

Exploring Climate Finance in WASH



Climate Finance – The Concept

- What is the Concept of Climate Finance?
- Where the concept came from?
- Why is it required?

Global Climate Finance – Overview

- What has happened so far?
- What is the current situation?
- Where does Climate Finance is Coming from?
- Emerging instruments like municipal bonds and green bonds.
- Using carbon credits for climate finance.
- What are some of the issues and challenges faced by these instruments?

Indian Climate Finance – The Overview

- What has happened so far?
- Existing situation of climate finance initiatives in India by Goi and states
- Hidden governments and schemes
- Municipal bonds, green bonds, carbon credits
- Identifying key challenges and opportunities

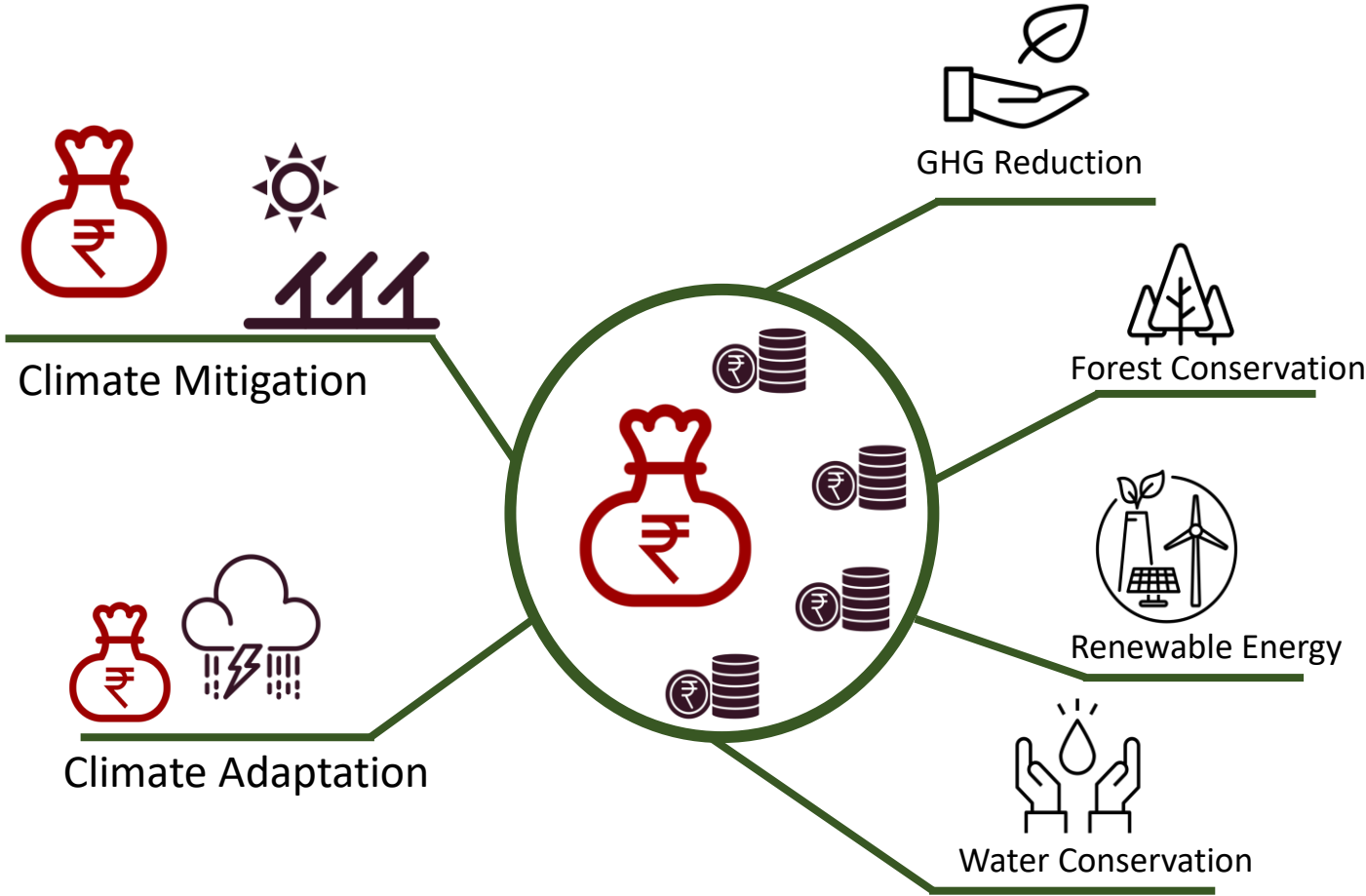
Summary of Key Challenges and Recommendations

- How can we leverage climate finance by unlocking these tools?
- How can we strengthen ULB to unlock its capability to finance climate projects?

Climate Finance – The Concept

What is Climate Finance?

As per United Nations, Climate finance is **regional, national, or intermediary** funding provided by **public, private, or other sources** of funding and used for climate change adaptation and mitigation.



Evolution of Climate Finance

Milestones achieved

2000
Carbon Tax was Introduced

2005
EU ETS was formed

2007
First Green Bond was issued

2014
Certified Climate Bond issued by the UK

1992 UNFCCC
Establishment

2009 COP15 – Copenhagen Agreement
(Long term financing to Developing Nations)

2015 COP21 – Paris Agreement.
Limit global warming to 1.5°C

2022 COP27 – Provide Loss and Damage Funding for Vulnerable

1997 Kyoto Protocol
(Emission Reduction)

2010 COP 16 – Cancún Agreement
(lower global greenhouse gas emissions, boost financial support for adaptation)

2017 One Planet Summit
- Demonstrate investment for low carbon projects

2023 COP28 – Urgent Climate Action through financing



7.6 trillion USD
Demand



0.65 trillion USD
Supply

which is **8.5%** of the total demand.

Mobilisation

**Multilateral and Bilateral Institutions
And Special Climate Adaptation and
Mitigation Funds**

Thus, there is a need to look into the sources for Financing Climate Adaptation and Mitigation Projects

Aim

- To **review** climate finance, its **allocations** and its **utilization** of the WASH sector

Objective

- To explore the global climate finance landscape for WASH
- To understand climate finance allocations and utilization in the Indian funding landscape through various instruments
- To identify and address issues and opportunities in climate finance.

Scope & Limitations

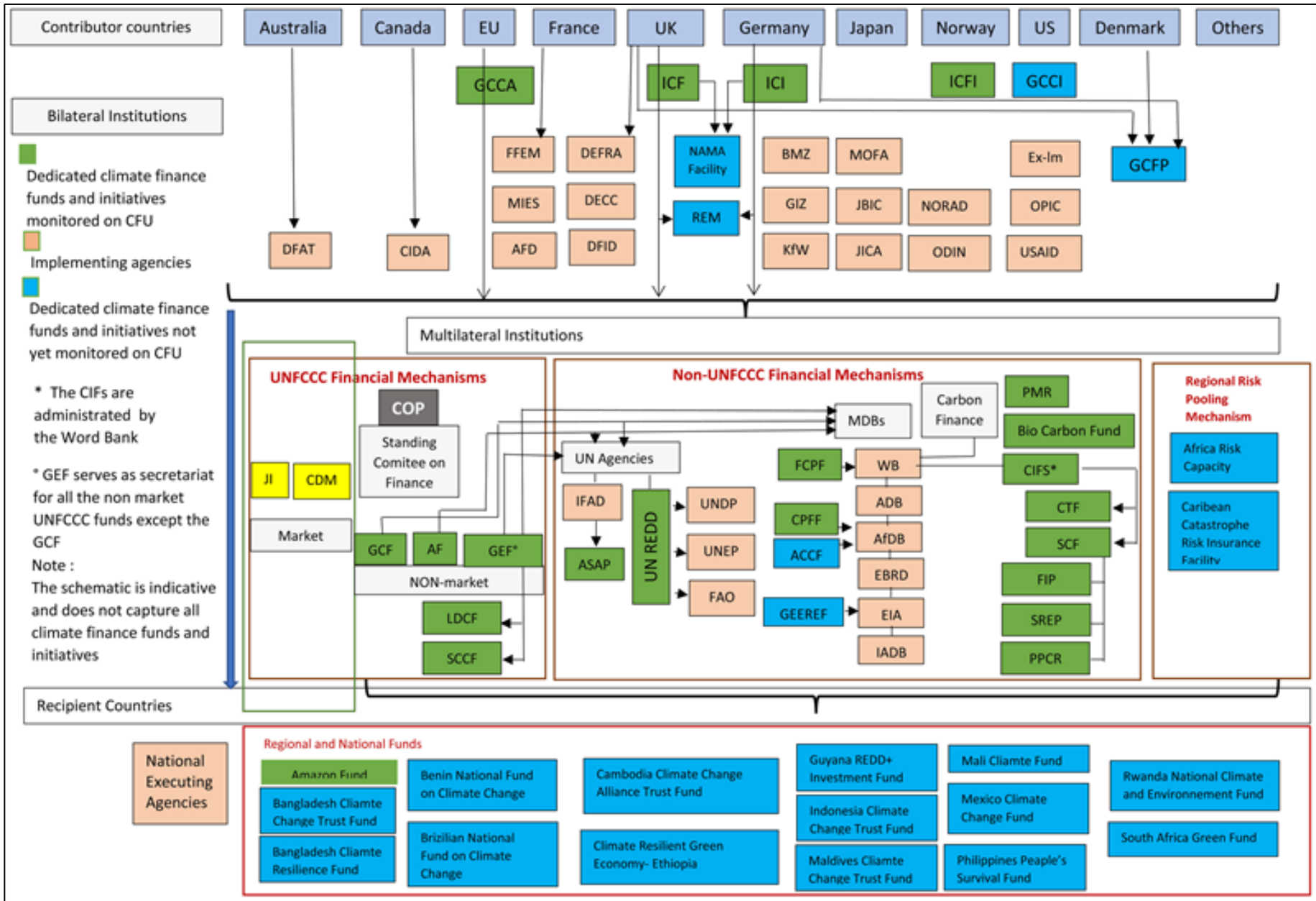
- The study focuses on the global and Indian climate finance landscape based on the secondary data available.

Methodology



Global Climate Finance – Overview

Global Climate Finance Architecture



Bilateral Institutions

- Financial institution set up by one individual country to finance development projects in a developing country

Multilateral Institution

- Financial institutions established by multiple member countries and falls under international law

There are also many funds that are set up for financing the climate projects

Green Climate Fund Accounts More among All Funds!

GCF

- The **Green Climate Fund** offers **developing nations** financial support for reducing GHG emissions and adapting to climate change.
- Countries **must be parties to the UNFCCC** to be eligible to access GCF resources

LDCF

- **Least Developed Country Fund** (LDCF) is a financing mechanism to help the 48 least developed nations with climate change adaptation.
- Its main objectives are to strengthen the resilience of **vulnerable communities** and lessen their sensitivity to climate change

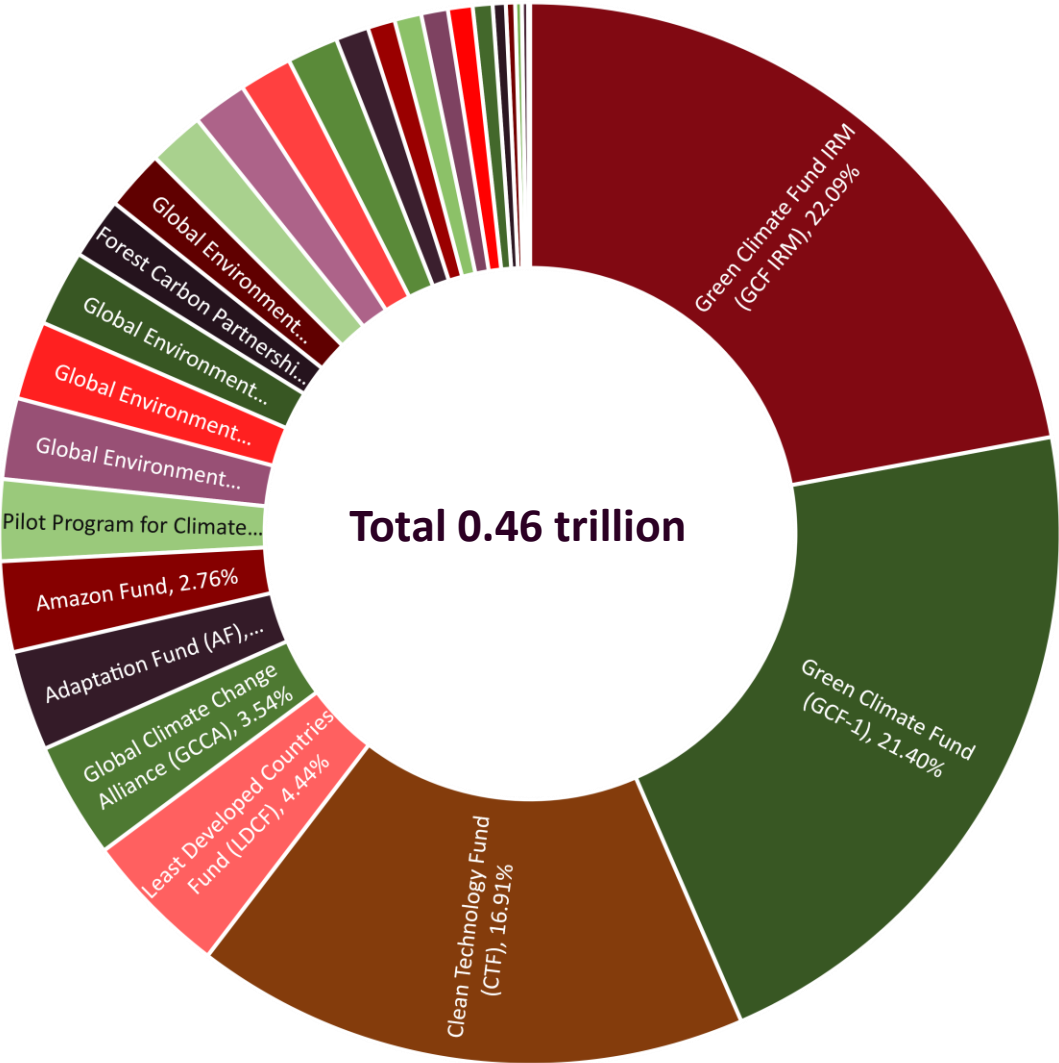
CTF

- The **Clean Technology Fund (CTF)** provides grants and concessional loans to fund investments in **renewable energy, energy efficiency** and other **climate-friendly technologies**.
- The fund is designed to support **developing countries** in making the transition to a low-carbon economy.

GEF

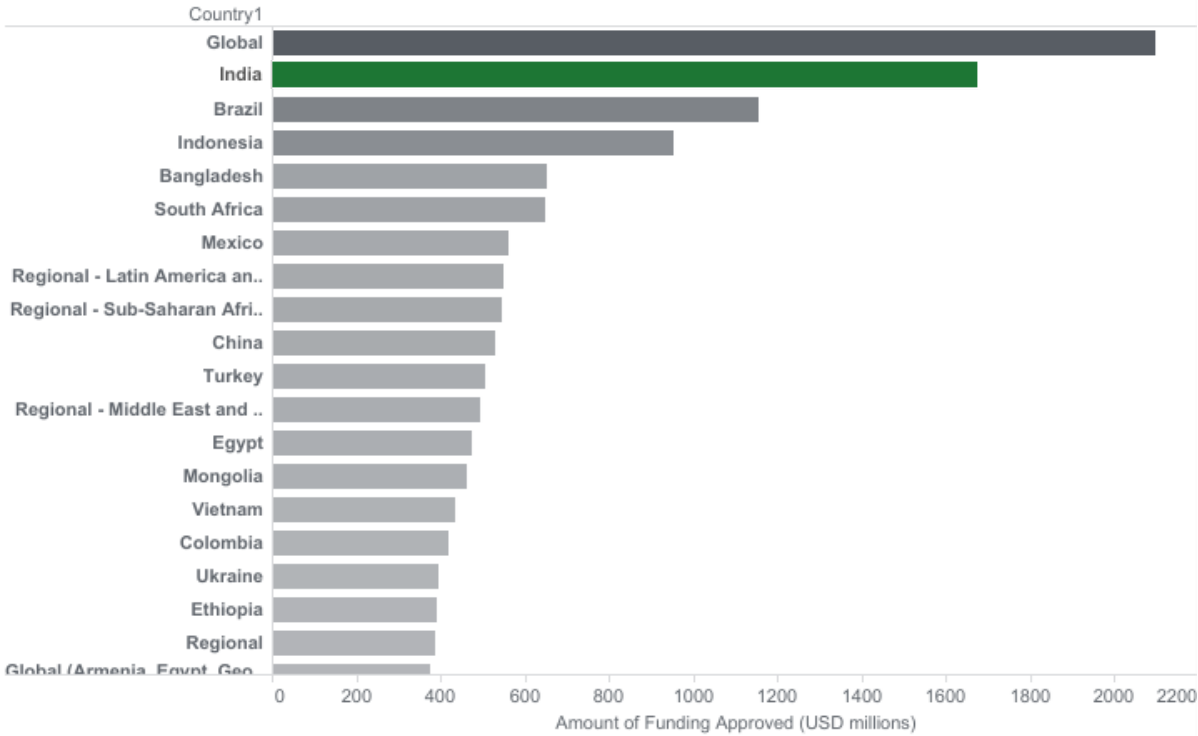
- **Global Environment Facility** (GEF) provides grants to developing nations for initiatives to **improve the environment** on a global scale
- All **UN member** nations are eligible for funding through GEF.
- A country must also be **classified as a Small Island Developing State, a Low-Income Economy, or a Least Developed Country**.

Total Funds by percentage



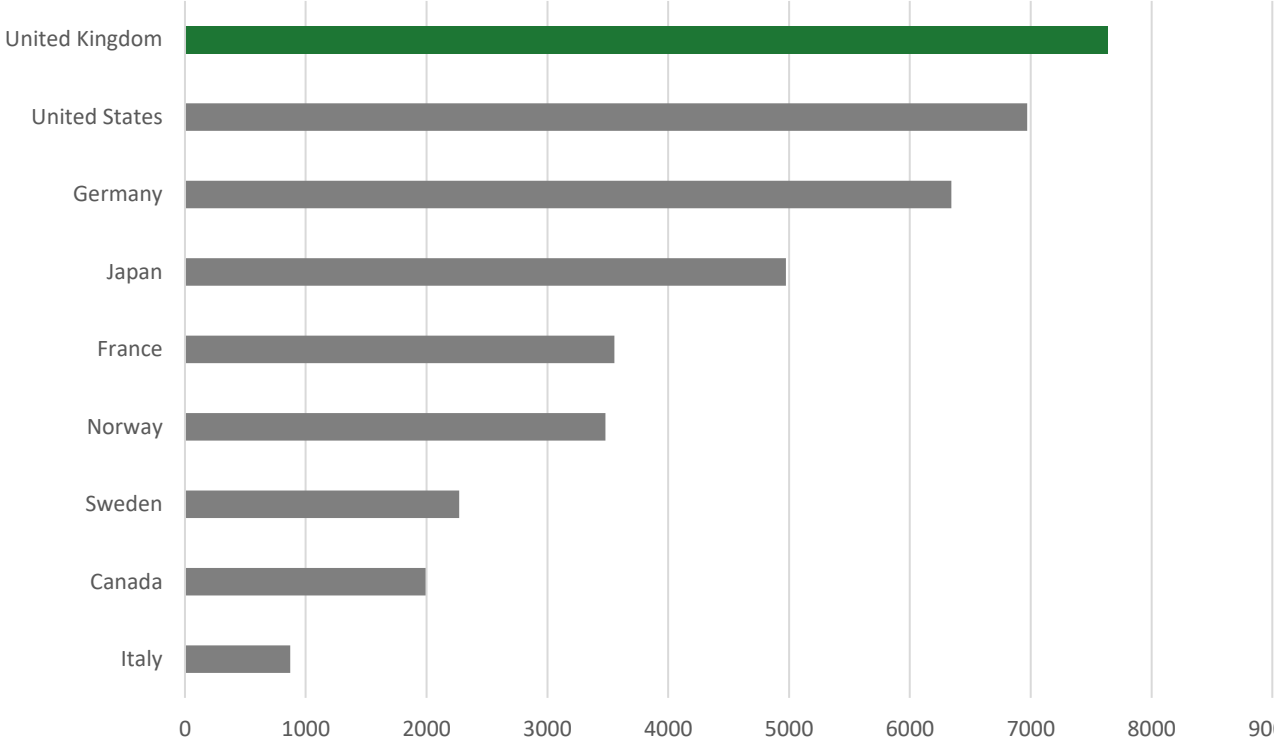
The landscape of global urban climate finance 2017/18

Recipients (bar chart)



India is the highest receiver of the overall climate funds. Till 2021 India has received 1680 million USD through various funds like Green Climate Fund.

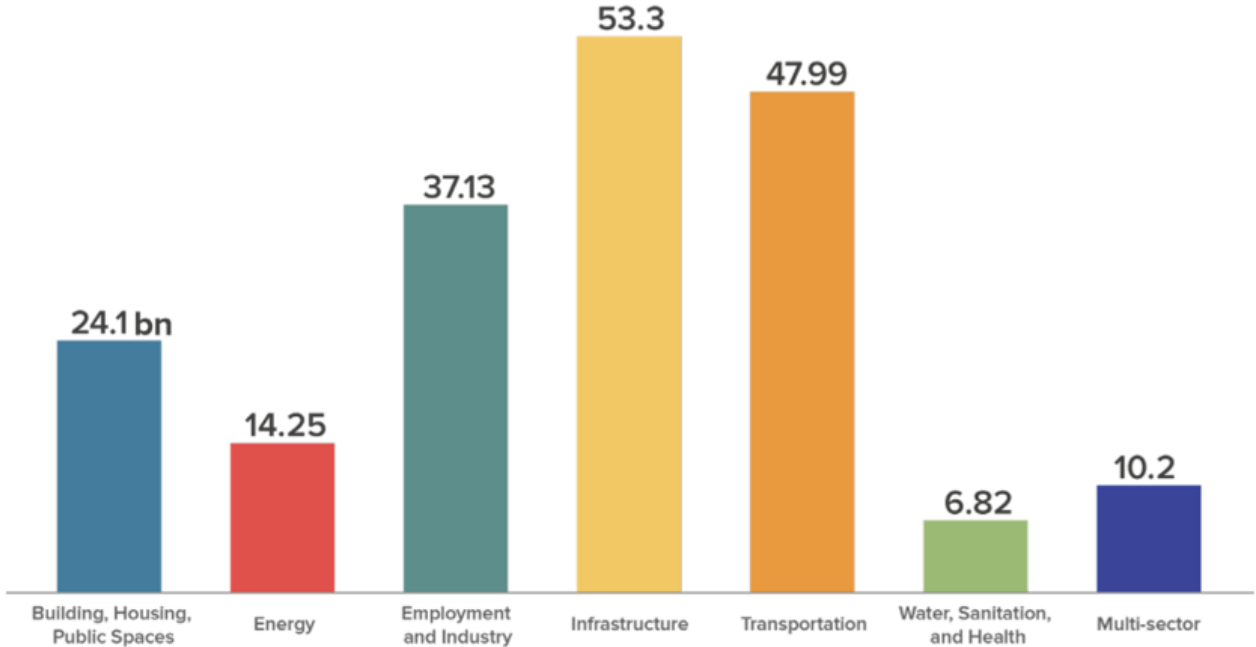
Top 9 Contributors (Amount Pledged)



The UK is the highest contributor among all. Till 2021 the UK has contributed 6971 million USD

The landscape of global urban climate finance 2017/18

32% infrastructure
24% climate mitigation measures
12% energy
11% WASH



Following type of projects get funding in the WASH sector

- Water Filtering and Recycling
- Water Supply Infrastructure
- Rainwater Harvesting
- Sanitation Systems
- Wastewater Management

There are Four Main Instruments for Unlocking Climate Finance



Grants and Loans

- Grants and Loans for climate finance come from national governments, regional and international public institutions, and other public bodies
- **46.5%** of climate finance was done through grants out of which **18%** comes from Grants and **28.5** Comes from Loans



Labelled Bonds

- (Green Bonds, Social Bonds, Sustainability Bonds, Transition bonds), **Transition Finance** (Just Transition Fund, Energy Transition Mechanism).
- It is a **debt instrument** at a lower interest with a special purpose, generally it is issued by banks and other private investors.
- **38%** of climate finance was done through Bonds.



Carbon Markets and PPP

- Carbon pricing involves setting a price on carbon dioxide emissions
- **15%** of climate finance was done through PPP and Carbon market.



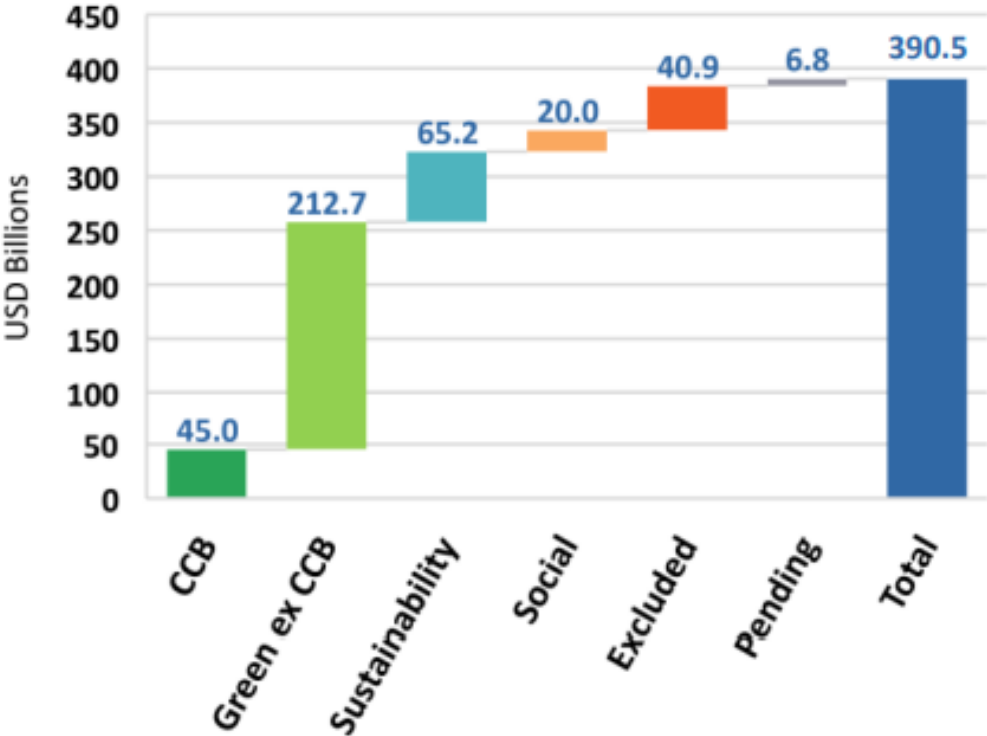
Equity

- (Institutional Investors, Venture Investments in low Carbon Hydrogen, Blended Finance.)
- **0.5%** of climate finance was done through Equity

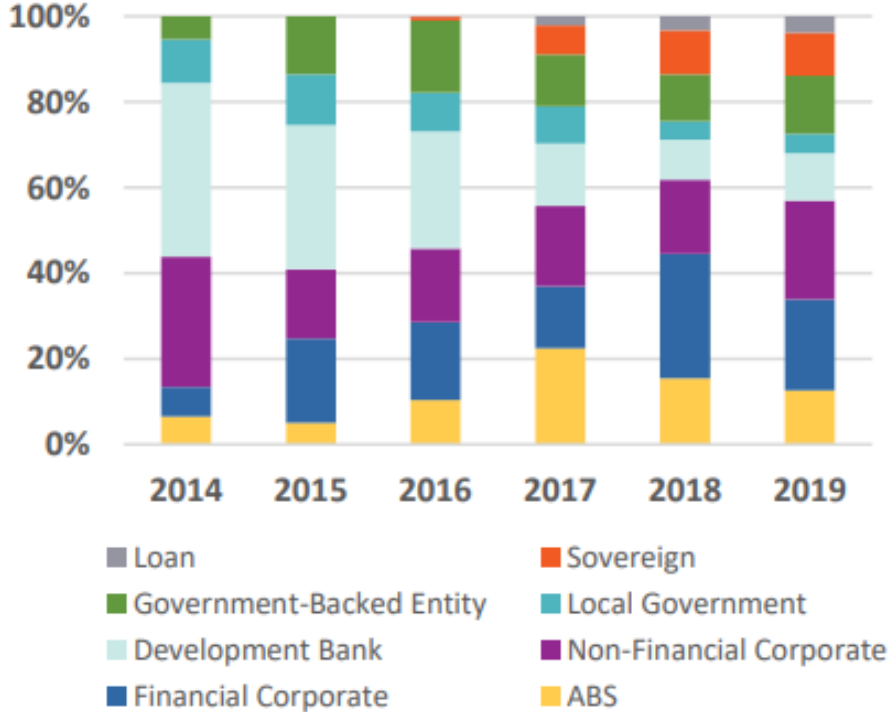
Labelled Bonds as a Climate Finance Instrument!

- Labelled bonds are debt instruments that are used to **raise funds** to finance projects with a specific purpose, such as green projects, social projects, sustainability projects, and transition projects.
- They are issued by a government or a company and are typically backed by a guarantee from the issuer

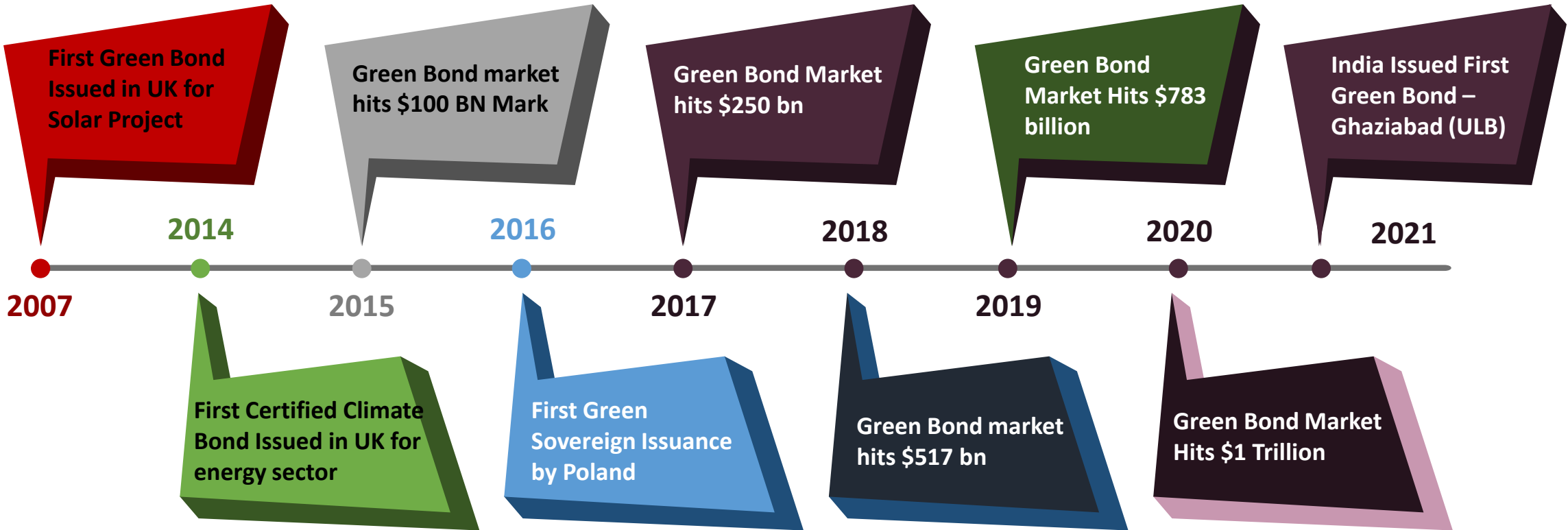
The wider labelled universe in 2019



Issuer type evolution: 2014 - 2019



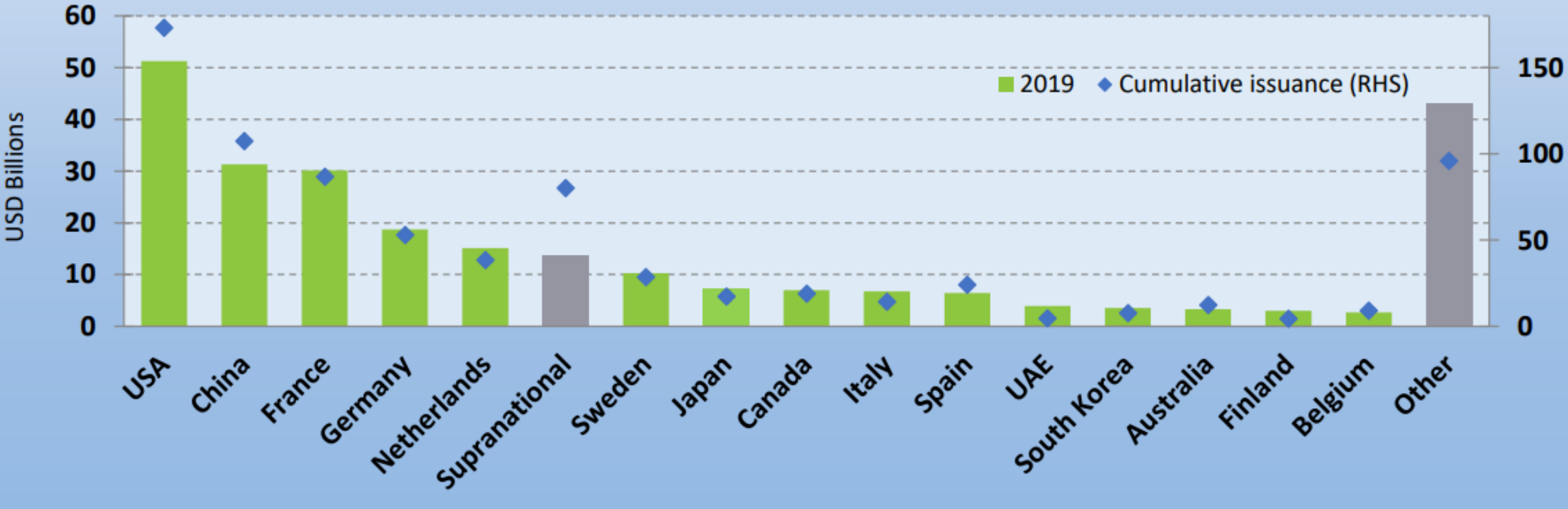
Green Bonds Are Revolution in Climate Finance – Green Bond Market Grows 10X in 5 Years



Source: Climate Funds Update Report, 2022

India Does Not Belong to Top 15 Countries of Green Bond Issuance!

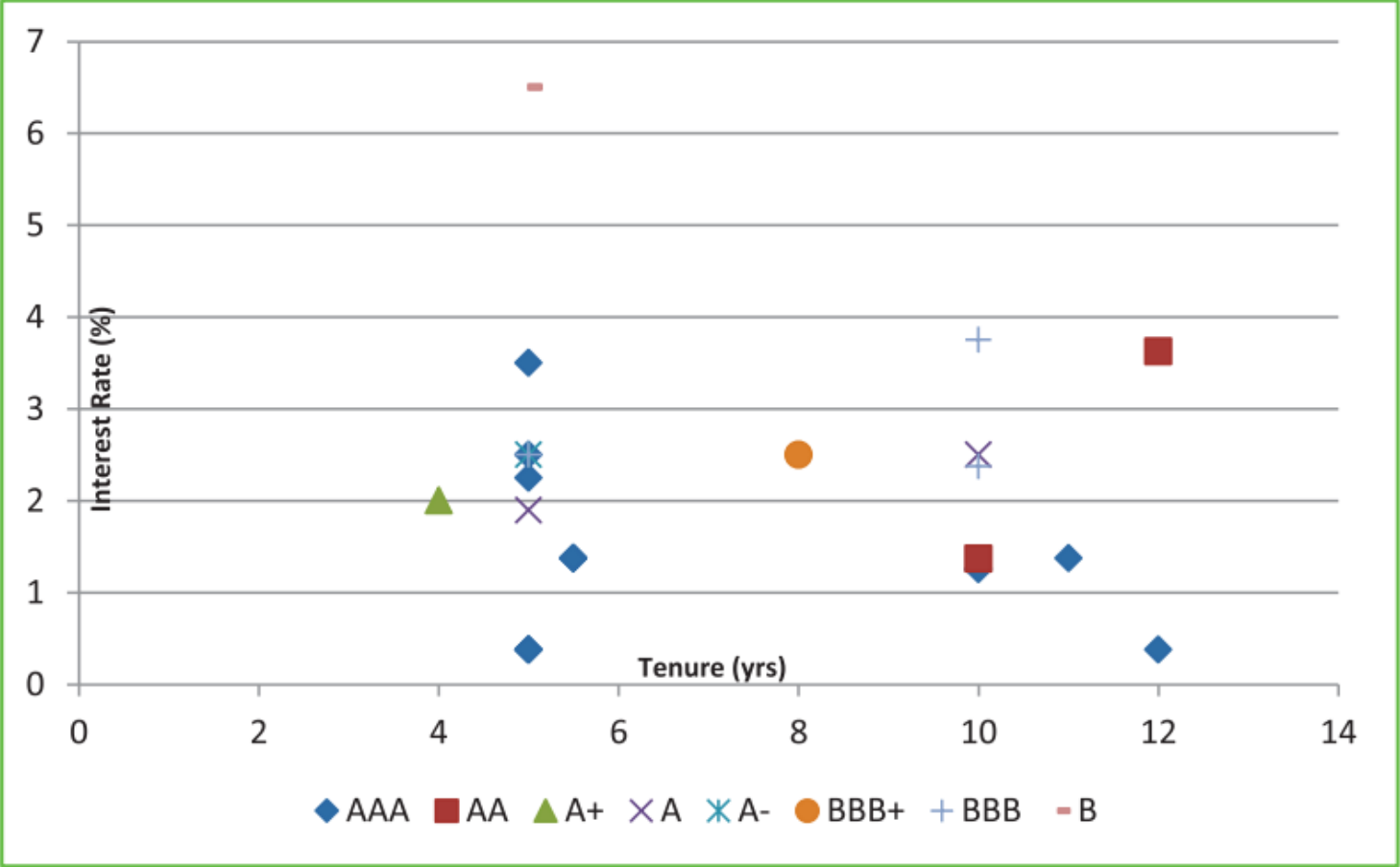
2019 green bond issuance: top 15 countries



As green bond Global green bond and green loan issuance hit an adjusted USD257.7 billion in 2019, setting a new high.

Better the credit rating of the issuer lesser the interest rate.

EU Green Bond Market Rating



It is seen that if the issuer falls under the **AAA category** the **interest rates are reduced** with an **increase in tenure** but it is not seen in other credit categories.

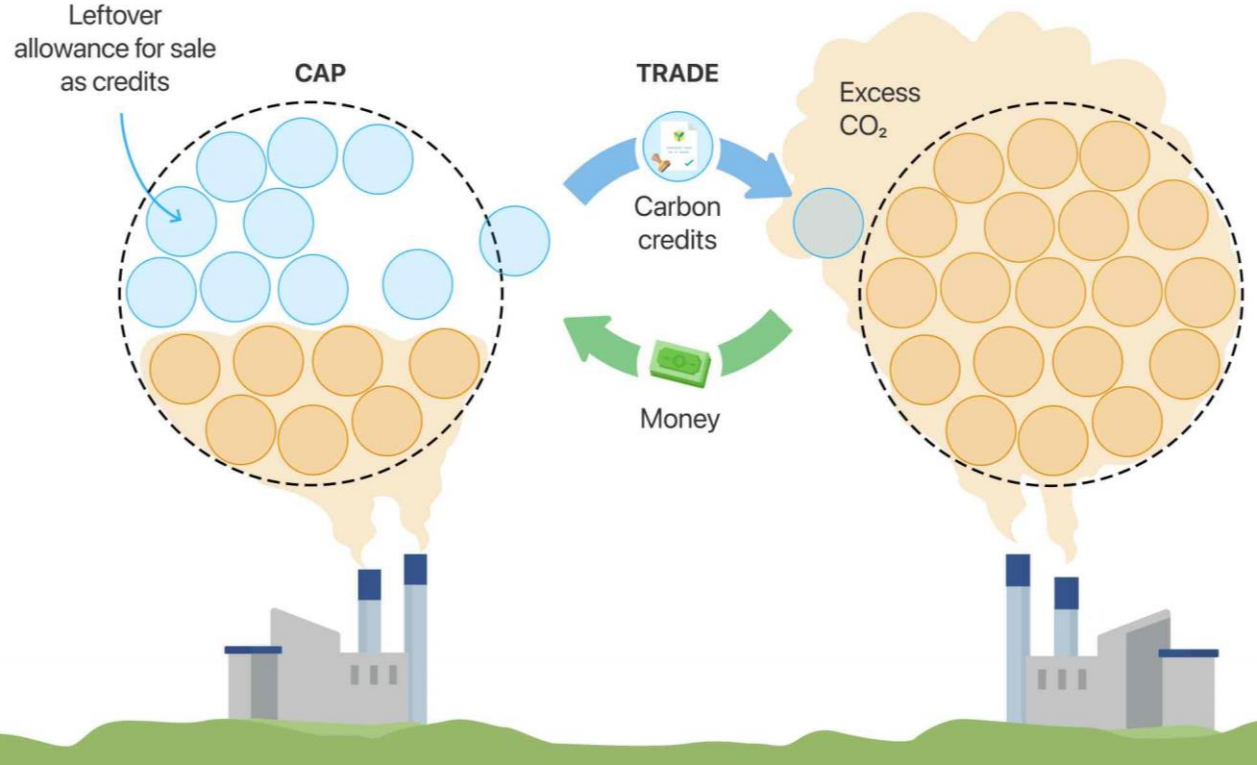
Carbon Trading is One of the Best Tool as a source of revenue

The permits that **allow** a factory or a country to **emit a specific amount of carbon dioxide** or other greenhouse gases are known as **carbon credits**, commonly referred to as carbon offsets.

The carbon credit market is predicted to grow to **\$2.4 trillion** between 2020 and 2027 at a CAGR of 31% **globally**.

Carbon Credit can be Earned by the Projects that Reduces GHG Emissions such as

- Forestry and Land Use
- Industrial manufacturing
- Chemical industries
- Renewable Energy
- Waste Disposal
- Transport and Logistics
- Agriculture
- Metal Production
- Others

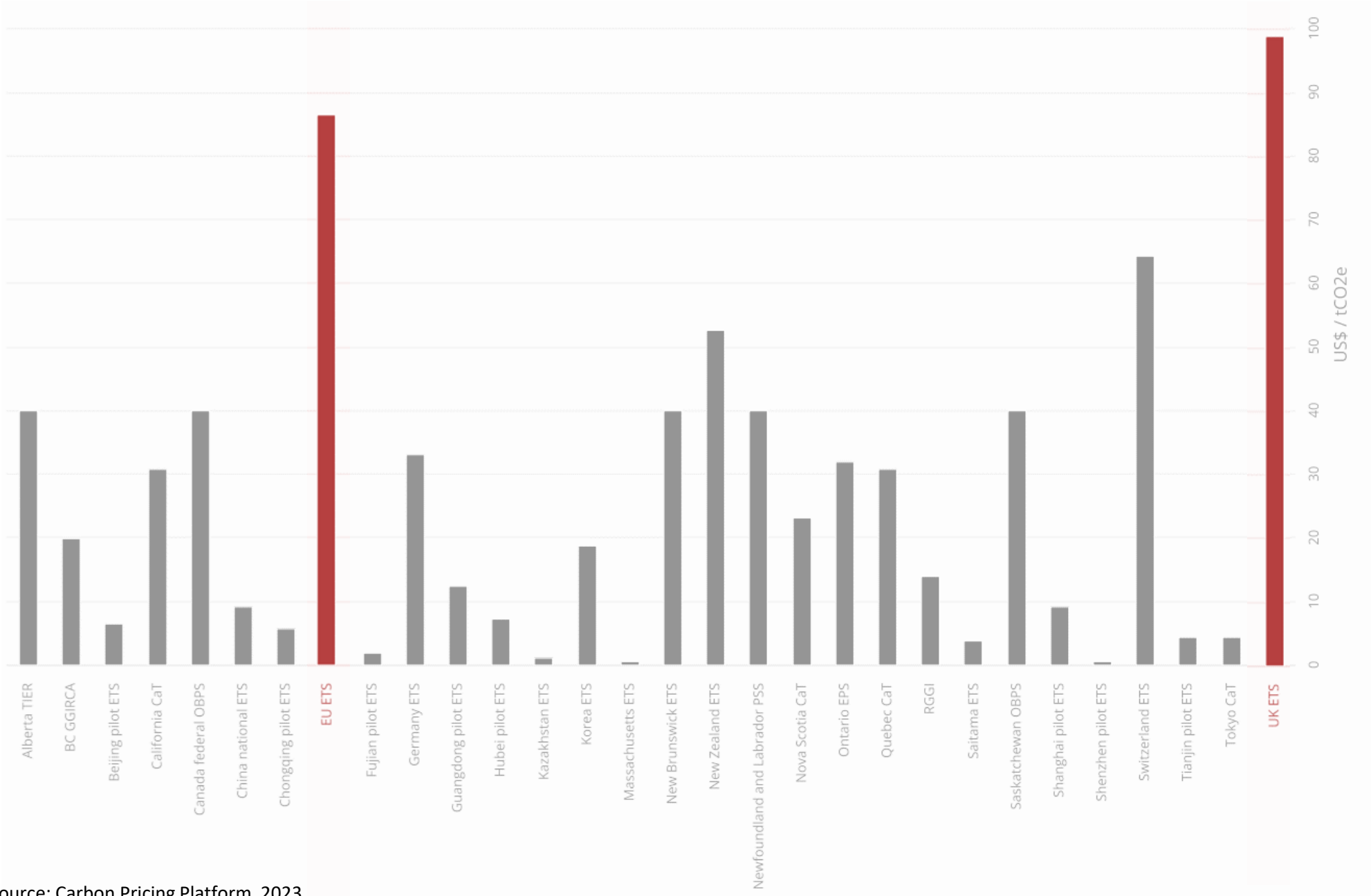


$$1 = 1$$

carbon credit

ton of carbon dioxide

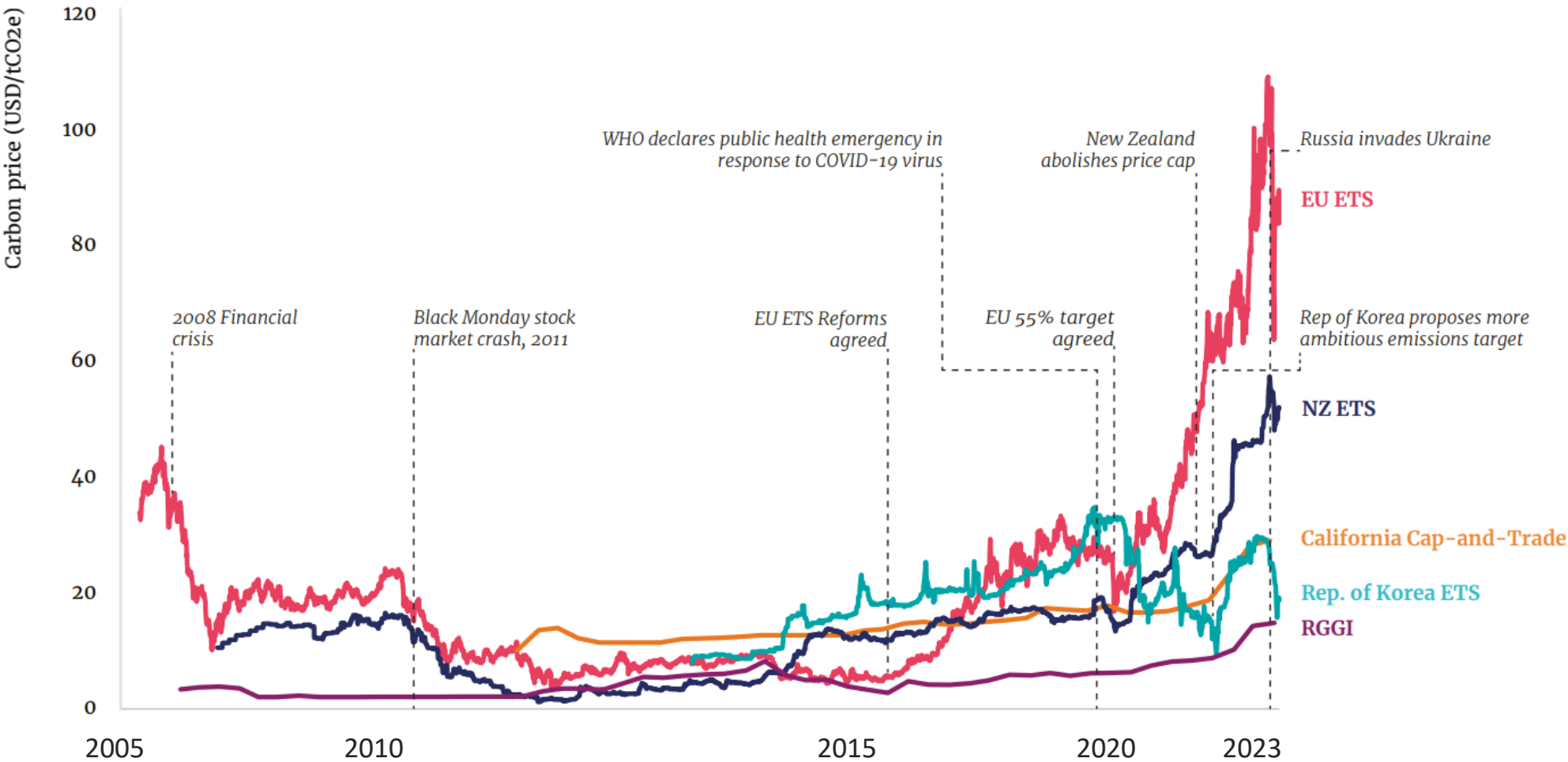
The Price of Carbon Credit Varies from ETS to ETS, EU and UK are Highest Among All



The reason for the higher price is the tighter carbon emission cap and proper regulation on supply and demand of the carbon credit in ETS

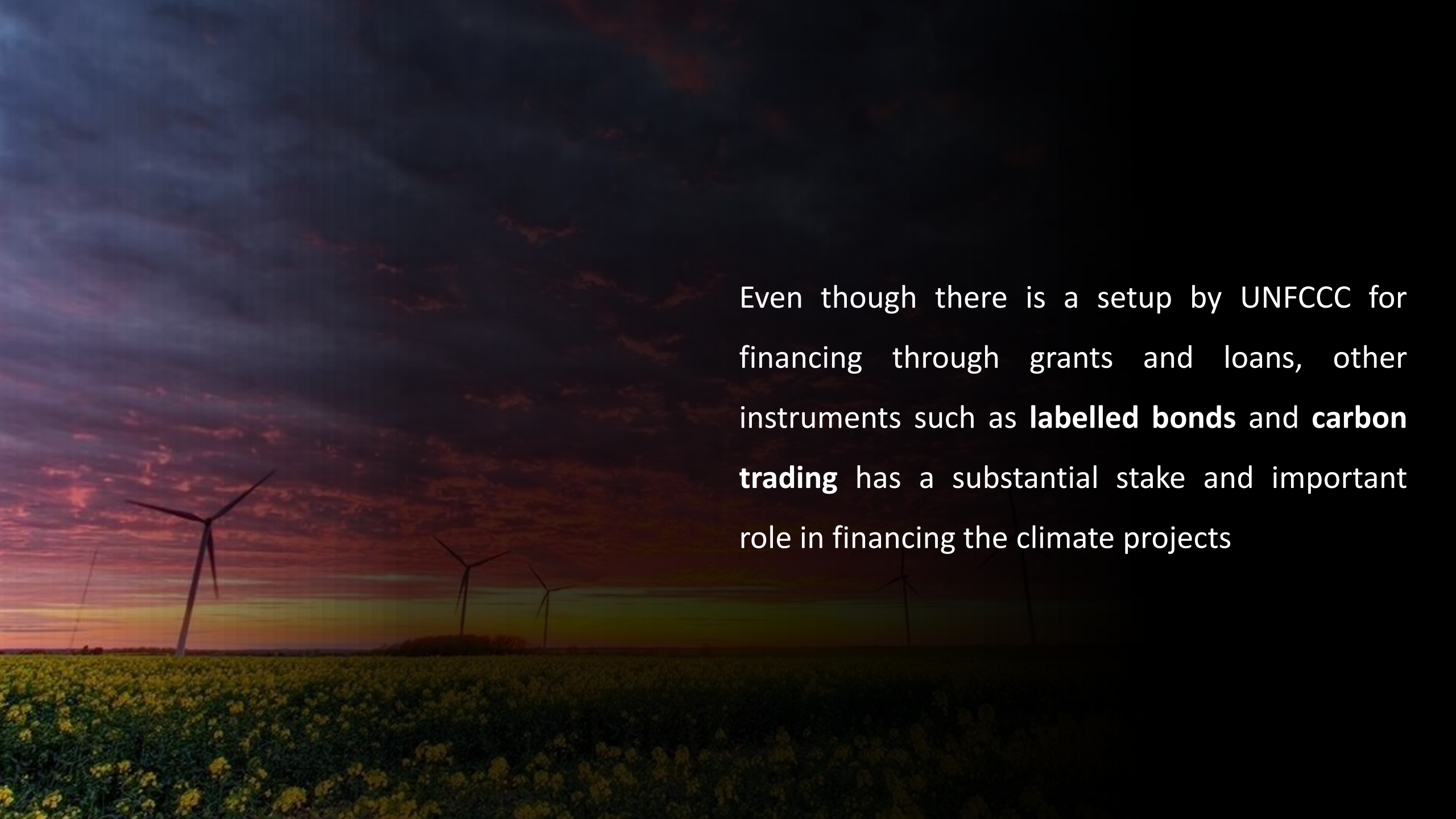
Source: Carbon Pricing Platform, 2023

The Price of Carbon Credit is Blooming After COVID 19



India and China are the highest seller of carbon credits, and the EU is the highest buyer of carbon credits.

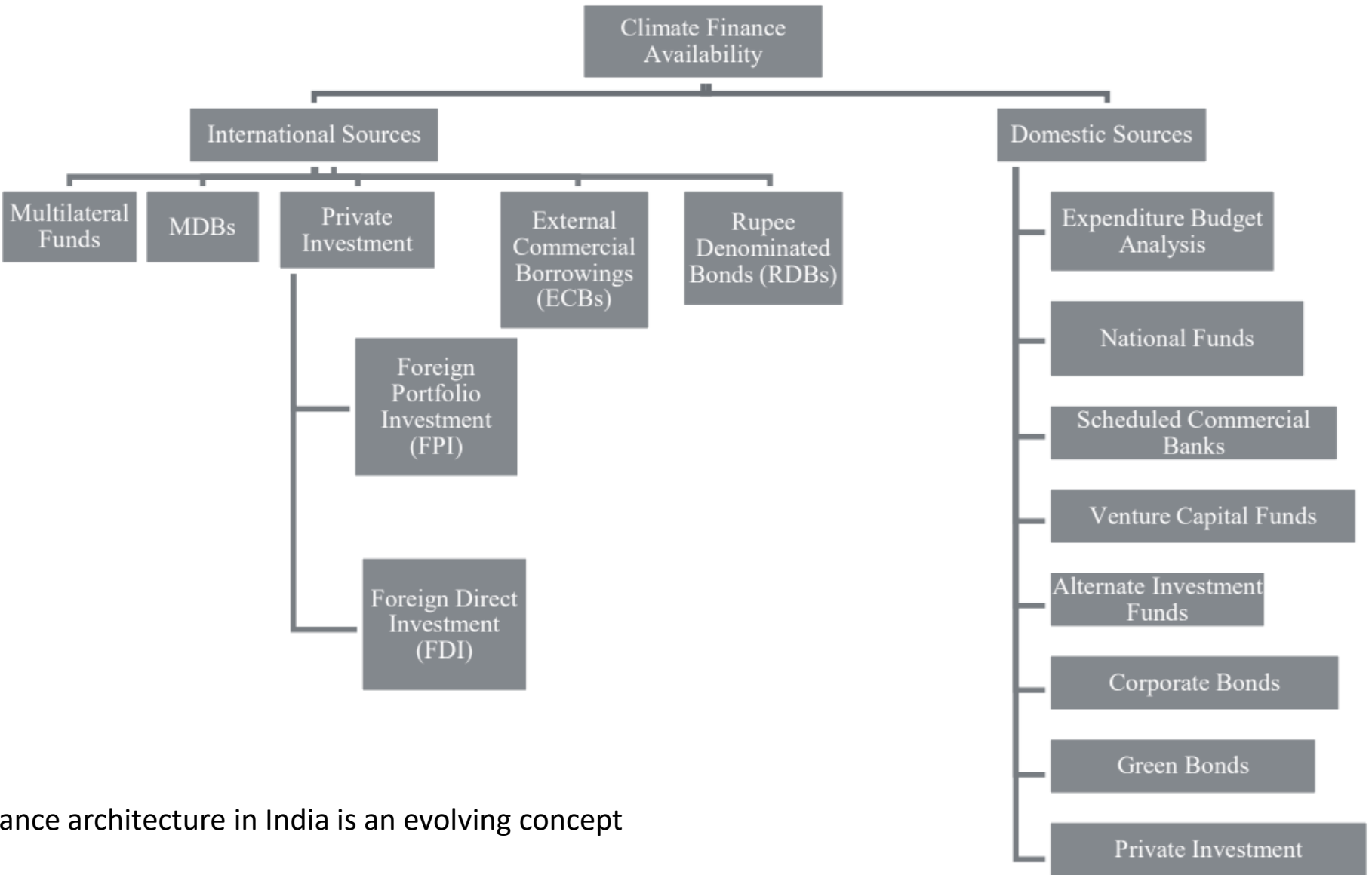
Source: Initiative, 2019 Green Bond Market Summary, 2020



Even though there is a setup by UNFCCC for financing through grants and loans, other instruments such as **labelled bonds** and **carbon trading** has a substantial stake and important role in financing the climate projects

Indian Climate Finance – The Overview

Indian Climate Finance Architecture



Climate finance architecture in India is an evolving concept

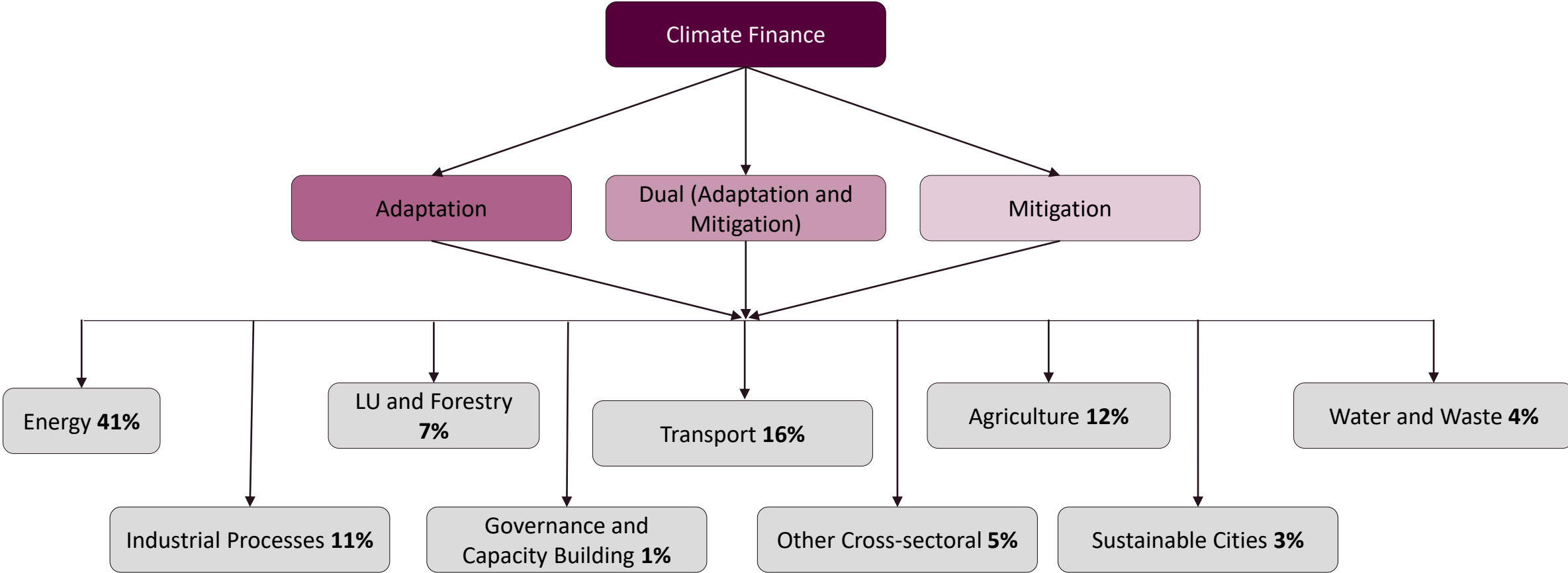
India's Requirement is 139 Billion USD in WASH sector by 2030

	Bangladesh	Bhutan	India	Maldives	Nepal	Sri Lanka	Total
Renewable energy	\$3.2 billion	\$72 million	\$403.7 billion	\$55 million	\$2.1 billion	\$2.3 billion	\$411.4 billion
Large hydro	-	\$40.6 billion	\$44 billion	-	\$22.5 billion	\$190 million	\$107.3 billion
Green buildings	\$118.8 billion	\$390 million	\$1.4 trillion	\$200 million	\$3.4 billion	\$8.4 billion	\$1.53 trillion
Transport infrastructure	\$23.7 billion	\$615 million	\$250 billion	\$1.5 billion	\$10 billion	\$326 million	\$286.1 billion
Transport electric vehicles	-	\$322 million	\$667 billion	-	\$2.5 billion	-	\$669.8 billion
Municipal solid waste	\$4 billion	\$11.5 million	\$11 billion	\$46 million	\$83 million	\$3.5 billion	\$18.6 billion
Climate-smart urban water	\$13 billion	\$106 million	\$128 billion	\$86 million	\$686 million	\$2.7 billion	\$144.6 billion
Climate-smart agriculture	\$9.1 billion	\$140 million	\$194 billion	\$31 million	\$4.8 billion	\$964 million	\$209 billion
TOTAL	\$171.8 billion	\$42.3 billion	\$3.1 trillion	\$1.9 billion	\$46.1 billion	\$18.4 billion	\$3.4 trillion



India will require 139 Billion USD for WASH from 2021 to 2030 which means ~13.9 billion USD per annum

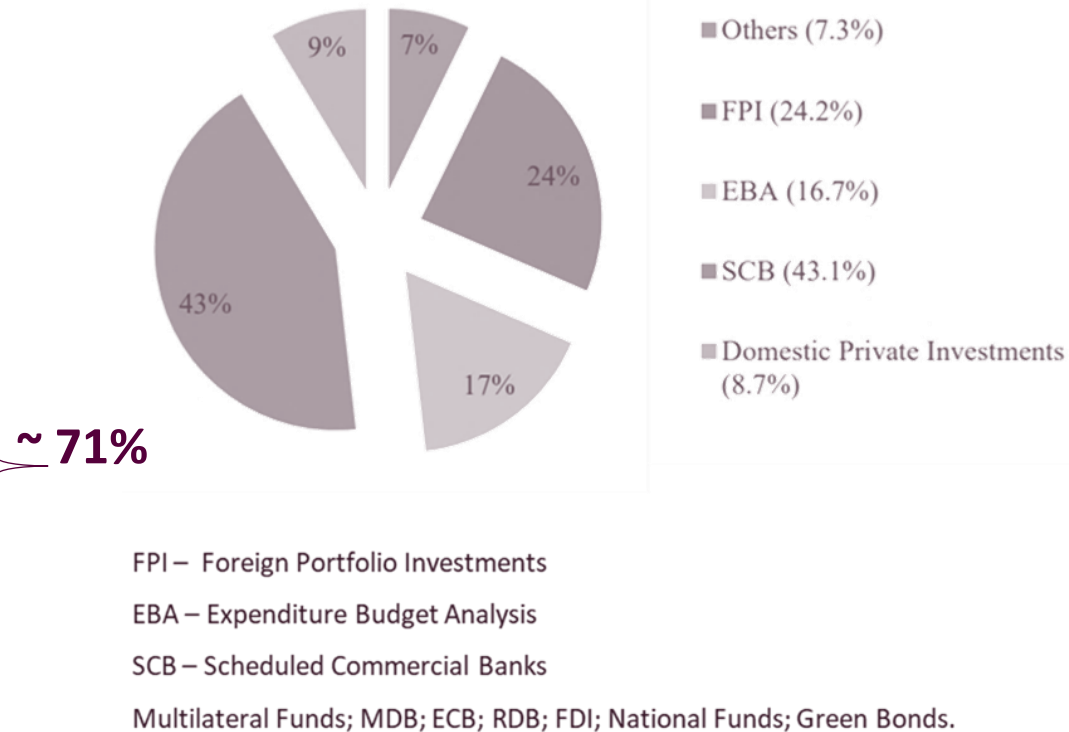
Globally WASH sector consists of 11% of total funding but in India, it is only 4%



Globally WASH sector consists of **11%** of total funding but in India, it is only **4%**

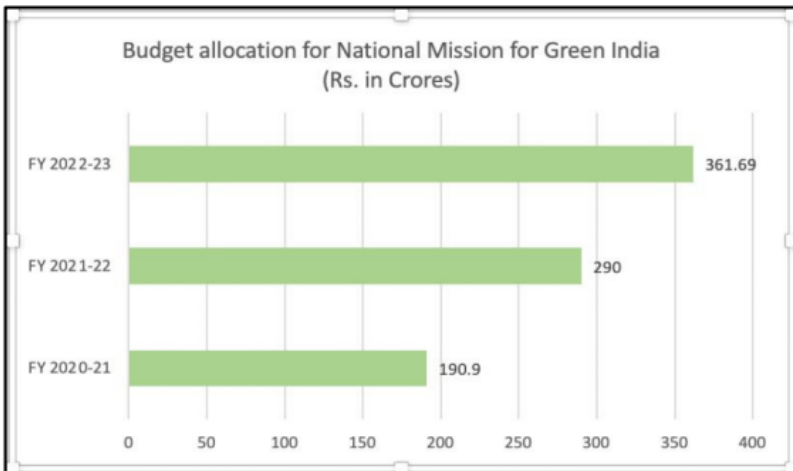
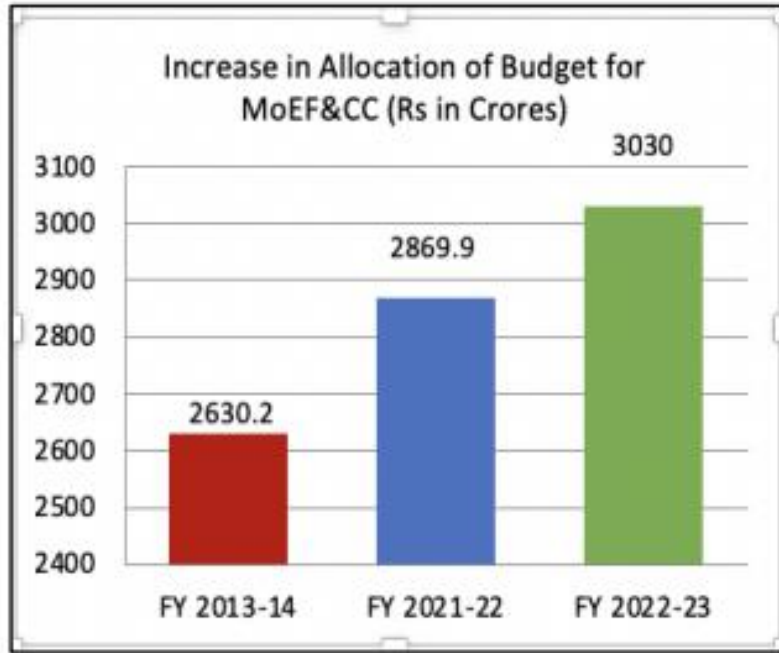
70.8% of total climate finance is tapped from domestic market through grants, equity, loans, municipal bonds

Scale	Category	Instruments	
Domestic	Public	National and subnational budget, programmes, schemes National and subnational government loan Municipal government	Budgetary expenditure Grants-in-aid Equity, debt, municipal bonds
		Development finance institutions like NABARD, SIDBI	Debt, equity, guarantee
		Public sector banks like State Bank of India, Canara Bank, Central Bank of India, etc.	Soft loans, co-financing, green bonds
		Non-Banking Finance Companies (NBFC) like Indian Renewable Energy Development Agency (IREDA) and Power Finance Corporation (PFC)	Debt
		Industries and businesses like Godrej, ITC, Tata, etc.	Equity, debt, grants
	Private	Private sector banks like ICICI, Axis Bank, HDFC, IDFC	Loans, co-financing, green bonds
		NBFC like L&T Infrastructure Finance, Tata Capitals and Venture Capital	Debt, green bonds Equity and debt
		Philanthropy	Grants, equity
		Multilateral and bilateral	Grants, loan, equity
	International	Public	Grants, loan, equity
Private		Philanthropy Foreign Direct Investment	Equity, grants, debt, loans



~ 29%

Initiatives by Indian Government



2008

GOI recognized carbon credit as commodities- Amendment in forwards contract bill- future trading in CER by bringing carbon credit under the tradable commodities.

2010

National Clean Energy Fund (NCEF)- Intended to provide funding for the development of clean energy technologies

2015

The Securities and Exchange Board of India (SEBI) – oversees governing the issuance, trading, and settlement of green bonds and municipal bonds in the Indian market.

2018

Central Govt of India sanctioned Rs 251 crore for state government projects under the National Adaptation Fund (NAF) under NAPCC

2022

RBI released sovereign green bond framework

2022

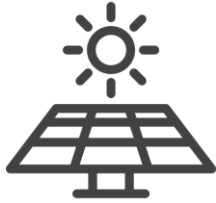
National Adaptation Fund for Climate Change (NAFCC) was established to support adaptation activities in the States and Union Territories

There is no policy for carbon trading in India. However, the bill was passed in 2022

Gol has set up National Bank for financing infrastructure and development (NaBFID)

NaBFID was established to provide a **supporting, technology-enabled ecosystem** across the life-cycle of infrastructure projects as a provider, enabler, and catalyst for infrastructure financing.

NaBFID bank gives funds for



NaBFID gives funds at 7.9% interest (2023) through

- Term Loans
- Bonds or Debentures
- Guarantees
- Letter of Comfort

NaBFID National Bank for Financing Infrastructure and Development

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Functions and Products

NaBFID is expected to provide a supporting, technology-enabled ecosystem across the life-cycle of infrastructure projects as a provider, enabler, and catalyst for infrastructure financing. NaBFID will work towards directly or indirectly lending, investing, and attracting investments from private sector investors and institutional investors for infrastructure projects located entirely or partly in India. The [harmonized list of sectors](#) prescribed by the Central Government includes Transport and Logistics (Roads, Ports, Airports, Railways, Inland Waterways), Energy, Water and Sanitation, Communication, and Social and Commercial Infrastructure.

Additionally, NaBFID will provide equity investment opportunities through Investment Trusts, bond subscription services, specific structured products for project development, and ESG-focused lending.

In line with its developmental objectives, NaBFID is also committed to the development of various bonds and derivative markets, including domestic capital bonds, foreign currency bonds, and green bonds - while ensuring investor protection and the implementation of robust adjudication systems.

NaBFID will also coordinate with the Central and state governments.

Various Initiatives by States also helps in Financing Climate Projects

State initiatives to fund climate projects

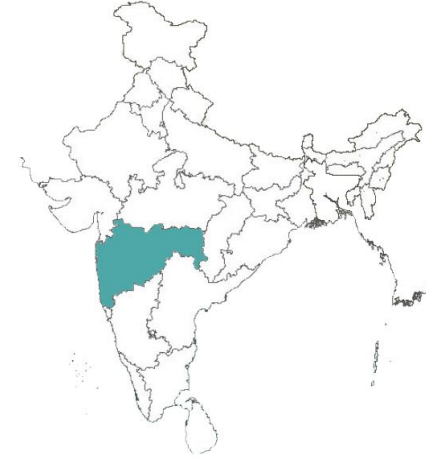


Maharashtra, Karnataka and Goa have provided **financial assistance** to state-level organizations and entities for climate change projects.

Gujarat, Rajasthan, Andhra Pradesh, Tamil Nadu, and Delhi have established a dedicated **Climate Change Fund** to support projects that are aimed at mitigating the effects of climate change.

Majhi Vasundhara mission- great initiative by government of Maharashtra

- My Earth (Majhi Vasundhara) mission is the flagship program of the Environment & Climate Change Department, Government of Maharashtra.
- The aim of the initiative is to **raise awareness** among the citizens about the rising climate emergencies & address them by deploying local and specific **climate adaptation and mitigation measures**.
- Funding for MajhiVasundhara is done by the Government of Maharashtra



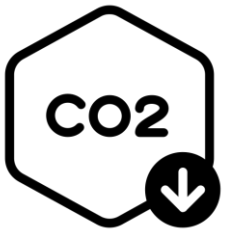
“माझी वसुंधरा” अभियान
दिनांक २ ऑक्टोबर, २०२० ते ३१ मार्च, २०२१ या कालावधीत राज्यातील स्थानिक स्वराज्य संस्थांमध्ये राबविण्याबाबत.

महाराष्ट्र शासन
पर्यावरण व वातावरणीय बदल विभाग
शासन निर्णय, क्रमांक : अभियान-२०२०/प्र.क्र.१३४/तां.क.-१
मादाम कामा मार्ग, हुतात्मा राजमुरु चौक
मंत्रालय, मुंबई ४०००३२
दिनांक : १४ ऑक्टोबर, २०२०

प्रस्तावना:
निसर्गाशी असलेली कटिबद्धता निश्चित करण्यासाठी, निसर्गाशी संबंधित पृथ्वी, वायू, जल, अग्नी, आणि आकाश या पंचतत्वांवर पर्यावरण व वातावरणीय बदल विभाग कार्य करीत आहे. **पृथ्वी** तत्वाशी संबंधित वनीकरण, वनसंवर्धन, घनकचरा व्यवस्थापन, सांडपाणी व्यवस्थापन व जमिनीचे शुपीकरण इत्यादी बाबींवर कार्य करणे. **वायू** तत्वाचे संरक्षण करता यावे म्हणून हवेच्या गुणवत्तेसाठी वायुप्रदूषण कमी करून हवेच्या गुणवत्तेत सुधारणा करणे. **जल** तत्वाशी संबंधित नदी संवर्धन, सागरी जैव विविधता, जलस्रोतांचे संवर्धन व संरक्षण तसेच, सागरी किनारे यांची स्वच्छता करणे. **अग्नी** तत्वाशी संबंधित ऊर्जेचा परिणामकारक वापर, ऊर्जा बचत तसेच ऊर्जेचा अपव्यय टाळणे या बाबींना प्रोत्साहन देणे, अपारंपरिक ऊर्जेच्या निर्मितीसाठी नाविन्यपूर्ण उपक्रम, महामार्गांच्या दुतर्फा असलेल्या जागा, पडीक जमिनी, शेतांचे बांध या सारख्या जागांवर राबविणे आणि **आकाश** या तत्वास स्थळ व प्रकाश या स्वरूपात निश्चित करून मानवी स्वभावातील बदलांसाठी जनजागृती व शैक्षणिक कार्यक्रमांद्वारे जनमानसात बिबवणे या प्रमुख बाबींचा समावेश आहे. निसर्गाच्या या पंचतत्वांसोबत जीवन पद्धती अंगीकारल्याशिवाय आपण निसर्गासोबत जगू शकणार नाही आणि जैव विविधतेचेही अस्तित्व राहणार नाही. म्हणून राज्यातील स्थानिक स्वराज्य संस्थांना सोबत घेवून लेखे या निसर्गाशी संबंधित पंचतत्वांवर आधारित उपाययोजना करून शाश्वत निसर्गपूरक जीवनपद्धती अवलंबण्यासाठी **“माझी वसुंधरा”** हे अभियान राबविण्याची बाब शासनाच्या विचाराधीन होती.

The impact created by Majhi Vasundhara Abhiyan

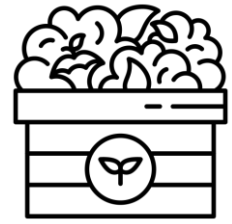
The initiative launched on 2nd October 2020. GR that was passed by Maharashtra govt.



3,70,978 tons of CO2 emission Reduction



21.94 Lakhs Trees Plantation



10,663 tons Compost production



Capturing **11,145** mn liters by RWH



1.4 Lakh units of electricity.

There are many hidden climate finance sources in the form of govt. schemes.



Aim – To make the city garbage free.

Objective -

- Sustainable Solid Waste Management (**reducing GHG emissions**)
- Sustainable Sanitation and treatment of used water (**Ensures accessibility and reduces the GHG emission**)
- Coverage of sewage and septage management. (**reducing GHG emission**)

Out of **10 project heads, 7** are directly linked with climate change mitigation and adaptation

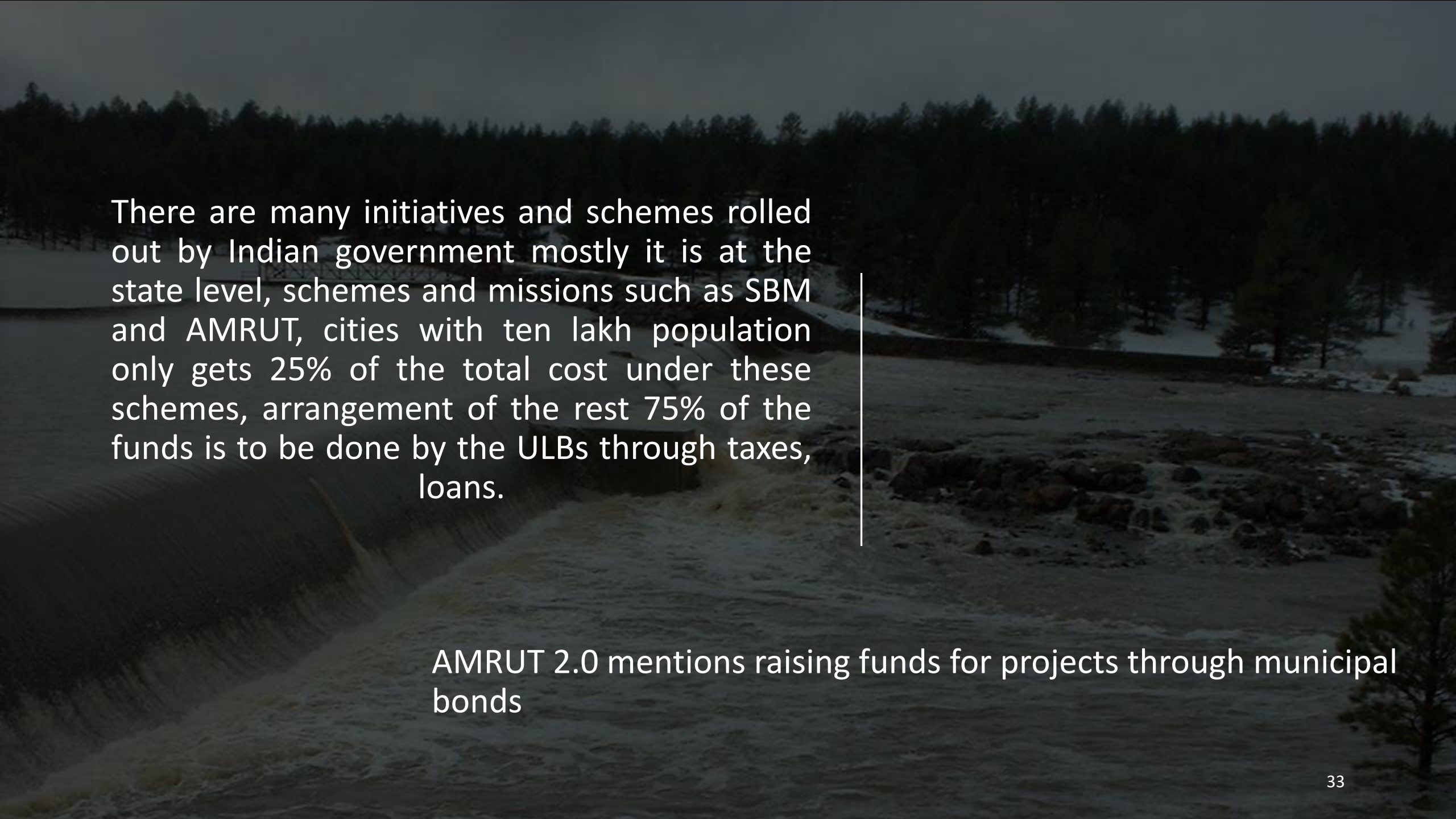


Aim – To make city water secure.

Objective -

- Piped water supply coverage (**Ensures the water source security**)
- Coverage of sewage and septage management. (**reducing GHG emission**)
- Rejuvenation of water Bodies. (**Ensures the accessibility of the water to the people**)

Out of **28 projects, 24** are directly linked with climate change mitigation and adaptation



There are many initiatives and schemes rolled out by Indian government mostly it is at the state level, schemes and missions such as SBM and AMRUT, cities with ten lakh population only gets 25% of the total cost under these schemes, arrangement of the rest 75% of the funds is to be done by the ULBs through taxes, loans.

AMRUT 2.0 mentions raising funds for projects through municipal bonds

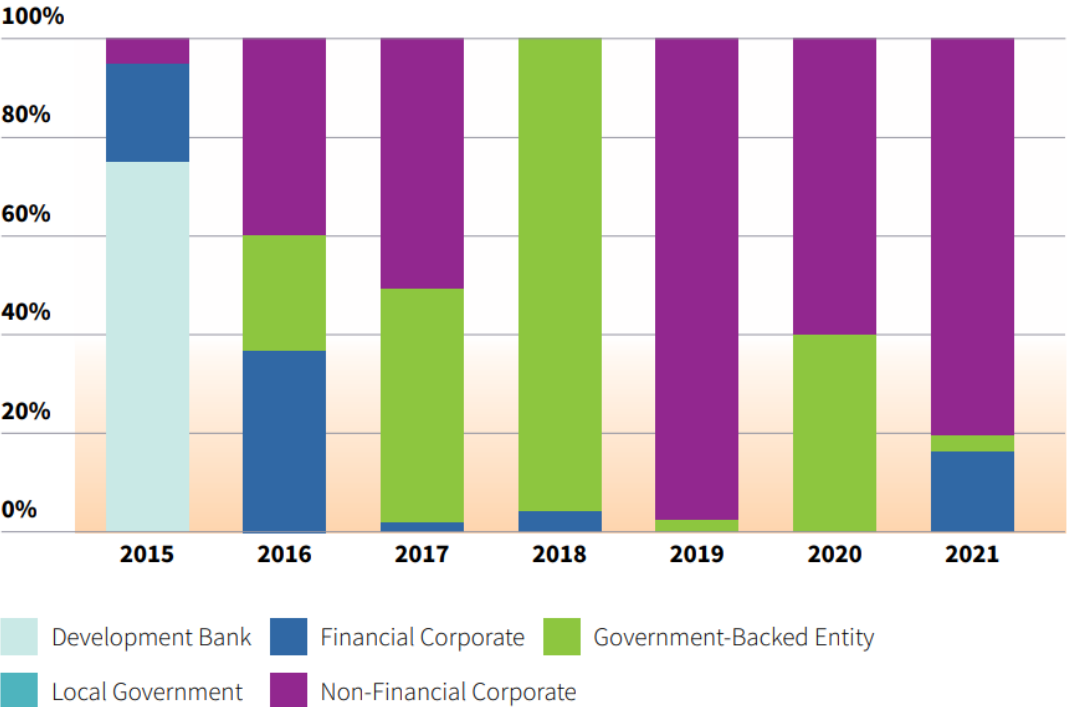
Labelled Bond Market in India

Green, social and sustainability (bonds) in India were US\$19.5 billion as of Dec 2021.



Source: Climate Bonds Initiative

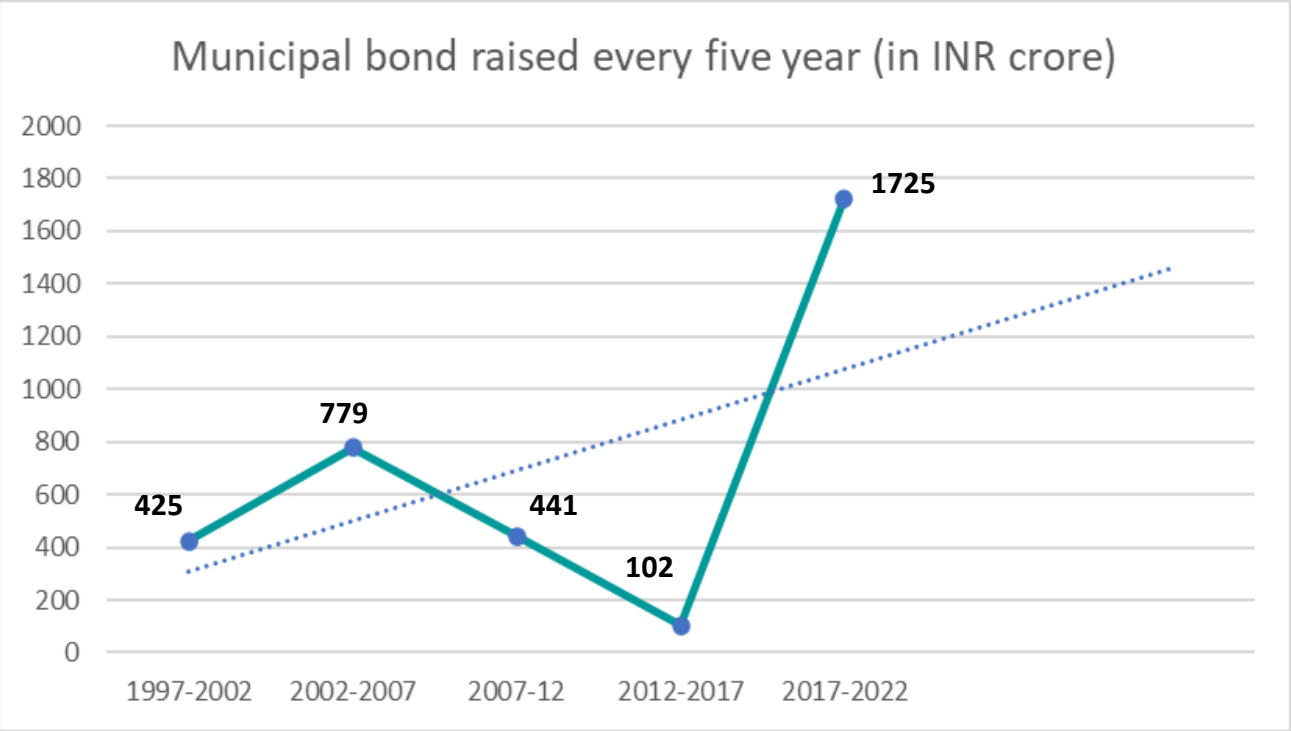
Market composition by issuer type



Source: Climate Bonds Initiative

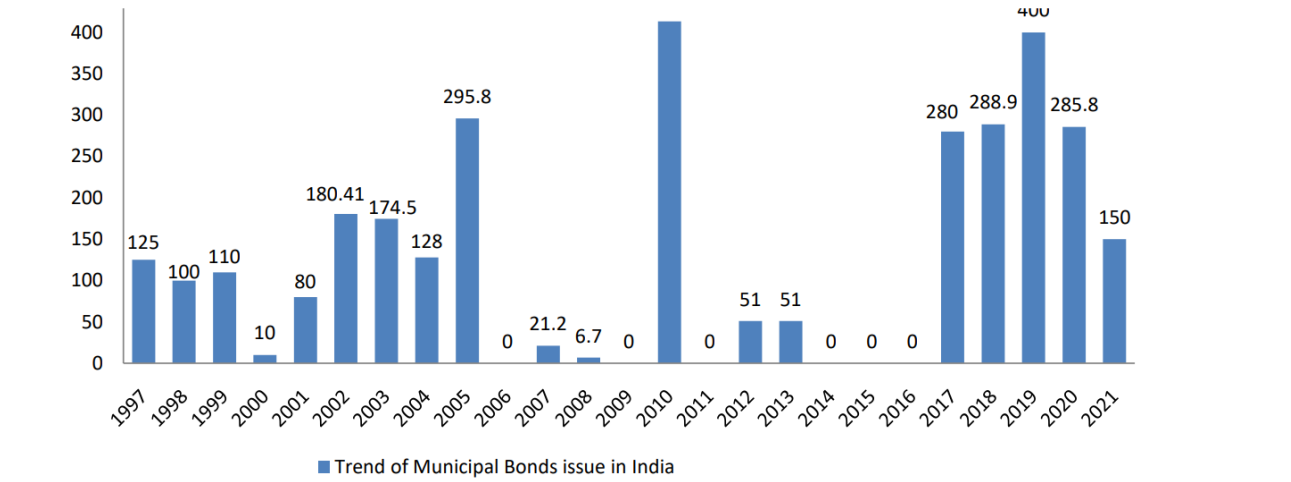
Currently, Green Bond issuers are financial and non-financial corporate in India. **Non- Financial Corporates** have increased as bond issuers.

Municipal Bond Market in India has increased in last five years

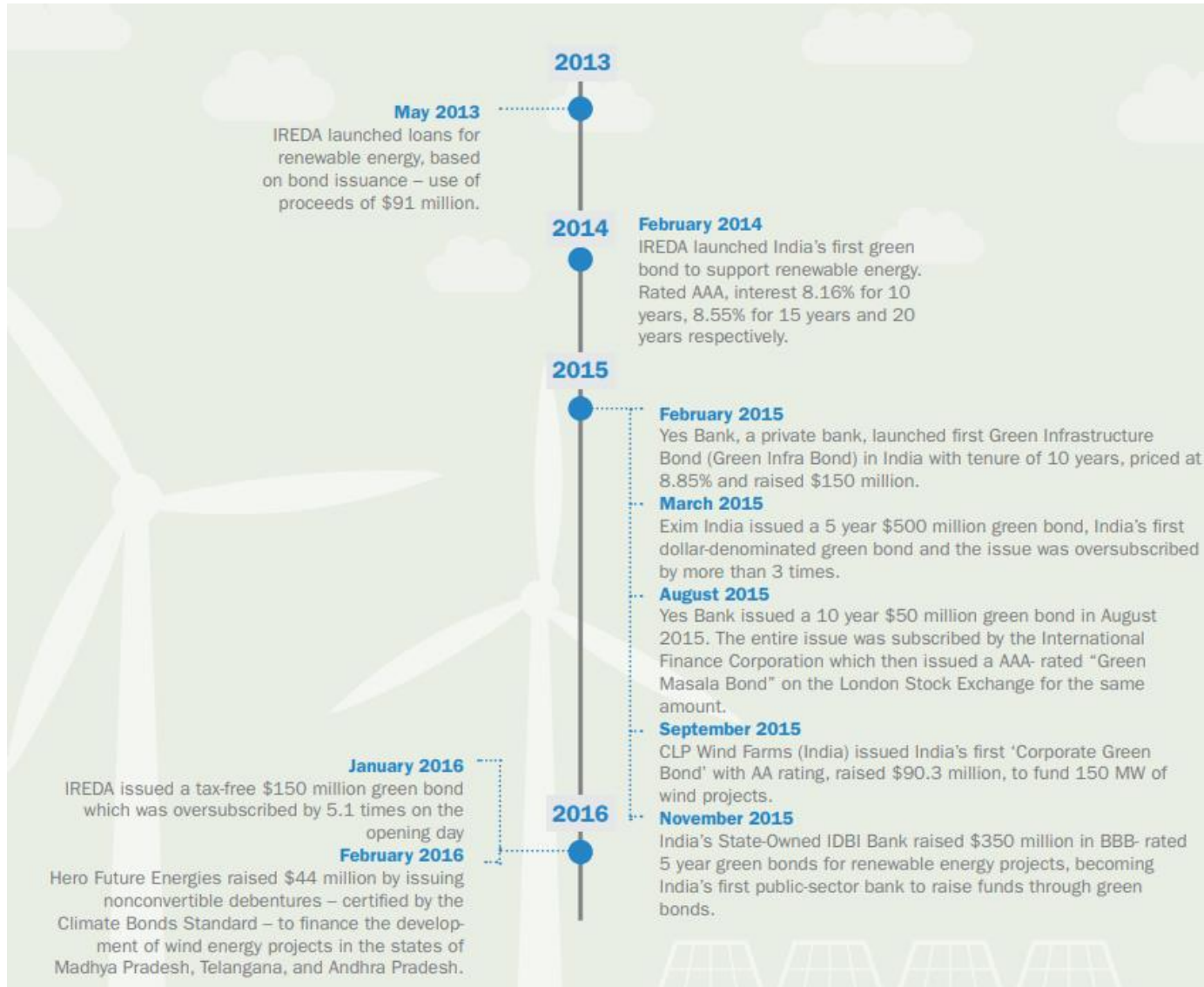


The municipal bond market in India has **tremendously increased** in the last five years from 2017-2022

The bond market declined from 2012-2017, however, in 2017 due to the Government of India offering an **incentive of 13 crores to cities on raising municipal bonds of 100 crores**, the bond market picked up.



Evolution of Green Bond Market in India



- Green Finance started when **IREDA** launched the **first green** loan for the renewable energy sector
- 2014 First **green bond** was issued by IREDA.
- In 2015 YES Bank and various other entities started **investing in Green bonds**.
- 2022 India approved and issued its **first sovereign green bonds framework**.

Benefits for the receiver

- Generally, green bonds are on 0.15-0.20% **lower interest** than conventional bonds and SEBI gives an extra 2% interest or 13cr on 100cr **incentive** on of the green bonds.

Benefits for the issuer.

- Some companies focus on returns and want to invest in a green project for their **portfolio**.
- Green and social bonds are associated with **lower long-term risk** compared to conventional bonds

Tier 1 ULBs meeting its Financial Demands by Issuing the Bonds

Sr. No.	City	Bond Name	Year	Total Ammount (in Crores)	Projects	Investors	Coupon Rate	Maturity (in Years)	Key Benefits and Incentives
1	Pune	Municipal Bond	2017	200	24 x 7 Water Supply	N.A.	7.59%	10	2% Interest Subsidy by Central Government to PMC
2	APCRDA	Municipal Bond	2018	2000	WTP and STP	N.A.	10.32%	10	
3	Bhopal MC	Municipal Bond	2018	175	N.A.	N.A.	9.55%	10	
4	GVMC	Municipal Bond	2018	80	N.A.	N.A.	10.00%	10	
5	GHMC	Municipal Bond	2018	200	N.A.	N.A.	8.90%	10	
6	GHMC	Municipal Bond	2018	195	N.A.	N.A.	9.38%	10	
7	MMRDA	Green Bond	2019	75	N.A.	N.A.	7.17%	5	
8	Municipal Corporation of Greater Mumbai	Green Bond	2020	500	sewage treatment plants, the installation of solar panels, and the development of green spaces.	N.A.	7.59%	10	
9	Lucknow	Municipal Bond	2020	200	N.A.	N.A.	8.50%	10	Incentive of 13 cr by Gol
10	Ghaziabad	Green Bond	2021	150	Tertiary Treatment Plant, Other Goals Related to Water Supply	A. K. Capital Services Ltd. , HDFC Banks	8.10%	10	2% Interest Subsidy by Central Government to GMC
11	Vadodara	Municipal Bond	2022	100	N.A.	N.A.	7.15%	5	
12	Indore	Green Bond	2023	244	Solar Plant	Maximum retail investors	8.25%	3,5,7,9	13 Cr on every 100Cr

According to concept, green bonds should have a lower interest rate...

However, the interest rates of green bonds and municipal bonds were similar.

First green bond was issued in India by Ghaziabad Municipal Corporation

Some of the Municipal green bonds also have been awarded 2% of interest subsidy

Ghaziabad was the first ULB to issue Green Bond

- **Ghaziabad Municipal Corporation** issued its first green bond in March 2021.
- The bond was issued with a tenure of 10 years and a coupon rate of 8.10%.
- The funds raised through the bond issuance were intended to finance infrastructure projects like roads, flyovers, water supply and sewage projects, etc. in Ghaziabad.
- The Ghaziabad Municipal Bond has been rated AA- by the credit rating agency ICRA.

Ghaziabad
issues
India's first
Municipal green bonds



Ahmedabad Municipal Corp has successfully issued five municipal bonds in 1998...2020

Over 25% of AMC's municipal bond investments were made by individuals in 1998 (on 7 year tenure).

AA+

Credit Rating

100_{CR}

Amount

25%

Public Funding

14%

Coupon Rate



Water Supply and
Sewerage Projects

Oversubscription of AMC bond by 5.42 times in 2021 (Municipal Bond for Green Projects)

AA+

Credit Rating

200_{CR}

Amount

5_{year}

Maturity

8.7%

Coupon Rate



Water Supply and
Sewerage Projects
Cleaning Sabarmati

Over 70% of UK green bond investments are made by individuals.



Tax Exemptions



Mutual Funds



Federal Schemes

4%

Average Interest Rate (10 years)

Massachusetts issued \$350 million in Green Muni Bonds in June 2014

AA+

Credit Rating

\$350_{mn}

Amount

5_{year}

Maturity

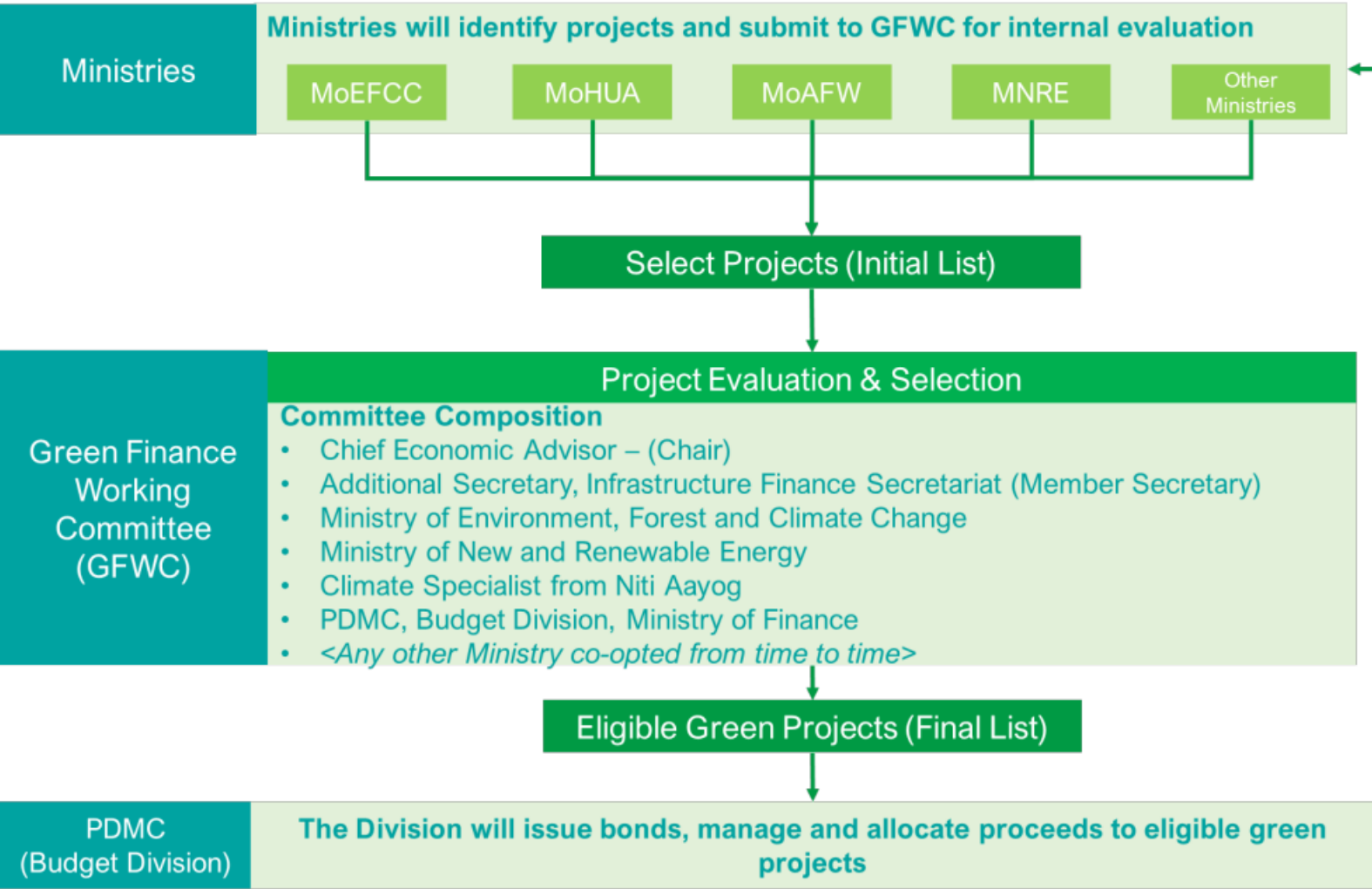
2.45%

Coupon Rate



Water Projects, Wind Energy and Energy Conservation Projects

RBI's sovereign, green bond framework



In India, the following process is followed.

- Identification of the list of project
- Prioritizing the projects by GFWC
- And Issuance of the Green bonds
- It is a yearly process

RBI's sovereign, green bond framework needs to be strengthened!

- The RBI green bond framework prioritizes environmental objectives but **lacks clear guidance on social issues**.
- Some stakeholders are concerned about the potential for **greenwashing** due to the lack of specific definitions for "green" projects.
- Continued **monitoring** and improvement are needed to ensure the framework's effectiveness and impact.
- Greater **transparency and accountability** in reporting on green bond proceeds is necessary.
- International best practices and standards, such as those developed by the International Capital Market Association, should be considered for strengthening the framework.
- The green bond framework has the potential to drive sustainable development, but its limitations and grey areas must be addressed.

There is a huge potential for green bonds in India as there are proper guidelines and incentives by the government. But lack of awareness, capacity and creditworthiness are the main challenges faced by the ULBs which need to be improved.



Evolving carbon credit market in India

Who manages Carbon Trading in India?



United Nations
Framework Convention on
Climate Change

The Clean Development Mechanism (CDM) Authority of India monitors the carbon credit market in India under UNFCCC

Who approves carbon credit in India?



The Union government or any approved agency is given the authority to issue “carbon credit certificates” for the reduction of carbon emissions to registered enterprises under Section 14 of the bill. The market can then be used to sell these credits.

Who are currently trading Carbon Credits in India?

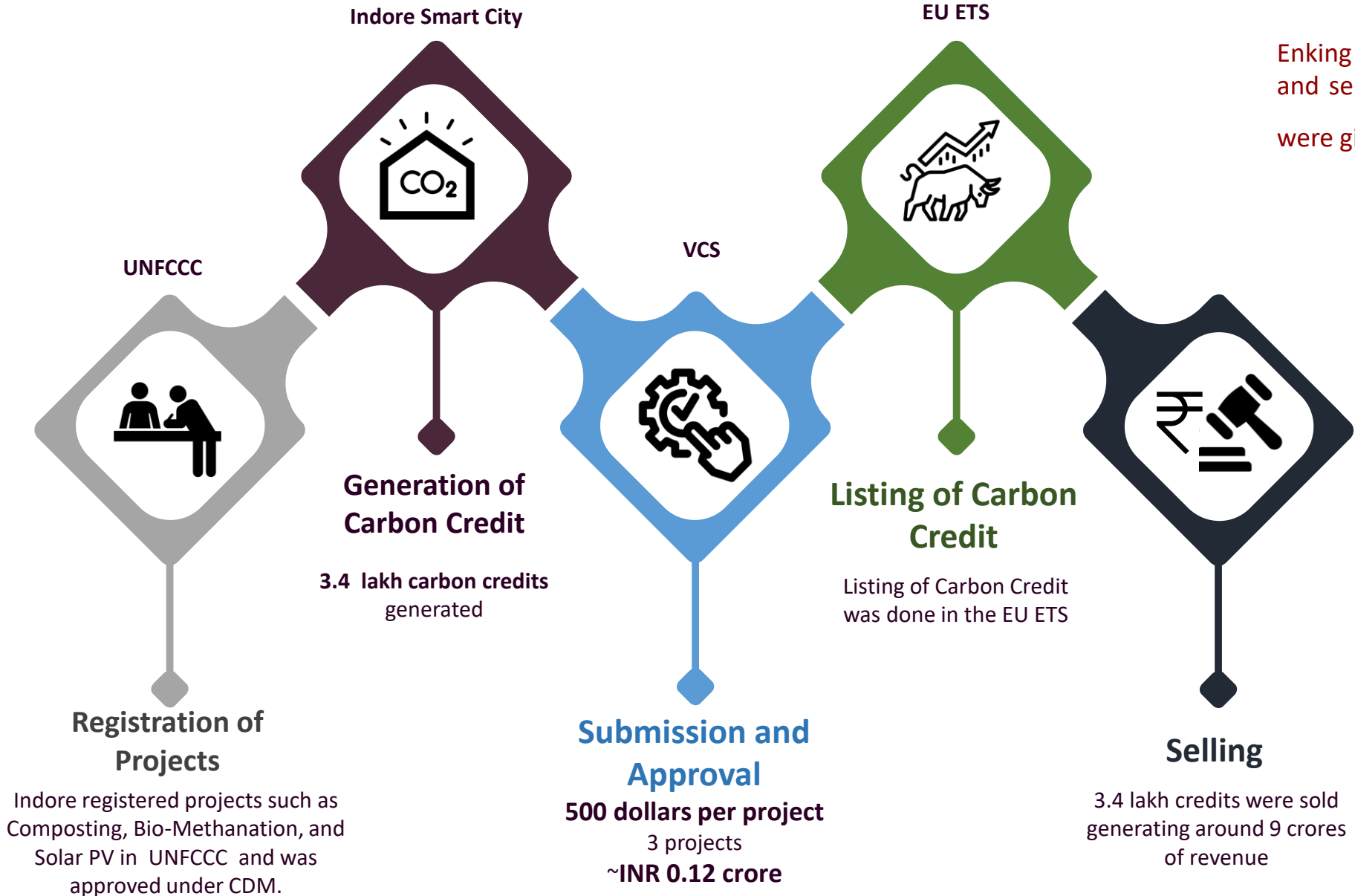


There are several companies that are currently buying carbon credits in India, including the Adani Group, the Tata Group, Reliance Industries, and the Mahindra Group.

Why these companies are trading Carbon Credits in India?

These companies are trading carbon credits in India in order to comply with the emission regulations set out by the Indian government, as well as to offset their own carbon emissions in order to reduce their carbon footprint.

Indore Smart City Generates 6.6 Crores of Profit in 3 Years by Implementing Green Projects



Enking was given the contract to evaluate and sell these carbon credits which they were given **25% of the profit**

Total profit = revenue - expenditure (including consultation fee)

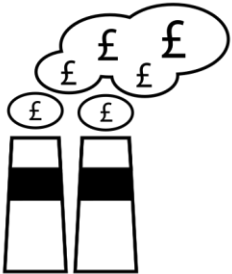
= 9 crore (revenue) – 0.12 (registration) – 2.25 (Consultation fee)

= INR 6.6 crores

The European Union is the top importer of carbon credits, at High Price.



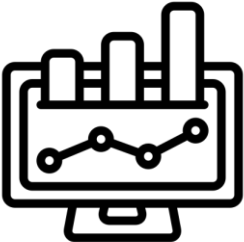
Strict Regulations



Carbon Tax



Proper Policy

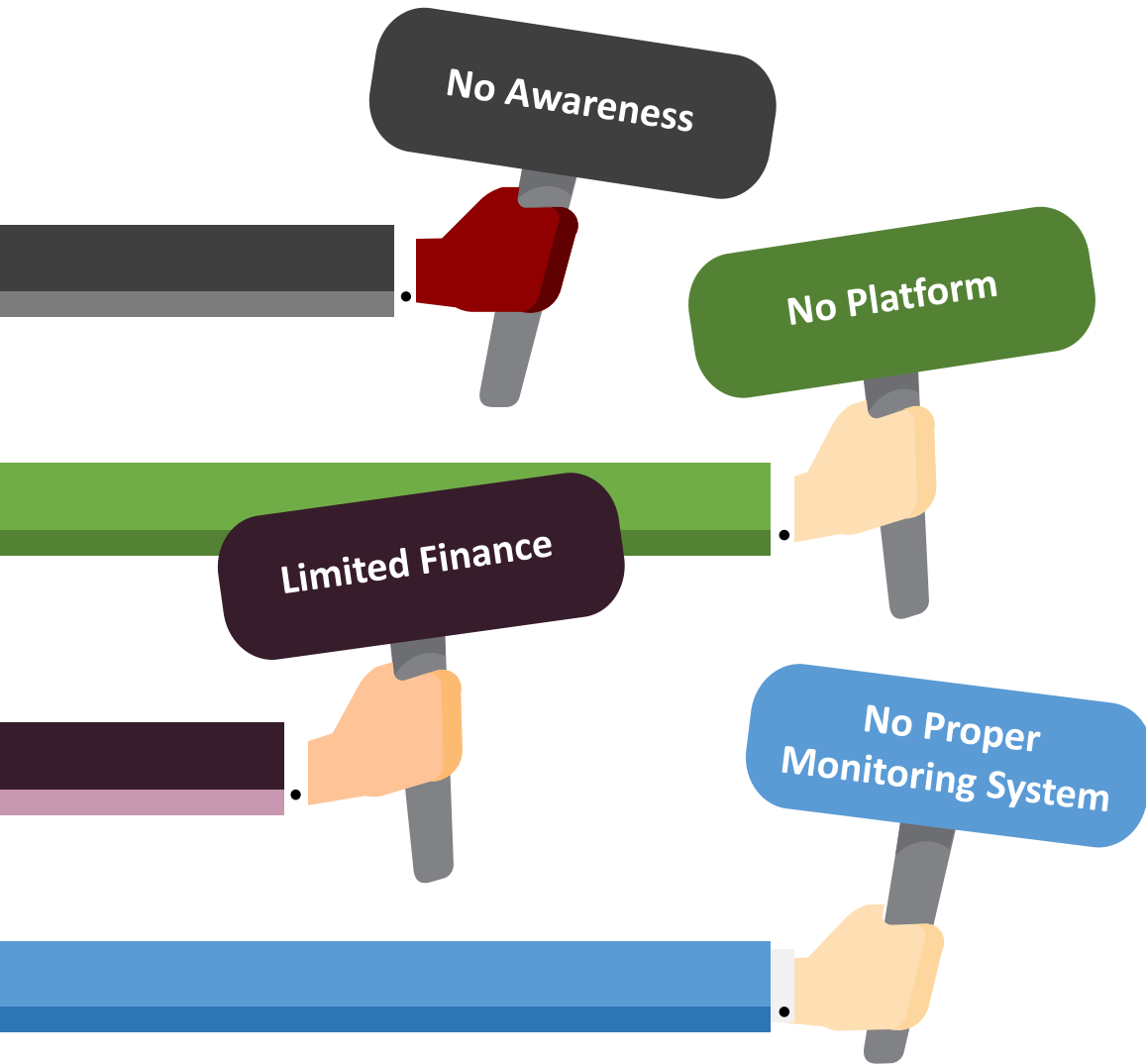


Dedicated Carbon Trading Platform

38 € /ton Co₂

Average Price (2005 - 2022)

Awareness and lack of a dedicated platform is the main Problem in the expansion of Carbon trading market



Lack of Awareness

There is still a lack of awareness about carbon credits among the general public, which is a major obstacle to the successful implementation of the carbon credit scheme in India.

Lack of Standardization


India lacks standardization in the carbon credit market, making it difficult for participants to accurately measure and assess the amount of carbon credits available for trading.

Limited Access to Financing:

Access to financing remains limited for projects which are eligible for carbon credits. As a result, many projects that could potentially benefit from carbon credits are not taking full advantage of the scheme.

No Proper Monitoring trading System

There is no existing Emission Trading System and no proper accounting of carbon credits is being done at India level

An aerial photograph showing a road with several large stacks of logs on the right side. The background is a dense green forest. The text is overlaid on the left side of the image.

India has huge potential to generate revenue by selling carbon credits, but there is no suitable platform and no policy, which is preventing it from move forward.

Summary of Key Challenges and Recommendations

Summary of Key Findings and Recommendations

- Globally though there is a flow of climate finance from developing countries, mostly through multi-lateral banks to developed countries- disbursements **are not enough for the WASH** sector.
- There is an enabling environment for climate finance in the Indian market- which **needs to be strengthened** through policy and framework at state and ULB levels.
- ULBs are **not self-sufficient** in raising funds through capital markets.
- In India, there is a huge place for municipal and green bond markets – however, incentives are given to larger municipal corporations and the cap of the amount raised through bonds is very high. Thus, **tier 2 and tier 3 cities cannot access** the bond instrument. Also, ULBs should be given additional incentives for raising capital through green bonds, in addition to the 13 crore incentives which are already given.
- To make the enabling environment for the carbon credit market India, needs to **implement a comprehensive Carbon tax** policy.
- **Ring Fencing** approach can be made for climate-related initiatives.
- There needs to be a **proper policy on carbon trading**

Reflections from experts on Climate Finance for Cities

Capacity building is a crucial component. Economic industrial infrastructure is weak. - **Kunal Kumar** (JS – SCM, MoHUA)



‘De-jargonise to decarbonise’ – Central and state agencies should look at the financial architecture from the perspective of ULB. - **Hitesh Vaidya** (NIUA - Director)

Under Capacity, Under Understanding of Climate Finance, Uncertainty, Under Utilization of Assets, and Under Recovery of Revenue can be used to describe the difficulties Indian cities face in adopting Climate Finance. – Founder (RTI)



To lower implementation barriers, India's top priority is to **develop a standardised taxonomy** for climate finance at the national level that can then be adopted by the cities. – **Neha Kumar** (Head of South Asia, Climate bond initiative).

We need to have a **financial policy** for the ULB. – **Poonam A. Khanijo** (Senior Municipal Engineer, World Bank)



Augmenting Own Source Revenue by ULBs. Improving the **Creditworthiness** of ULBs through all-around efficiency improvement. – **Ravikant Joshi** (Urban Finance and Management Specialist)

Local city-level participation should be strengthened. – **Bruno Bosle**, Country Director (Country, AFD)



The key issue is cities are **not able to pipeline** the project. – Wendy Werner (IFC)

No dedicated Platform for Carbon Trading – Senior Executive, Mitcons (Carbon Trading Consultants)



The process of **accessing international climate funds** requires **too much investment** in making reports and feasibility studies. – Neha Dave (STP Department, AMC)

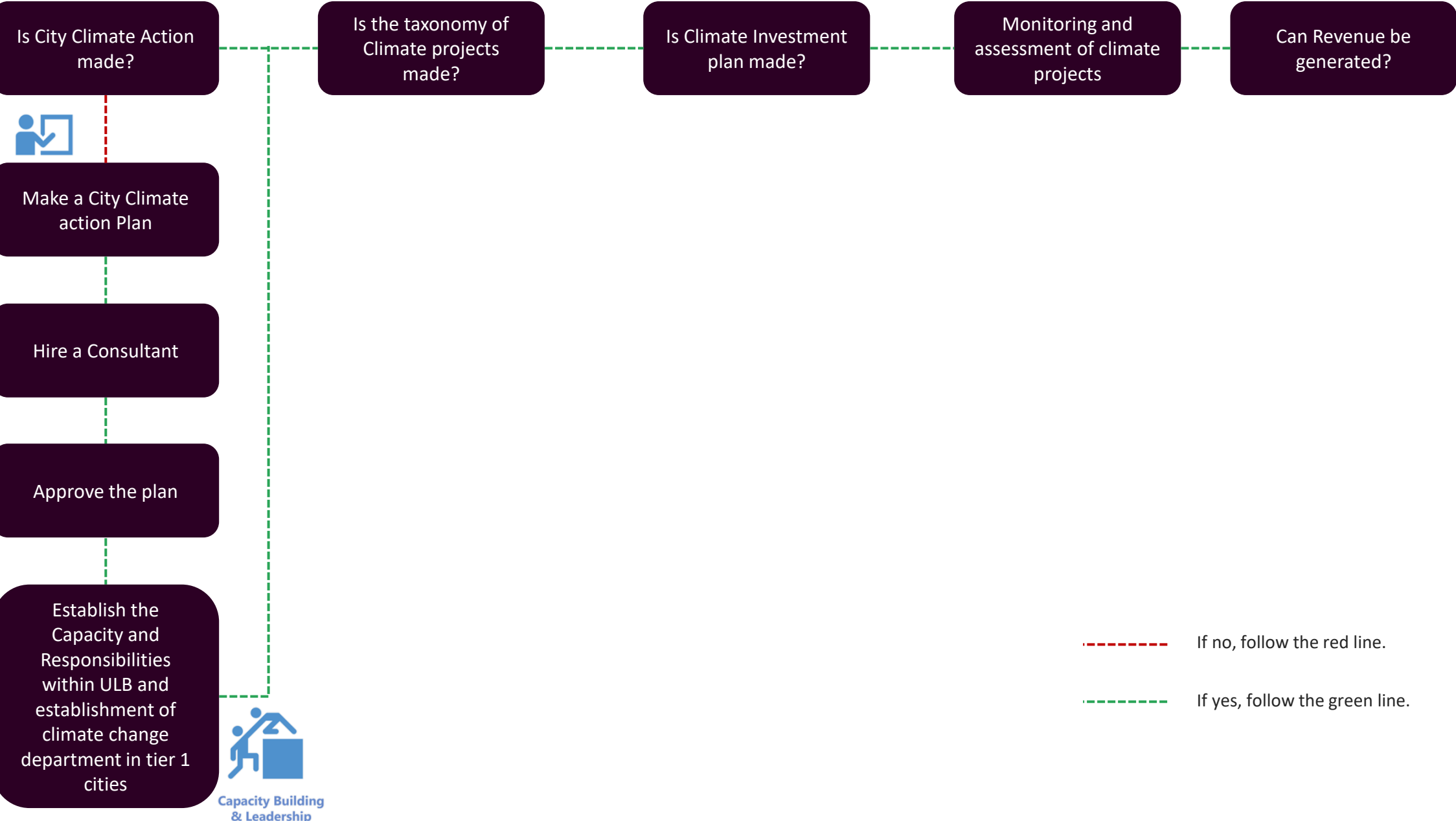
A Consolidated Framework Will Help ULB to Unlock Climate Finance.



----- If no, follow the red line.

----- If yes, follow the green line.

A Consolidated Framework Will Help ULB to Unlock Climate Finance.



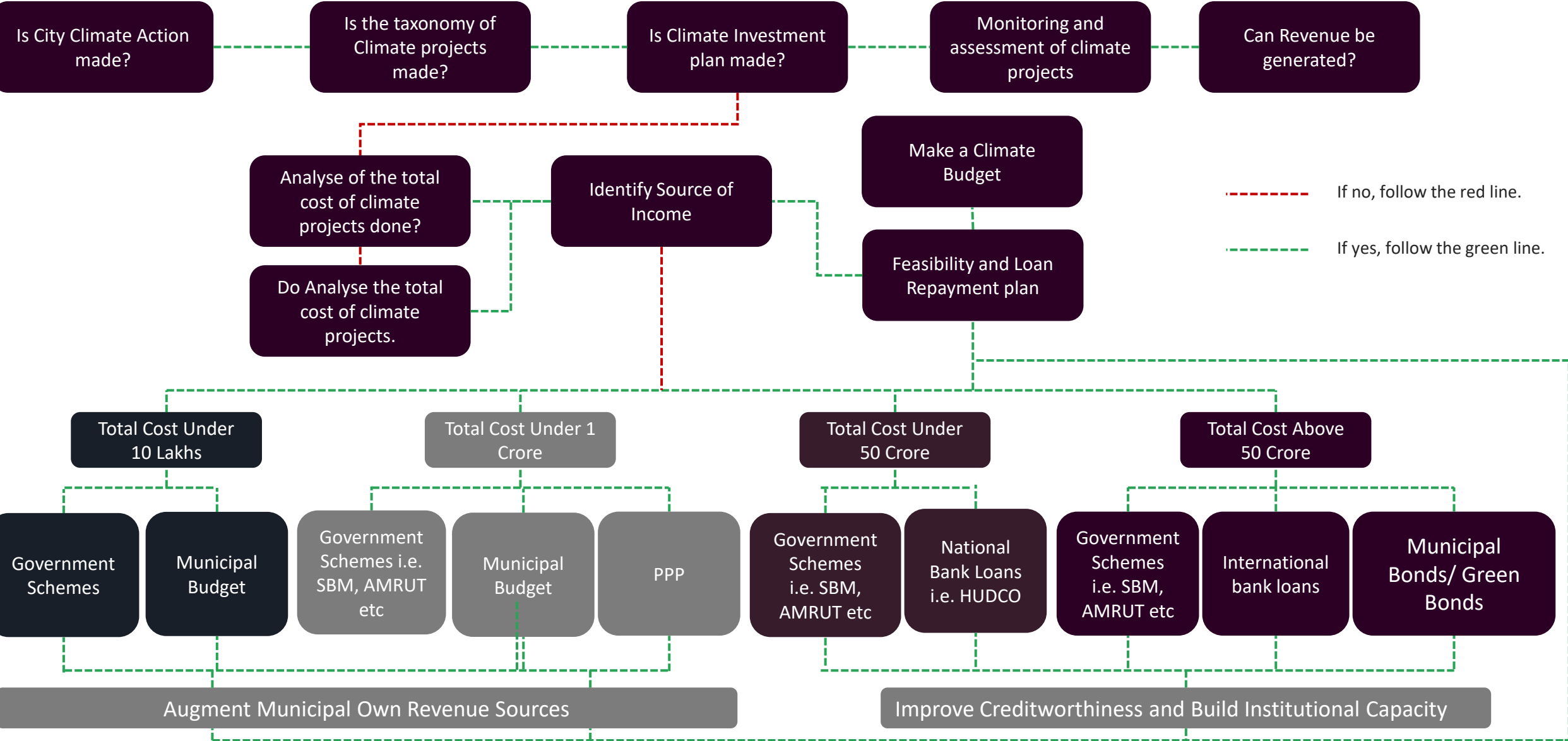
A Consolidated Framework Will Help ULB to Unlock Climate Finance.



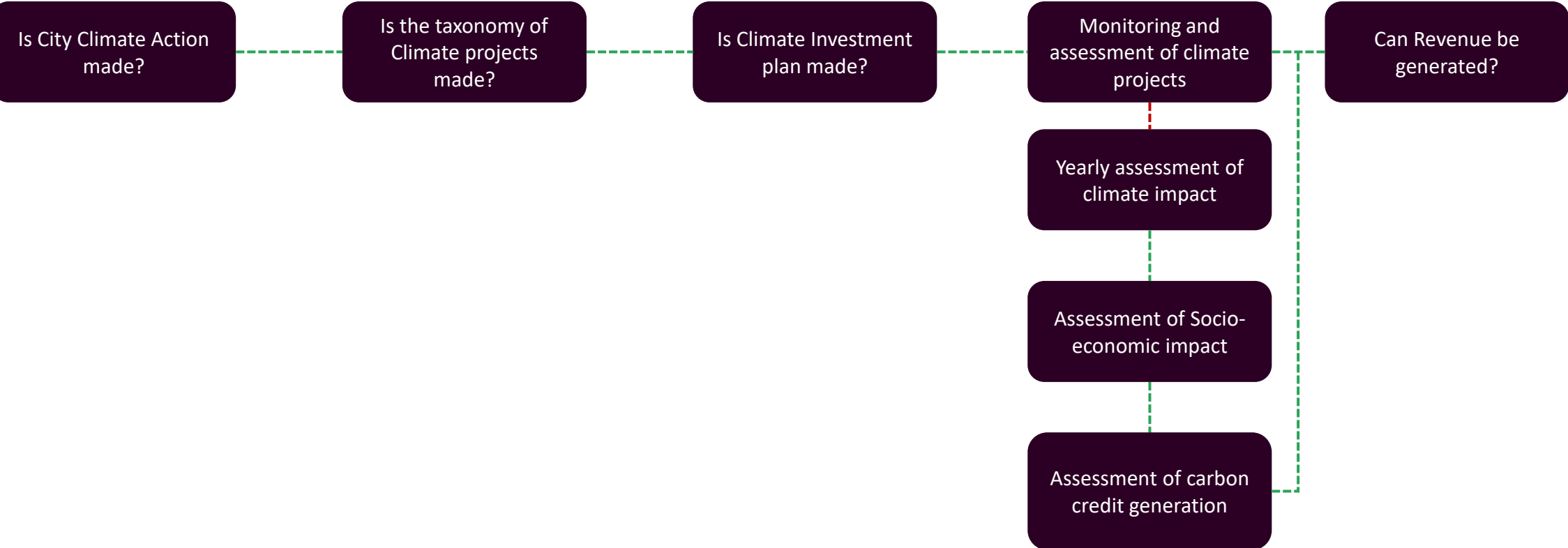
SECTOR: WATER	
Water storage and management	<ul style="list-style-type: none"> Rainwater harvesting systems, aquatic ecosystems (lakes, wetlands), aquifer storage, groundwater recharge systems, water distribution systems, infiltration ponds Gravity-fed canal systems, hydrological restoration Water-efficient agricultural irrigation systems and water saving technology
Defences and storm water management	<ul style="list-style-type: none"> Flood, sea and drought defences including pumping stations, levees, gates, ecological retention systems, snowpack management, wetland storage Rainwater harvesting, constructed ecological retention ponds, erosion control systems, groundwater recharge, erosion control systems
Water treatment	<ul style="list-style-type: none"> Water treatment including desalination plants using renewable energy Water recycling, wastewater treatment, sewage, manure and slurry treatment Natural filtration systems such as wetlands, watersheds, forests and settling systems
Ecological restoration	<ul style="list-style-type: none"> Erosion control, hydrological restoration

----- If no, follow the red line.
 ----- If yes, follow the green line.

A Consolidated Framework Will Help ULB to Unlock Climate Finance.



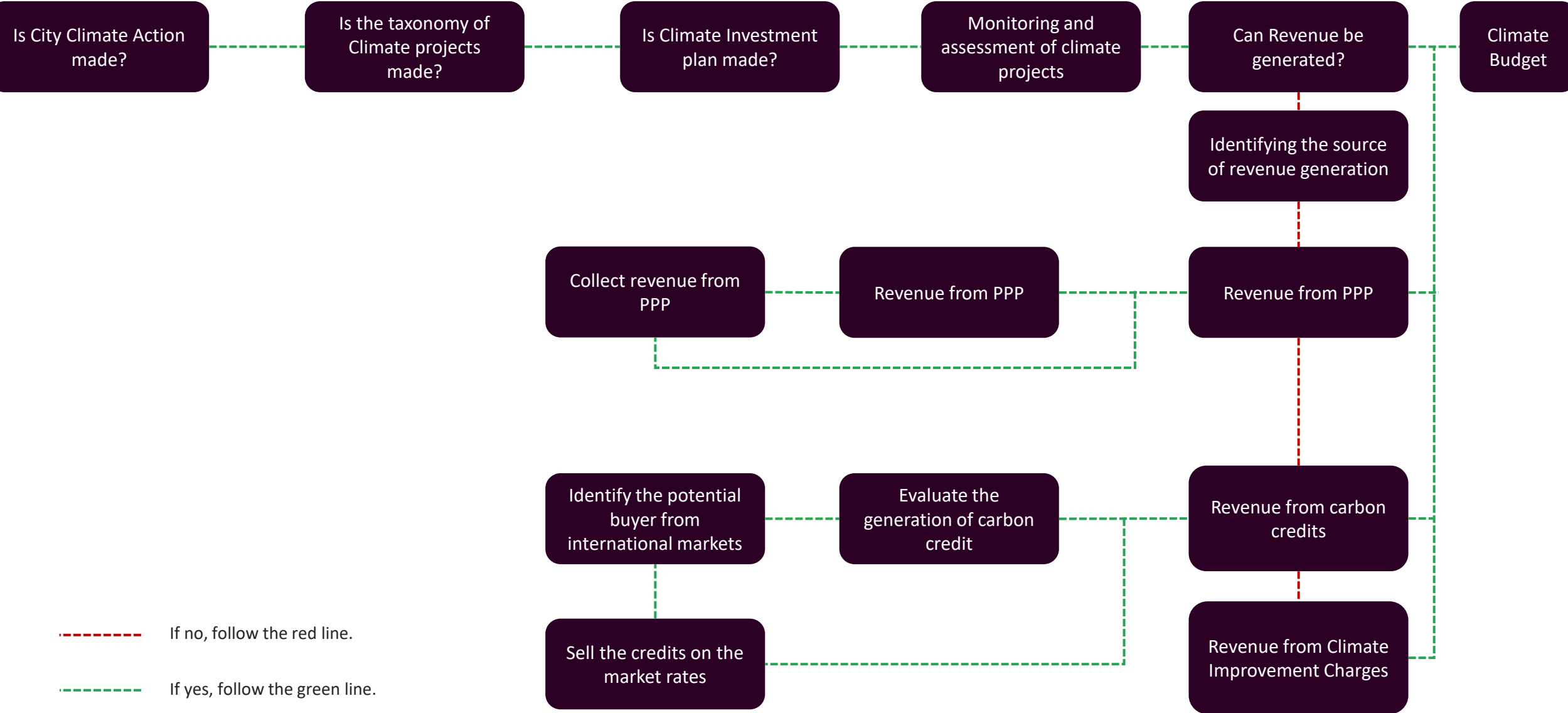
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Thank You

