Green Bonds for Sustainable Urban Transport in India

(Position-Paper)

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Janaagraha Centre for Citizenship & Democracy is a non-profit organization based in Bangalore. Janaagraha works with citizens and the government to improve the quality of life in Indian cities and towns through urban good governance and citizen empowerment. It works with citizens on catalysing active citizenship in neighbourhoods and with governments to institute reforms to city-systems viz. Urban Governance. Over the past 15 years, Janaagraha has emerged as India's leading non-profit institution on urban change, with a stellar track record of impact, both on the citizen front as well as with governments.

Shakti Sustainable Energy Foundation was established in support of India's developmental and energy security objectives. Shakti work towards facilitating India's transition to a sustainable energy future by promoting policies that encourage renewable energy, energy efficiency and sustainable urban transport. Shakti aims to support these commitments by driving transformative solutions to India's energy challenges. It works collaboratively with national, state and local decision-makers to craft sound energy policies to build India's new energy economy.

What this Position Paper aims to do

One of the major contributors to climate change are the emissions related to personal transportation. With growing affluence and poor urban planning, Indian cities are likely to be overwhelmed by motor vehicles if they are not able to provide viable alternatives such as mass rapid transit systems. In addition to mass rapid transit systems such as the metro and city-rail and buses, cities also need to invest in building adequate augmenting infrastructure such as bus stops, improved pedestrian walk-ways, cycling tracks etc. and promote non-motorised transport for last-mile connectivity. Building such infrastructure, mainly a function of Urban Local Bodies (ULBs), will require huge capital investment. However, it is a well-known fact that India's ULBs are in poor financial health characterised by high dependence on State and Central Governments, poor financial management practices and lack of skilled professionals.

To meet the demands of a rapidly growing urban population, Urban Local Bodies in India are estimated to require Rs.39 lakh crores by 2031. At present, ULBs generate approximately Rs. 1.2 lakh crores in revenue per year1. India's ULBs are not financially self-sufficient and are largely dependent on central and state grants. Their limited revenue base and substantial dependence on central and state grants severely constrains the ability of ULBs to invest adequately in capital expenditure to create infrastructure, such as that essential to promote sustainable urban transportation, and thereby improve quality of life.

To bridge the gap between the requirement and availability of funds, ULBs will have to tap into the capital markets, for which ULBs need to fulfil several conditions including publishing audited financial statements. Such conditions can help ULBs put in place a robust financial management system, which will safeguard against prevalent issues such as leakages and help improve revenues. Subsequently the positive impact that such practices can have on a ULB's operating surplus can help improve their capacity to raise and service debt. In essence, the pathway to raising funds from market will help ULBs become financially self-sufficient and ultimately, allow them to invest adequately in building the right infrastructure.

This paper focuses on raising funds through green bonds for sustainable transportation. It also highlights the current situation of ULBs and the issues that plague financial management within them. This paper also explores solutions that can help fix municipal balance sheets, a fundamental step towards achieving financial self-sufficiency.

[1] Report on Indian Urban Infrastructure and Service by the HPEC, March 2011

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Executive Summary

According to the United Nations, increasing urbanisation will lead to 66% of the world's population living in urban areas by 2050, which will require creation of appropriate urban infrastructure such as public transport[2]. Fostering the sustainable development and energy efficiency of public transport infrastructure is fundamental to a low carbon economy in an increasingly urbanised world. Climate change threatens all countries, with developing countries being the most vulnerable. A proliferation of private vehicles in Indian cities has resulted in acute congestion, inordinate delays, serious accidents, high-energy consumption particularly of fossil fuels, and intense pollution of the environment.

Urban bus transport systems in India have been unable to keep pace with the very rapid and substantial increases in travel demand. Sustainable public transport in India's cities is crucial for both basic quality of life for citizens and also for clean environment. Census data reveals that contrary to popular belief a significant share of commute in cities is by cycle or on foot. However, unsafe and inadequate cycling and walking infrastructure hinders last mile connectivity for users of public transport such as suburban railway, metro and buses thus discouraging use their use.

To make public transport services more accessible to citizens, including overhauling of existing infrastructure to make it friendlier for pedestrians and cyclists requires significant capital investment. To wean away citizens from their private cars and motorcycles and adopt public transport, it is imperative for cities to invest in augmentation of public transport services to improve their quality and coverage.

Capital investment needed in urban transport during 2012-2031 is estimated at INR 450,000 crores and an additional Operations and Maintenance cost of INR 300,000 crores (just for Class IA and IB cities). However, the financial position of India's ULBs is weak, with aggregate revenues less than INR 120,000 Crores (approx.) (<=1-1.5% of GDP compared to > 6% in Brazil, South Africa etc.), of which less than one-third is from own sources of revenues[3]. Cities have to find the resources to make the capital investment to fund public transport and related infrastructure. Municipalities would need to seek recourse to tapping private capital, including issuance of municipal bonds. However, financial transparency and sound financial management are the first steps towards raising private capital through bonds.

Municipalities in India are in crying need of sound professional financial management. The poor credit rating of municipalities, the tepid or even non-existent municipal bond market and the inability of

[2] World Urbanization Prospects, UN DESA, 2014
[3] Report on Indian Urban Infrastructure and Service by the HPEC, March 2011

municipalities to raise revenues on the strength of their own balance sheet can all be directly traced to poor financial governance. Municipalities need to produce audited financial statements within a reasonable timeframe of the close of the financial year. The current constraints faced by the Municipalities relate to below par staffing, both in terms of numbers and quality of workforce. Empanelling independent Chartered Accountants for preparation of audited financial statements could help to effectively address this issue.

Financial transparency and sound financial management, as demonstrated through audited financial statements, will help to lay the necessary foundation for Municipalities to raise private capital through bonds. Given the current global interest and appetite for green bonds to fund 'green' projects, relating to renewable energy, emission reductions, etc., municipalities in India are well placed to finance their public transport infrastructure through these instruments.

Chapter 1: Cities and Climate Change

Climate change: Effect on Quality of Life in cities

One of the biggest global challenges of our times is climate change. Human expansion and rapid urbanization are among the major causes for global warming. Economic growth and urbanization are accelerators for greenhouse gas emissions. As per a paper published by the World Bank in 2010, cities are particularly vulnerable as they are immobile. Climate change poses serious threats to urban infrastructure, quality of life, and the entire urban system. Not only poor countries, but also rich ones will increasingly be affected by anomalous climate events and trends[4]. In 2003, more than 70,000 people died in Europe from a severe heat wave[5]. These kinds of extreme events are likely to increase in coming years and will disproportionally affect certain sections of society, such as the elderly and the poor. This acute vulnerability of the elderly, children, and infirm is even more pronounced in the cities of developing countries.

Climate change exacerbates these current threats. Approximately 360 million urban residents live in coastal areas less than 10 meters above sea level and are vulnerable to flooding and storm surges[6]. Fifteen of the world's 20 megacities are at risk from rising sea levels and coastal surges. Cities now concentrate large numbers of the poor who are especially vulnerable to climate change. Poor city residents tend to locate in the most vulnerable locations and housing construction materials are not robust. The consequences of surging seas, wind storms, and flooding are much more dramatic in these areas.

Rising urban sprawl and increasing temperatures: Indian Context

India's urbanization has the potential to pay a significant economic dividend while fulfilling national aims of achieving social inclusiveness. At the same time, the scale of urban expansion will bring unprecedented multiple pressures on the environment. Cities account for roughly 75 percent of global energy consumption and 80 percent of greenhouse gas (GHG) emissions[7]. India's economic growth in cities will swell demand for critical resources such as oil with a parallel increase in GHG emissions. While putting in place the building blocks that will sustain its urban expansion, India needs to think about how to make urbanization sustainable in the long term. India must explicitly incorporate sustainability objectives into its urban planning.

[4] World Bank, 2010b
[5] World Bank 2009b; Dhainutet al. 2004
[6] Satterthwaite and Moser 2008
[7] IPCC, 2007

Contributors to climate change in urban areas [8]

Globally, transportation is responsible for about 23 per cent of total energy-related greenhouse gas emissions and 13 per cent of global greenhouse gas emissions. There are currently nearly 1.2 billion passenger vehicles worldwide. By 2050, this figure is projected to reach 2.6 billion, the majority of which will be found in developing countries. As economies grow, transport activities increase and are expected to continue increasing in the decades ahead, especially with increasing levels of urbanization notably in rapidly expanding economies such as China, India and Latin America.

Building sustainable cities requires careful consideration of energy consumption, water resources, consumption, waste management, and air pollution. Given that 70 to 80 percent of the India of 2030 is yet to be built, India has a unique opportunity to pursue its urban development while managing GHG emissions. India will need to leapfrog inefficient technologies, assets, and practices and deploy those that are more efficient and less emission-intensive.

Reducing carbon footprint in transportation

The major sources of carbon emissions today are direct emissions from vehicles and indirect emissions from energy consumption in buildings and public spaces. In India's cities, the total number of cars could rise by nearly six fold, and the number of public trips nearly threefold, by 2030. India may have to build 700 to 900 million square meters of residential and commercial space by 2030.[9]

According to the Mckinsey Global Institute report on India's urban awakening India has the potential to reduce GHG emissions from vehicles by nearly 100 million tonnes of CO2 equivalent (CO2e) by 2030 by shifting toward public transport. A shift to public transport, including buses, bus rapid transport, and metro rail systems, can reduce the usage of cars from 10,000 kilometres a year to 7,100 kilometres a year. Such a shift could reduce distance travelled per urban car by 29 percent. In cities with a population above 5 million people, the impact is even higher: the reduction in distance travelled would be nearly 50 percent. The result could be nearly 45 million tonnes of CO2e abatement.

Shifting to electric vehicles could reduce over 5 million tonnes of CO2e. The adoption of electric technology in the case of two-wheelers and electric cars is another source of carbon reduction. Increased use of electric two-wheelers in urban areas could result in over 5 million tonnes of CO2e abatement. Adoption of electric cars could result in at least 300,000 tonnes of CO2e abatement, and this amount could potentially be much larger if India encouraged a significant increase in the use of electric vehicles.

[8] UN Habitat: Cities and Climate Change: global report on Human settlements 2011.

[9] Mckinsey Global Institute: India's urban awakening

Adjusting city design to develop energy-efficient clusters

India could also take advantage of the higher energy efficiency that comes with density by selectively incorporating compact city centres within urban design. Cluster design can result in more people walking to work and reduce the need for vehicular travel. India could, for instance, achieve a 35 to 45 percent reduction in vehicle movement as more people walk to work. [10] Today, India has not planned for higher FAR, but it could do so in a systematic way. India could allow for higher ratios in central business districts connected by high-speed transportation infrastructure and also in proximity to transportation nodes including stations.

Increasing green cover

Urban green spaces are the most effective means of removing atmospheric pollution in big cities. [11] Researchers in Bengaluru have shown that tree shade can reduce midday ambient air temperatures by as much as 5°C, and road asphalt temperatures by up to 19°C. This has larger impact on sustainability. A city where the road asphalt is hotter by 19°C is a city where people would prefer to stay off the road, and move from more sustainable ways of transport such as walking and cycling, to using air-conditioned cars, contributing further to emissions in cities[12].

Better roads, footpaths and better street lighting to encourage non-motorised transport (NMT)

Urban Roads in India total to 4, 11,324 kms (2011)[13] of which only 70% are surfaced roads. Cities should aim to arrest the current decline in walking and cycling by creating safe and pleasant network of footpaths, cycle tracks, greenways and other NMT facilities. Despite the priority accorded to NMT in the National Urban Transport Policy (NUTP), most cities are yet to take concrete steps on this front. A robust non-motorised transport policy to encourage people to walk, cycle or opt for public transport, can bring down the growth in number of private vehicles and hence emissions.

Promotion of use of renewable energy

Energy costs account for 40% to 60% of cost of water supply in urban areas and energy efficiency interventions such as use of solar power can significantly reduce this cost. Streetlights account for around 1.5 per cent of total electricity consumption. Solar powered streetlights, an initiative that is already being driven by the Government of India can reduce emissions by 20 million tonnes. [14]

[10] Mckinsey Global Institute: India's urban awakening
[11] Urban Greenery Status of Some Indian Cities: A Short Communication – Pradeep Chaudhary et al - http://www.ijesd.org/papers/104-D529.pdf
[12] http://www.asianage.com/decaf/290617/climate-alert-cry-for-greenery-urban-heat-islands-could-sap-us.html
[13] Ministry of Road Transport of India: Basic Road Statistics of India
[14] Mckinsey Global Institute: India's urban awakening

However, to reverse the impact of climate change, cities need to be made more efficient, adopting measures ranging from reducing the energy costs of private transportation to constructing buildings that waste less energy. Cities have to find the resources to make the capital investment to fund public transport and related infrastructure to wean away citizens from use of private vehicles. However, Indian cities are emaciated financially and are far from being able to generate the required resources. India's urban infrastructure is estimated to require Rs.40 trillion of investments in a 20-year period from 2011 to 2031.

Chapter 2: Do Indian cities have the resources to combat climate change?

Municipal revenues in India are at less than Rs.1.2 trillion accounting for approximately 1% of the country's GDP as against 6%+ in Brazil, South Africa, etc. Of this Rs.1.2 trillion, own revenues of municipalities are estimated at less than a third, with a large chunk of municipal revenues coming from central and state government grants. However, even the Central and State Governments will be able to meet only a part of the capital requirement. Municipalities would need to seek recourse to tapping private capital, including issuance of municipal bonds. However, as seen by the challenges faced by the Municipalities in issuing Municipal Bonds as part of the Smart Cities Mission, private investors are wary of investing given the poor state of finances and lack of transparency in financial management of Municipalities.

Assessing the financial health of Municipalities

A large majority of the 4000+ municipalities in India do not have balance sheets, as many of them continue to follow cash basis of accounting. In several states, municipal laws don't even mandate audit of annual accounts. Municipalities have not carried out physical verification of their assets and inventories for decades. Their audit is generally carried out by the Department of Local Fund Audit, a division of the State Finance Department or a Chief Auditor, whose staff are not members of any professional body of certified accountants or auditors and in addition, are often severely short staffed. Municipal laws do not have consequences for delays in completing audit of annual accounts, leave alone consequences for audit qualifications. They also do not provide for any uniform accounting standards to be followed, rendering municipal accounts largely incomparable across states and sometimes even within the same state.

Making Municipalities self-sufficient and Accountable

Creation of a Municipal Finance Blueprint comprising the following five components can achieve the two goals of municipal finance reforms, viz: financial self-sufficiency and financial accountability. This would include having an 1) **Integrated Institutional Design** covering and Integrated view of city's finances and Integrated treasury management. 2) **Fiscal Decentralization** covering widening of Municipal revenue base, control over tax rates and capital values, for revenue buoyancy, independence to Municipalities for budget setting and expenditure and greater powers to Municipalities to tap financial instruments such as Municipal Bonds. 3) **Fiscal Responsibility and Budget Management** covering revenue optimization through improved collection efficiencies, higher Return on Assets, Robust financial reporting, Medium Term Fiscal Plans, Better quality budgets, Citizen participation in budgeting and civic works and robust internal controls and operational risk management. 4) **Transparency and Accountability** covering laws that enable timely publication of financial and operational information in the public domain; redressal mechanisms for non-compliance and 5)

Institutional Capacities covering availability of adequately skilled human resources and Information systems supporting the same

Fiscal Responsibility and Budget Management

Measures to drive fiscal responsibility and robust budget management in Municipalities would include preparation of medium-term fiscal plans that would also form the basis for annual budgets. Municipalities also need to create formal platforms and follow a structured processes for citizen participation in the annual budgeting process and evolve workable models to outsource collections of major tax and non-tax revenue streams.

Municipalities need to produce audited financial statements within a reasonable timeframe of the close of the financial year and preferably have them audited by independent Chartered Accountants. Empanelling two groups of independent chartered accountants to prepare & audit municipal balance sheets would jump-start sound financial governance in municipalities and could be a catalytic reform. Recent experience of empanelment of chartered accountants undertaken by the Government of Rajasthan, with the support of Janaagraha, suggests that at a cost of no more than Rs.100 crore a year all 4,000+ municipalities in India can have their balance sheets audited by independent chartered accountants. This is a very high return on investment from public policy & infrastructure financing standpoints. We need to prepare, audit and fix municipal balance sheets to sustainably finance urban infrastructure in Indian cities and towns.

Financing India's Urban Infrastructure through Municipal Bonds

The Smart Cities Mission of the Government of India covers 100 smart cities with an outlay of Rs.50,000 crore from the central government and a matching amount from states and cities. This outlay is far from adequate to meet the capital requirements, and additional funds were expected to be mobilised from sources such as public private partnerships (PPP), innovative financing mechanisms like municipal bonds and tax increment financing, value capture financing etc.

It is estimated that India's cities will require between $800 Billion and $1.2 Trillion of capital investment to cater to the growing demand for civic services over the next 20 years. As only a part of the capital requirement can be met through the grant funds from central and state governments, municipalities should seek recourse through other means, including issuance of municipal bonds. The US municipal bond market, which raised $ 303.66 Billion in 2014, for local infrastructure development, provides a promising outlook on the prospects of municipal bonds. Presently, municipal bonds in India have not been able to attract potential investors due to the opacity in finances and operational outcomes. Not including the recent bond issuance by the Pune Municipal Corporation, municipalities in India have managed to raise only $291 Million , since 1997 through issuance of bonds.

The poor credit rating of municipalities, the tepid or even non-existent municipal bond market and the inability of municipalities to raise revenues on the strength of their own balance sheet can all be directly traced to poor financial governance. Total municipal bond issuances in India in two decades have been less than Rs.2,000 crore. Municipal Bonds have been successfully exploited by several countries to fund their municipal infrastructure needs. Indian cities need to pay closer attention to this opportunity.

Chapter 3: Roadmap to Green Bonds

What are Municipal Bonds?

Municipal bonds are debt instruments issued by municipalities or other state agencies which use the money to build schools, water supply systems, sewer systems, and other projects for public good. When someone purchases a municipal bond, they are lending money to a state or local government entity, which in turn promises to pay a specified amount of interest and return the principal amount on a specific maturity date. Municipal bonds can be of two types, namely:

Revenue Bonds: Revenue bonds are bonds supported by the revenue from a specific project, such as a water supply project or a sewer systems project. Such bonds finance income-generating projects and are secured by a specified revenue source. For example, if a revenue bond is issued to upgrade a water supply network, the water charges collected from users would be used to pay off the bond.

General Obligation Bonds: General obligation bonds are issued in the belief that a municipality will be able to repay its debt obligation through taxation or revenue from projects. Unlike revenue bonds, general obligation bonds can be paid through a variety of tax sources. These therefore may not be for specific revenue-generating projects.

Lessons from the International Municipal Bond Market

Most developed and transitioning nations are focused on developing local credit markets. North America and Europe have a long history of utilising household savings for infrastructure development. North America has heavily relied on municipal bonds, while Europe developed development banks. Developing nations have used either one of these routes or their hybrid, directly or via financial intermediaries. South Africa recorded cumulative bond issuance of $1.8 Billion in Q1 2011. In contrast India recorded cumulative bond issuance of $291 Million as of 2014.

Municipal Bonds in India

Municipal bonds offer a unique opportunity to effectively finance a significant proportion of India's urban infrastructure needs, which may otherwise go unfinanced. They bring multiple benefits of long-term financing, both individual and institutional participation as well as reducing the stress of infrastructure financing on the banking sector. Greater delegation of financial powers to cities (ring fenced by suitable accountability mechanisms), mandating professional financial management in ULBs and undertaking a much broader awareness campaign on municipal bonds among both potential issuers and investors are three key factors that would influence the success of the municipal bond market in India.

Municipal Bond Issuances in India

City	Bond Issuance Details				
	Issue Year	**Issue size (Cr)**	**State Guarantee**	**Tax-free**	**Purpose**
Ahmedabad	1998	100	No	No	Water Supply and Sewerage
	2002	100		Yes	Water Supply and Sewerage
	2004	58		Yes	Water Supply, Storm water drainage, roads and bridges
	2005	100		Yes	Roads and water supply
Bengaluru	1997	125	Yes	No	City roads and drains
Chennai	2003	42	Yes	Yes	Chennai water supply augmentation project- Chennai Metropolitan Water Supply & Sewerage Board
	2005	50	Yes	Yes	Water Supply- Chennai Metropolitan Water Supply & Sewerage Board
	2005	45.8		Yes	Roads
Hyderabad	2003	82.5	Yes	Yes	Road construction and widening
	2003	50	Yes	Yes	Drinking water- Hyderabad Metropolitan Water Supply and Sewerage Board
Ludhiana	1999	10		No	Water Supply and Sewerage
Nashik	1999	100	No	No	Water Supply and Sewerage
	2002	50		Yes	Underground sewerage scheme and storm water drainage system
Indore	2000	10	Yes	No	Improvement of City roads
Nagpur	2001	50	No	No	Water supply
	2007	21.2		Yes	Water Supply and Sewerage
Madurai	2001	30	No	No	City roads
Vishakhapatnam	2004	20	No	No	Water supply
	2004	50		Yes	Water supply
	2010	30		Yes	Water supply
Tamil Nadu Water and Sanitation Pooled Fund (TNUIFSL)	2002	30.2	USAID	No	Refinancing loans for water and sanitation projects of 13 ULBs.
	2008	6.7		Yes	
	2010	83.19		Yes	
	2012	51		No	
	2013	51		No	
Karnataka Water and Sanitation Pooled Fund	2005	100	USAID	Yes	
	2010	300			Lending to ULBs through Directorate of Municipal Administration
Pune	2017	200	No	No	Smart Metering of Water

What are Green Bonds?

A green bond is very similar to a regular bond. The only difference is that the issuer of a green bond publicly states that capital is being raised to fund 'green' projects, which typically include those relating to renewable energy, emission reductions and so on. There is no standard definition of green bonds as of now. Since 2007, USD 131 billion in green bonds have been sold to institutional and retail investors attracted by their link to green projects, goods and services. The last three years has seen an exponential 13-fold increase in the value of annual bonds issued, from USD 3.2 billion in 2012 to USD 44 billion in 2015. This is projected to reach USD 75 billion by the end of 2016[15].

The Green bond market is a potential source of finance for cities in developing countries looking to secure investment in low-carbon, climate-resilient infrastructure to meet the water, energy, housing and transportation needs of their expanding urban populations. Specifically in India, SEBI's indicative list includes renewable and sustainable energy such as wind and solar, clean transportation, sustainable water management, climate change adaptation, energy efficiency, sustainable waste management and land use and biodiversity conservation.

Key benefits of issuing Green Bonds

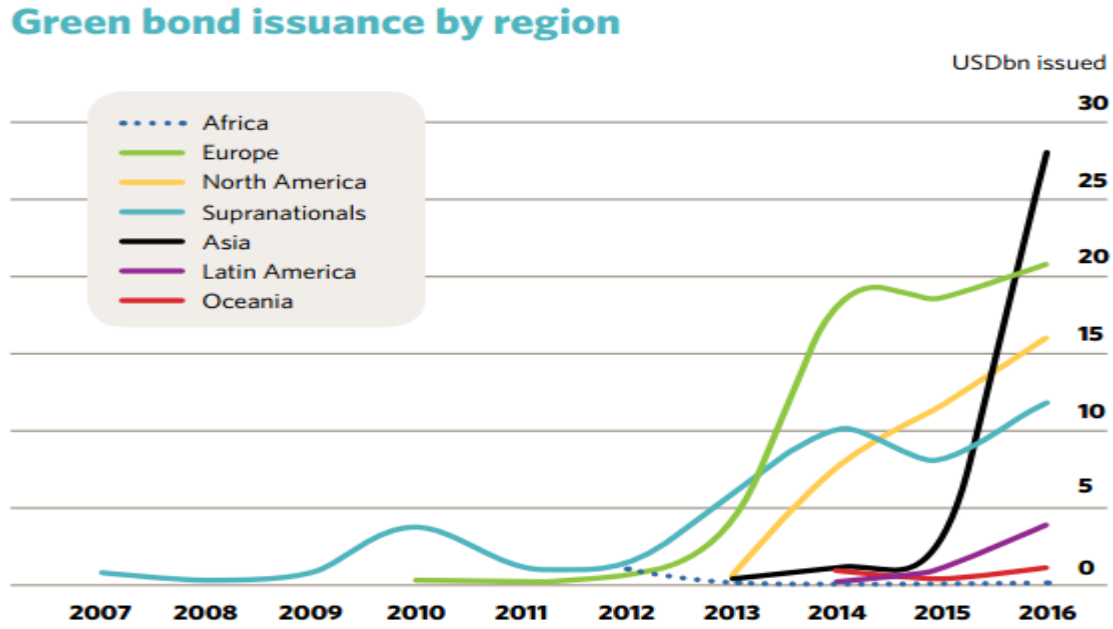
Green bonds help the issuer to expand funding sources and limiting the dependency on specific markets by such issuers. In particular, Green Bonds have attracted investors from the growing segment focused on sustainable and responsible investing (SRI), investors that fall under the ESG (Environmental, Social, and Governance) criteria and other investors, whose investment guidelines may allow investing in different qualities of Green Bonds. Green bonds also helps raise awareness about issuers' environmental programs and thereby, improves the reputation of the issuer offering the Green Bonds. The green label to these bonds, can bring in pricing advantage. The Green Bonds have a high potential to mobilise domestic and foreign capital for renewable energy on better financing terms, including lower interest rates and longer repayment schedules, while meeting the environmental targets of the investors.

State of the Green Bonds market internationally

As per a report published as part of the Climate Bonds Initiative, green bonds (labelled and unlabeled) amounting to $895bn, made up of 3,493 bonds from 1,128 issuers across seven climate themes, were outstanding as at 30 June 2017. Transport was the largest theme in the bonds issued internationally up to 30 June 2017, accounting for 61% of the total bonds issued. Paris' RATP Group, Transport for London, and New York MTA are the top 3 issuers. The majority of green bonds in transport are financing rail infrastructure. China Railway is the largest issuer with $222bn outstanding. China

[15] Bloomberg, 2016

Railway is the national railway operator of China and has financed the development of the 22,000km high-speed railway network. Other large issuers include France's SNCF ($52.9bn), UK's Network Rail ($37.2bn), Burlington Northern and Santa Fe Railway ($19.1bn). However, it is interesting to note that a large proportion of bonds do not have a credit rating. Issuers such as China Rail Corp have a local credit rating but no international credit rating[16].



Source: CBI/HSBC 2016

Status of Green Bonds Markets in India

Yes Bank was the first Indian Bank to issue Green Infrastructure Bonds (GIBs) in India. It had issued India's first-ever GIBs worth 1,000 crore rupees in 2015. Proceeds from these green bonds will be used to fund Renewable Energy projects including solar power and wind power projects Yes Bank along with International Finance Corporation (IFC) also had opened trading of the world's first Green Masala Bond worth 3.15 billion rupees listed on the London Stock Exchange. International Finance Corp (IFC), the private-sector lending and investment arm of World Bank Group, has bought green bonds worth Rs 667 crore ($103 million) sold by L&T Infrastructure Finance Co. Ltd, a subsidiary of L&T Finance Holdings Ltd. in July 2017. Indian firms like Indian Renewable Energy Development Agency Ltd and Greenko have in the past issued bonds that have been used for financing renewable energy, however, without the tag of green bonds. The Green Bond Markets Development Council, constituted by Federation of Indian Chambers of Commerce & Industry (FICCI) aims to bring together a critical mass of senior representatives from the industry, both private and public sector.

[16] Bonds and climate change, State of the Market - 2017

Although the process of issuing Green Bonds is generally the same as issuing other corporate bonds, there are few additional disclosures pertaining to the periodic reporting of fund allocation. The issuer would have to make disclosures including use of proceeds, list of projects to which Green Bond proceeds have been allocated in the annual report and periodical filings made to the stock exchanges.

Salient features of Green Bonds

The issuance and listing of Green Bonds shall be governed by the existing SEBI regulations for issuance of Corporate Bonds i.e. SEBI (Issue and Listing of Debt Securities) Regulations, 2008. However, the issuers of the Green Bonds will have to make incremental disclosures/ follow procedures. The definition of Green Bonds may be prescribed by SEBI from time to time. However, caution must be exercised in defining the green label for such bonds and should be in line with the international guidelines and investors' expectations. Requirement of independent third party reviewer/ certifier/ validator, for reviewing/ certifying/ validating the pre-issuance and post-issuance process including project evaluation and selection criteria, to lend credibility to the issuance of Green Bonds. However, given the fact that the availability of such third party reviewer/ certifier/ validator in India is not adequate and globally such review is not mandatory, the same has been kept optional by SEBI.

Escrow account for tracking the proceeds of the Green Bond is not made mandatory by SEBI. However, issuer is required to provide the details of the systems/ procedures to be employed for tracking the proceeds of the issue, including the investments made and/or investments earmarked for eligible projects and the same shall be verified by the external auditors. The above measures are expected to facilitate investment decisions of the investors who have a mandate to focus on green investments and will also provide uniformity in disclosures.

For Indian cities, Green bonds can be a timely instrument to tap private capital to finance their public transport infrastructure given the stated intention of the Government of India to encourage sustainable transport options such as electric vehicles and reduce dependence on fossil fuels and the global interest in financing green initiatives. Green bonds could also help provide the momentum to reinvigorate the dormant municipal bond market in India.

Conclusion

Urban public transport systems, especially buses, in India have been unable to keep pace with the very rapid and substantial increases in travel demand. Sustainable public transport in India's cities is crucial for both basic quality of life for citizens and also for clean environment. Capital investment needed in urban transport during 2012-2031 is estimated at INR 450,000 crores and an additional Operations and Maintenance cost of INR 300,000 crores (just for Class IA and IB cities). Cities have to find the resources to make the capital investment to fund public transport and related infrastructure. Municipalities would need to seek recourse to tapping private capital, including issuance of municipal bonds.

Presently, municipal bonds in India have not been able to attract potential investors due to the opacity in finances and operational outcomes. By taking advantage of the measures adopted by the central government, the 14th Finance Commission, and SEBI, municipalities will be able to fund infrastructure projects in their cities, and improve service delivery. To successfully raise money from bond markets, municipalities must ensure that their accounts are prepared on time, audit of accounts is carried out by an independent agency, financial and operational data is made public, and that they comply with all eligibility requirements put forth by SEBI and their state governments. Additionally, municipalities can comply with disclosure standards adopted by the private sector to boost investor confidence and bond subscriptions.

The current approach to municipal bonds however, is inadequate to kick-start the market. Municipal Bonds need to be made a popular investment option by:

a. Raising the tax-free interest cap from 8%
b. Encouraging and incentivizing pension funds, insurance funds, philanthropic trusts and foundations etc. to contribute to municipal bonds as part of their mandate.
c. Encouraging ULBs to access municipal bond markets on the strength of their own balance sheets, rather than creating Special Purpose Vehicles (SPVs) exclusively for that purpose.

Global momentum is building in favour of fossil fuel divestment and the increased awareness on the need for clean and efficient energy. India's green bonds market, where $6 billion has been raised so far, will grow significantly in the coming years. Globally, as much as 50% of the bond issuances have been taken up by green bond investors, who have dedicated pools of capital dedicated to green bonds. Green bonds can catalyse public imagination in India by bringing together citizens and governments on the cause of environment and climate change and help raise financing for a crucial agenda that affects everyone, and can potentially hasten achievement of related development goals.