

# *Green Bonds Backed by Water Infrastructure*

Presentation at

Water Security Solutions for Business

Organized by

The Bombay Chamber of Commerce and Industry

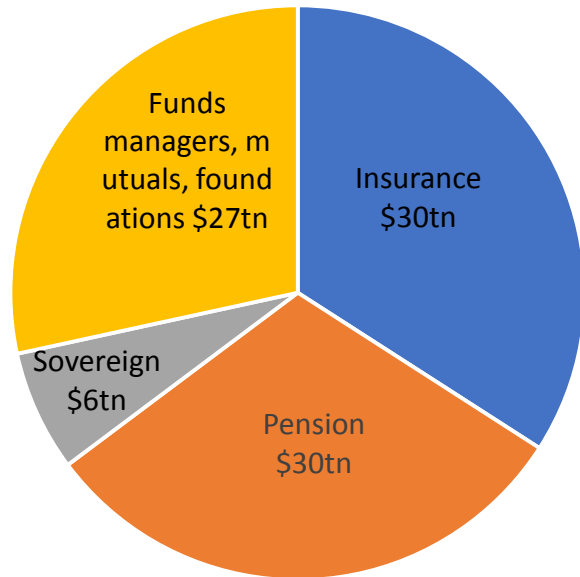
18<sup>th</sup> October 2019

**Sandeep Bhattacharya**

**India Project Manager,**

**Climate Bonds Initiative**

# We have the capital and it wants green



Developed by the following groups

## GLOBAL INVESTOR STATEMENT ON CLIMATE CHANGE

This statement is signed by 404 investors representing more than US \$24 trillion in assets.

We, the institutional investors that finance the transition to a low carbon economy, are particularly concerned that the policies will increase the risks to our investments. In turn, this could jeopardize our ability to meet our obligations to our beneficiaries.

There is a significant gap between current investments in clean energy and climate resilient infrastructure. Agency has estimated that limiting industrial levels requires average emissions reductions between now and 2050.

This Statement sets out the content of climate resilient investments. It is intended to be increased through appropriate government action.

Stronger political leadership and action is needed. We believe that we can significantly more in areas such as a resilient development, thereby benefiting our beneficiaries.

### HOW WE CAN CONTRIBUTE

As institutional investors and contributors to the global economy and environment:

- **Work with policy makers** to ensure that measures that encourage a low carbon economy and encourage investment in clean energy and climate resilient infrastructure.
- **Identify and evaluate low carbon investment opportunities** in our portfolios.
- **Develop our capacity to assess climate risk** to our investment decisions.
- **Work with the companies in our portfolios** to reduce their climate risks and maximising the opportunities for them.
- **Continue to report** on the climate risk and investing in a low carbon economy.

In addition, invest in climate and low carbon technologies. We make on behalf of our beneficiaries around the world. This ambition gap for our long-term investors to incorporate transition pathway into their investment decisions. In addition, invest in climate and low carbon technologies. We make on behalf of our beneficiaries around the world. This ambition gap for our long-term investors to incorporate transition pathway into their investment decisions.

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## 2018 GLOBAL INVESTOR STATEMENT TO GOVERNMENTS ON CLIMATE CHANGE

This statement is signed by 415 investors representing over USD \$32 trillion in assets.

As institutional investors with millions of beneficiaries around the world, we reiterate our full support for the Paris Agreement [\[link\]](#) and strongly urge all governments to implement the actions that are needed to achieve the goals of the Agreement, with the utmost urgency.

FROM INVESTORS REPRESENTING US\$11.2 TRILLION

## The Paris Green Bonds Statement

9 DECEMBER 2015

We, the undersigned signatories to this statement, represent asset owners, investment managers and individual funds managing a combined US\$11.2 trillion of assets. We are substantial investors in the US\$100 trillion global bond market.

**We understand:**

1. That **climate change poses a significant risk** to societies, economies, and to the investments we make on behalf of our beneficiaries around the world.
2. That **the response to climate change requires substantial investments** in areas such as clean energy, low-carbon transport, water infrastructure; and in adaptation measures for communities and to improve existing infrastructure. It requires a rapid transition to a low-carbon and climate resilient economy.
3. That a large proportion of the mitigation and adaptation **solutions required can be structured as investible assets** that will suit the yield and risk levels required to meet our obligations to our beneficiaries.

**We encourage,** in order to scale up investment in green bonds, climate bonds and other bonds financing mitigation of and adaptation to climate change that meet our risk and return requirements as institutional investors:

1. **Governments to act** through policy, regulation, risk mitigation, guarantees, tax credits and other mechanisms to support the issuance of bonds that both address climate change and allow us to meet our obligations to our beneficiaries.
2. Experts in low carbon and climate resilient investments to develop **clear and independent industry standards** for the climate change impacts and benefits of bond financed projects, noting that they need to be sufficiently ambitious to meet emissions reduction and adaptation challenges, while being technologically and economically feasible.
3. Issuers to ensure **transparency around the use of proceeds and their impact**, and for corporate issuers to have credible independent reviews of the environmental credentials of climate bonds and green bonds and confirmation of the assets use of proceeds and resulting climate benefits.

**SIGNATORIES**

**ACTIAM** — Jacob de Wit, CEO  
**Addenda Capital** — Brian Minns, Sustainable Investing Specialist  
**Affirmative Investment Management** — Stuart Kinnerley, CEO & Co-Founder  
**AllianceBernstein** — Peter S. Kraus, Chairman and CEO  
**Allianz Global Investors** — Franck Dixmier, Global CIO Fixed Income  
**Amundi Asset Management** — Bernard Carayon, Deputy CEO  
**APG Asset Management** — Herman Slooijer, Managing Director Global Credits  
**AP1/Första AP-Fonden** — Mikael Angberg, CIO  
**AP2/Andra AP-Fonden** — Ulrika Danielson, Head of Communications  
**AP3/Tredje AP-fonden** — Peter Lundkvist, AP3 Head of Corporate Governance  
**AP4/Fjärde AP-Fonden** — Arne Lööw, Head of Corporate Governance and Dr. Ulf Eriandsson, Senior Portfolio Manager Credit  
**Aviva Investors** — Dr Steve Waygood, Chief Responsible Investment Officer  
**AXA Investment Managers** — Andrea Rossi, CEO  
**BlackRock** — Kevin Holt, Co-head of Americas Fixed Income  
**BNP Paribas Investment Partners** — Helena Viñes Fiestas, Head of Sustainability Research  
**California Teachers' State Retirement Systems (CalSTRS)** — Jack Etnes, CEO  
**Calvert Investments** — Bennett Freeman, Senior VP, Sustainability Research and Policy  
**F&C Investments** — Vicki Bakhshi, Head of Governance and Sustainable Investment  
**Legal & General Investment Management** — Meryam Omi, Head of Sustainability

*“The emergence of green bonds represents one of the most significant developments in the financing of low-carbon, climate-resilient investment opportunities.”*

Ban Ki Moon, UN Secretary-General



# Process & transparency guidelines



Pillars and recommendation of the Green Bond Principles (GBP)

## 1. Use of Proceeds

## 2. Process for Project Evaluation and Selection

## 3. Management of Proceeds

## 4. Reporting

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## External Review

# Green bond market growth continues with strong 2019

USD171bn in 2018

USD180bn in 2019 so far

Cumulative issuance to date: USD697bn

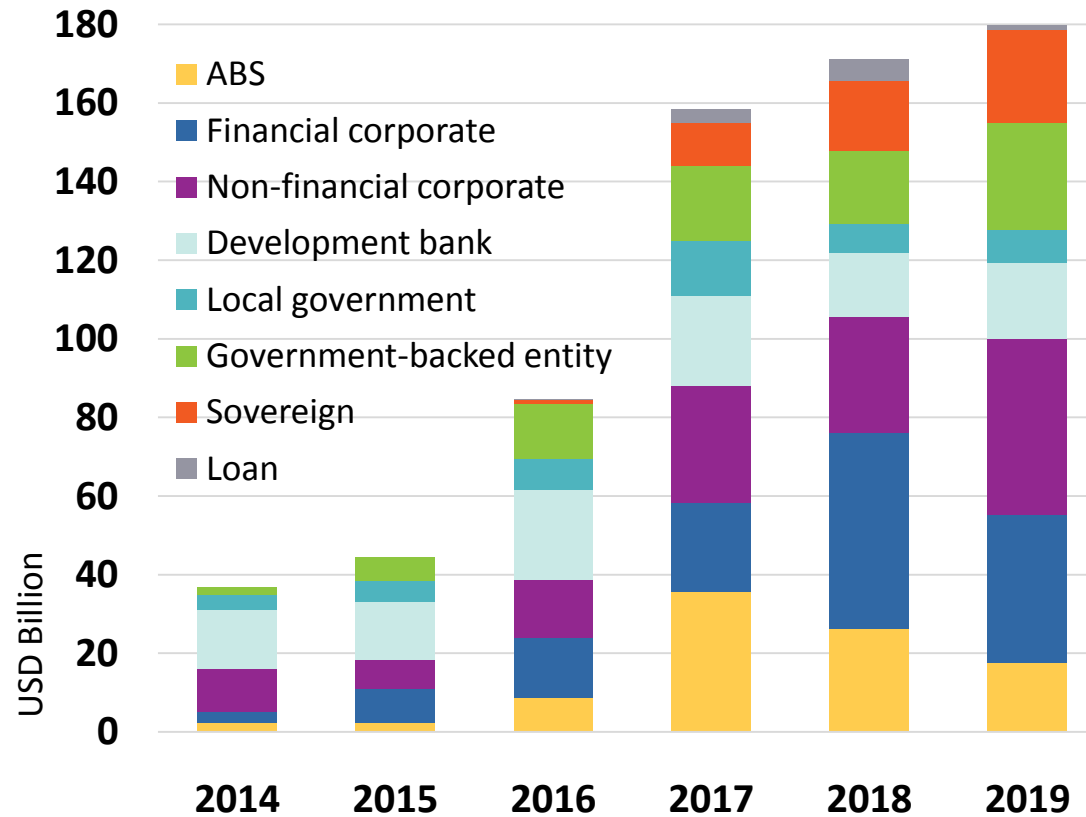
56 countries now

4 new markets in 2019:  
Russia, Barbados, Panama and Kenya

812 issuers to date

- 177 debuts in 2019
- 222 debuts in 2018

## Green bonds by issuer type



Source: Climate Bonds Initiative. Data as of 30 Sep 2019 and 2019 is year to date.

## Some Indian Green Bond Issuances

Issuer Name	Tenure	Amount Issued (USD MM)	Currency	Credit Rating
Export-Import Bank of India	5 Years	500	USD	BBB-
Greenko Dutch BV	5 Years	350	USD	BB
Axis Bank Ltd/Dubai	5 years	500	USD	BB+
ReNew Power Synthetic	5 years	435	USD	BB-
Greenko Investment Co	7 years	500	USD	B+
Adani Green Energy	5 years	500	USD	NR
Greenko Dutch BV	7 years	650	USD	BB
Greenko Solar Mauritius Ltd	5 years	450	USD	BB
Azure Power Energy Ltd	5 years	500	USD	BB-



# Some Indian Green Bond Issuances

Issuer Name	Tenure	Amount Issued (USD MM)	Currency	Credit Rating
IDBI Bank Ltd/GIFT-IFC	5 years	350	USD	BB
Power Finance Corp Ltd	10 Years	400	USD	BBB-
Indian Railway Finance Corp Ltd	10 Years	500	USD	BBB-
NTPC Ltd	5 years	300	INR	BBB-
REC Ltd	10 Years	450	USD	BBB-
Indian Renewable Energy Development Agency Ltd( IREDA)	5 years	299	INR	BB+
Jain International Trading BV	5 years	200	USD	CCC-
State Bank of India/London	5 years	650	USD	BBB-
Adani Green Energy	20 Year	362	USD	BBB-

# Climate Bonds Standard Water Infrastructure Criteria

Version 1 Engineered water infrastructure – released

Covers *engineered* water infrastructure for water collection, storage, treatment or distribution, or for flood protection or drought resilience.

Released to the market in October 2016.

Some of the issuances include certified green bonds over USD 1bn from San Francisco Public Utilities Commission and the City of Cape Town.



Version 2 Engineered and non-engineered water infrastructure

Extends Water Infrastructure Criteria to incorporate non-engineered water infrastructure, which includes green and hybrid water infrastructure for water collection, storage, treatment or distribution, flood protection, and drought resilience.



# Climate Bonds Standard Water Infrastructure Criteria

Assets	Examples
<b>Water monitoring</b>	smart networks, early warning systems for droughts, floods, water quality monitoring processes.
<b>Water storage</b>	rainwater harvesting systems, storm water management systems, infiltration ponds, rainwater harvesting systems, aquatic ecosystems (lakes, wetlands), aquifer storage.
<b>Water treatment</b>	drinking water treatment, desalination plants, natural filtration/recycling systems
<b>Water distribution</b>	rainwater harvesting systems, gravity fed canal systems, pumped canal or water distribution system, terracing systems
<b>Flood defence</b>	surge barriers, pumping stations, levees, gates, ecological retention, current force reduction mechanisms, relocation of assets from floodplains
<b>Drought defences</b>	aquifer / groundwater storage (pumped), recharge zone management, wetland storage, snowpack management
<b>Ecological restoration / management</b>	erosion control systems, hydrological restoration
<b>Storm water management</b>	permeable surfaces (parks, roads, etc.) and evapotranspiration systems, groundwater recharge, rainwater harvesting, constructed ecological retention ponds

# Climate Bonds Standard Water Infrastructure Criteria

Will your project meet the Water Criteria? It's an easy two-step

STEP  
1

## Comply with Mitigation Component

GHG emissions from water projects do not increase and comply with business-as-usual baseline or aim at emission reduction will be delivered over the operational lifetime of the water asset or project.

STEP  
2

## Comply with Adaptation & Resilience Component

Water infrastructure and its surrounding ecosystem are resilient to climate change, and have sufficient adaptation to address climate change risks.

To demonstrate that, issuers should complete a **scorecard** made up of five sections:

**Section 1. Allocation:** Addressing how water is shared by users within a given basin or aquifer.

**Section 2. Governance:** Addressing how/whether water will be formally shared, negotiated, and governed.

**Section 3. Technical Diagnostics:** How/whether changes to the hydrologic system are addressed over time.

**Section 4. Nature-based Solutions:** (for nature-based and hybrid infrastructure only) addressing whether issuers have sufficient understanding of ecological impacts at/beyond project site with ongoing monitoring and management capacity.

**Section 5. Assessment of the Adaptation Plan:** Checking the completeness of the coping mechanisms to address identified climate vulnerabilities.

# Climate Bonds Standard Water Infrastructure Criteria



<https://www.climatebonds.net/standard/water>