leaders are now working with the private sector to help the city regain its splendor—and secure a sustainable future. The strategy includes an innovative public-private partnership (PPP) model designed by IFC to build and operate new sewage treatment plants and rehabilitate infrastructure. These plants—along with others being developed in the Indian cities of Haridwar and Mathura. IFC stresses strategies that go beyond individual transactions. We create markets for private investment and other private solutions for urban infrastructure¹⁴.

In Gandhinagar, Gujarat, IFC was the lead transaction advisor for 5 MW solar rooftop public-private partnership (PPP) project. IFC recommended a 25-year build, own, operate (BOO) concession. Under the agreement, the winning bidders will place thousands of solar panels on rooftops throughout the city divided into two clusters, each with 2.5 MW of installed capacity. Most of these will be on public buildings, such as schools, hospitals, and offices. The remaining panels will be placed on private residences, which will receive rental income for hosting the panels. The developers will then connect power generated by the panels to the city grid. The government of Gujarat will provide access to roofs of buildings it owns, facilitate purchasing agreements with the power procurer for the electricity generated, and guarantee a subsidy if required. Azure Power and SunEdison each won one of the two 2.5 MW projects¹⁵.



R-21, Ground Floor, South Extension II,
New Delhi – 110049
info@cenfa.org | www.cenfa.org

14

https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/impact-stories/cities-attract-a-better-future-with-private-investment-and-innovation

15

https://www.ifc.org/wps/wcm/connect/d0a75c804b077348b4acfe888d4159f8/PPPStories_India_GujaratSolar.pdf?MOD=AJPERES