

Green bond workshop

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Pollution – A Major Hurdle for India

- Pollution has become a major issue for fast developing countries like China and India
- Indian cities feature regularly in top 20 of WHO most polluted cities list
- Environmental degradation estimated to cost 8.53% of Indian GDP (2013) – World Bank
- Cannot afford to follow the “grow now and clean up later” model



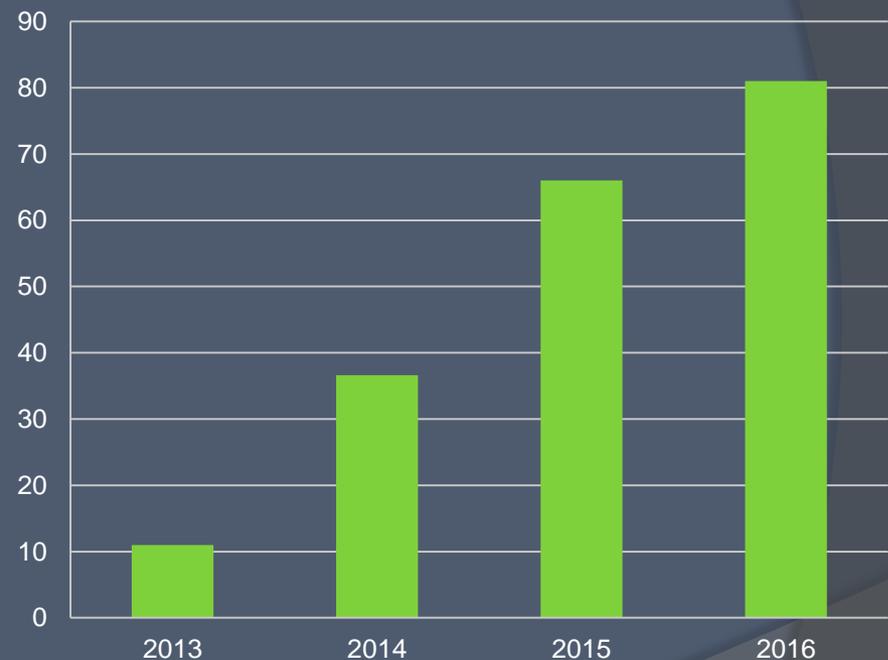
Green Development Opportunity

- India's infrastructure needs and the Paris Climate agreement provide a great opportunity for sustainable development
 - Paris agreement includes commitment by developed countries to provide \$100 bn worth of financing per year by 2020
- Sustainable development could mean higher costs
 - Green Bonds can help reduce the cost gap between green and conventional
 - New technology is helping make solar and wind energy affordable
- India has upped its green commitment
 - 175 GW of renewable energy target by 2022
 - Commitment to reduce emission intensity of GDP
- India's exceptional green energy potential (Source: Niti Aayog estimates)
 - India's long term solar energy potential is 750 GW
 - Announced wind power potential of 302 GW, with likely potential of 1000 GW

Global Green Bond Market

- Global Green issuances picking up
 - \$694 bn “climate-aligned bonds” outstanding in Q4 2016*
- Issuance still lags annual requirement of \$1 trillion
- Low carbon transport is the main theme: 67% of issuances
- 70% of bonds have tenor of more than 10 years
- Issuances in 23 currencies led by CNY
- Developing countries have started to lead developed countries in green energy investments: China is largest issuers

**Global Green Bond Issuances
(\$ billions)**



Indian Green Bond Market

- Yes Bank was first labeled green bond issuer in February 2015 – earlier issuances were unlabeled
- Axis Bank listed the first Indian certified green bond in LSE
- 7th largest green bond market in the world – issuances worth \$2.7 bn in 2016 (till October)
- Leader in external certification: 5 out of 7 issues certified by external bodies
- Renewable energy is the main use of proceeds: 62% of issuances, followed by low carbon transport and low carbon buildings
- Among the first few countries with official green bond guidelines: SEBI published official guidelines in Jan 2016

Indian Green Bond Market: Positive Outlook

- Both International and Indian investors looking to increase investments
 - Japan's Softbank, along with Foxconn and Bharti Enterprises, has committed to invest \$20 bn in Indian solar energy sector
 - French energy company EDF plans to invest \$2 bn in Indian renewable energy projects
 - Adani Group opened world's largest solar power plant in TN last year
 - Tata Group plans to generate 40% of its energy using renewable means by 2025
- A large part of these funds can be raised through green bonds
 - \$5-7 bn green bond issuance already planned for next five years*:
Expect this number to go up

Indian Green Bond Market: Positive Outlook

- \$2.5 trillion is the estimated requirement by 2030 for Indian climate change mitigation efforts
 - In addition to the \$1 trillion+ requirement every five years for infrastructure development
- SEBI has issued guidelines for green bond issuance, while GOI has allowed 100% FDI in renewable energy
- GOI and 3 state run firms have set up a \$2 bn Clean Energy Equity Fund for renewable energy companies to tap into
- Need more energy in Indian Green Bond market
 - Innovative solutions for smaller projects?
 - Sovereign green bond issuance – to provide reference rate?
 - Long term plan to reduce subsidies on polluting fuels with funds directed towards incentives for developing green solutions
- Given India's potential we should make efforts to become a leader in green finance market

Thank You