

Financing Climate Resilient Urban Water and Sanitation using Green Bonds

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The upcoming COP29 in Baku, Azerbaijan in November 2024 will, among other things, discuss the New Collective Quantified Goal on Climate Finance. This new goal will be set in the context of meaningful mitigation actions and transparency on implementation in the context of the needs and priorities of developing countries. The urban water and sanitation sector has received less attention in the previous COP meetings. This is partly due to a misconception that its contribution to GHG emissions is small. However, recent studies have shown that the IPCC significantly underestimated the WSS's GHG emissions. Several studies have suggested that CH₄ emissions based on field studies from onsite sanitation systems are seven times higher than the estimates as per the IPCC guidelines. In 2006, the Nicholas Stern report suggested that about USD 2 trillion would be needed each year by 2030 to help developing countries cut their greenhouse gas emissions and cope with the effects of climate change. It expected that “around half of the required financing can be reasonably expected to come from local sources, from strengthening domestic public finance and domestic capital markets, including tapping into large pools of local finance that national development banks can mobilise”. It is now estimated that an additional USD 0.9 to 2.3 billion a year will be required to ensure that new water and sanitation infrastructure is climate resilient.

India NDC and climate financing

India's Nationally Determined Contribution (NDC) includes the reduction of emission intensity by 45% below 2005 levels by 2030; achieving 50% of cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030; achieving net zero emissions by 2070, meeting 50% of energy requirements from renewable sources by 2030; decreasing total projected carbon emissions by one billion tonnes by 2030; and increasing the non-fossil energy capacity to 500 GW by the end of 2030. To fulfil its NDCs

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under the Paris Agreement, India will require almost USD 2.5 trillion between 2015 and 2030. This translates to USD 170 billion annually.

In this context, it is important to note Moody's announcement in June 2024 that the growing water shortage in India could negatively affect its sovereign rating. It highlighted that India's increasing water consumption, driven by rapid economic growth and more frequent natural disasters due to climate change, threatens its credit health. However, climate finance in India is currently focused mainly on energy transition-related activities. Given Moody's warning, it is important that the wider water and sanitation-related activities become an important component of the climate finance discussions in India.

Green Bonds and Beyond

India's green finance portfolio size is estimated to be USD 23 billion till 2023. It includes the amount mobilised through various climate-related funds, sovereign green bonds, and carbon credits. The highest contribution to this portfolio is of green bonds, which is USD 20 billion, followed by Sovereign Green Bonds at USD 980 million. Funds mobilised through carbon credits are USD 548 million.

The Sovereign Green Bonds, issued in 2023, were oversubscribed more than four times. Another tranche of USD 2 billion of sovereign green bonds is planned for the fiscal year 2025. While most of these funds will be used for renewable energy-related projects, there is also a need to have theme-based green bonds focusing on water and sanitation. For example, the recent bond issues of Indore, Lucknow and Ghaziabad Municipal Corporations, dubbed as green bonds, were exclusively for water supply and sanitation projects. Significant oversubscriptions of these bonds suggest an appetite for such bonds among investors.

Life Insurance Company and the Employee Provident Fund Organisation, the two largest funds, have USD 605 billion in assets under management between them. Some of these funds can also be invested in Urban Green Bonds.

Cities in India have typically relied on public funds to finance urban infrastructure. The Swachh Bharat Mission (SBM) and Atal Mission for Rejuvenation and Urban Transformation (AMRUT) programmes have provided such funds. However, budgetary allocations for these programmes have not increased in recent years. To meet the climate targets, cities will need additional funds for water and sanitation infrastructure. A recent study by the authors suggests that a large number of cities in India are creditworthy and have the capacity to mobilise funds from the capital market. Green bonds are one such mechanism. Thematic funds, such as Water and Sanitation Green Bonds, will go a long way in enabling urban local bodies to make adequate investments. This experience will also enable accessing finance from global funds such as the Green Climate Fund (GCF) and Green Environment Facility (GEF).