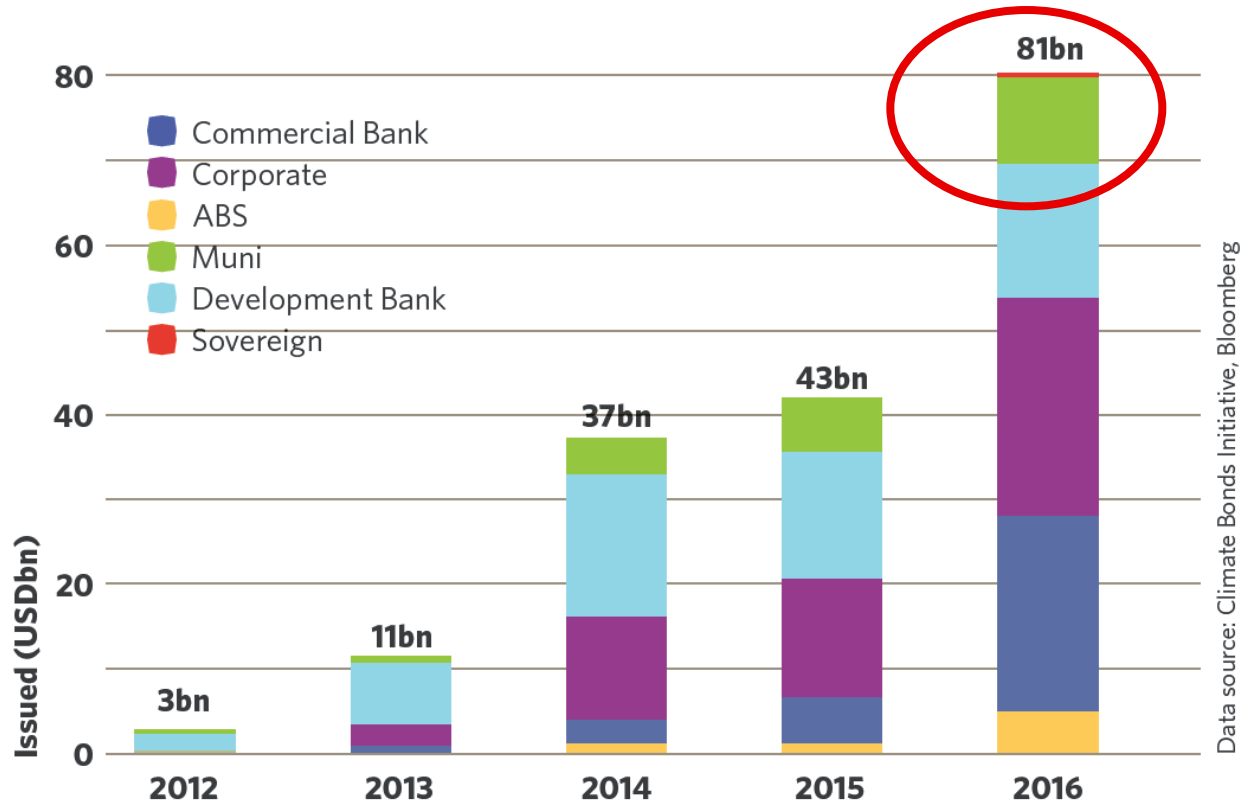


The growth of green bond market

Green bonds are debt instruments where proceeds are used exclusively to fund qualifying green investments.

The issuance of green bonds has grown notably for the last several years. Since the World Bank issued the first green bond in 2008.

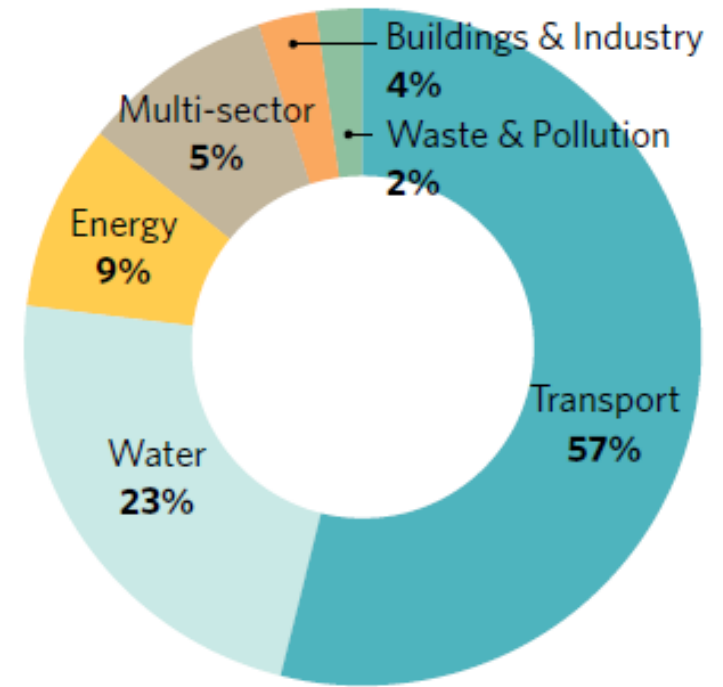
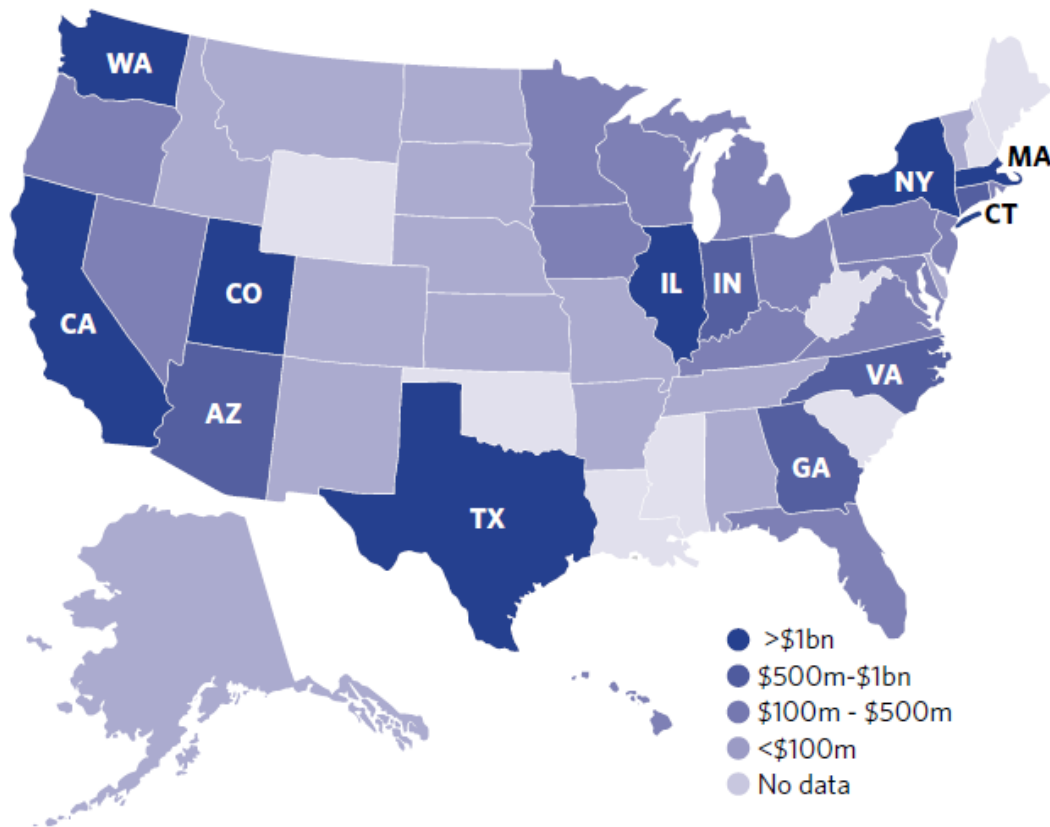
The first municipalities issued green bonds in 2012, but it took until 2014 for labeled green bonds to come from the US muni. Market.



Source: Climate Bonds Initiative "The Role of Exchanges in Accelerating the Growth of the Green Bond Market"

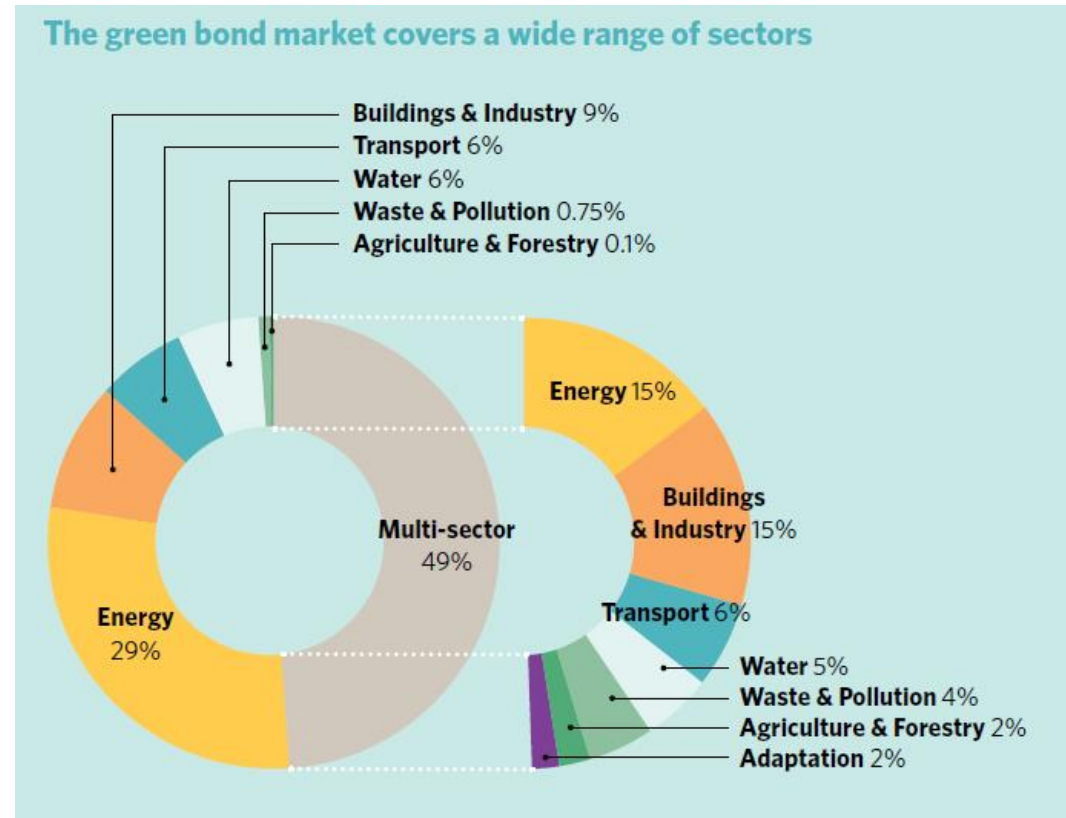
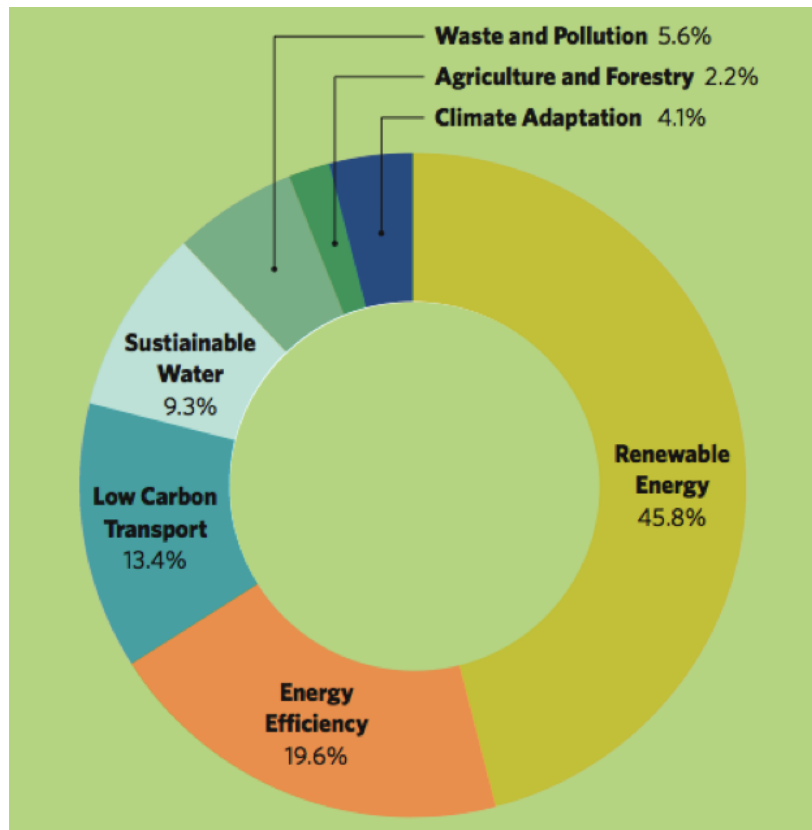
The US Municipal Bond Market

In 2014, the labelled green muni bond market was USD 4.7 bil. And largest issuers was Washington state, Massachusetts and New York. The first climate bonds certified muni bond was issued in February 2016 by the Metropolitan Transportation Authority of New York.



Sectors covered by green bond

While the bulk of green bonds in 2015 were spent on renewable energy projects (45.8%) followed by energy efficiency (19.6%), and low-carbon transport (13.4%) including rail and electric vehicles, green bonds can be useful to raise capital for a wide range of infrastructure projects such as sustainable water, waste and pollution, agriculture and forestry and climate adaptation.



Tokyo Green Bond 2017

Tokyo Green Bond plans to follow the Green Bond Principles*¹ and obtain the third party opinion to attract Investors.
 【amount】 20 bil. Yen (Yen Bond)
 【Target】 Institutional Investors, Individual Investors

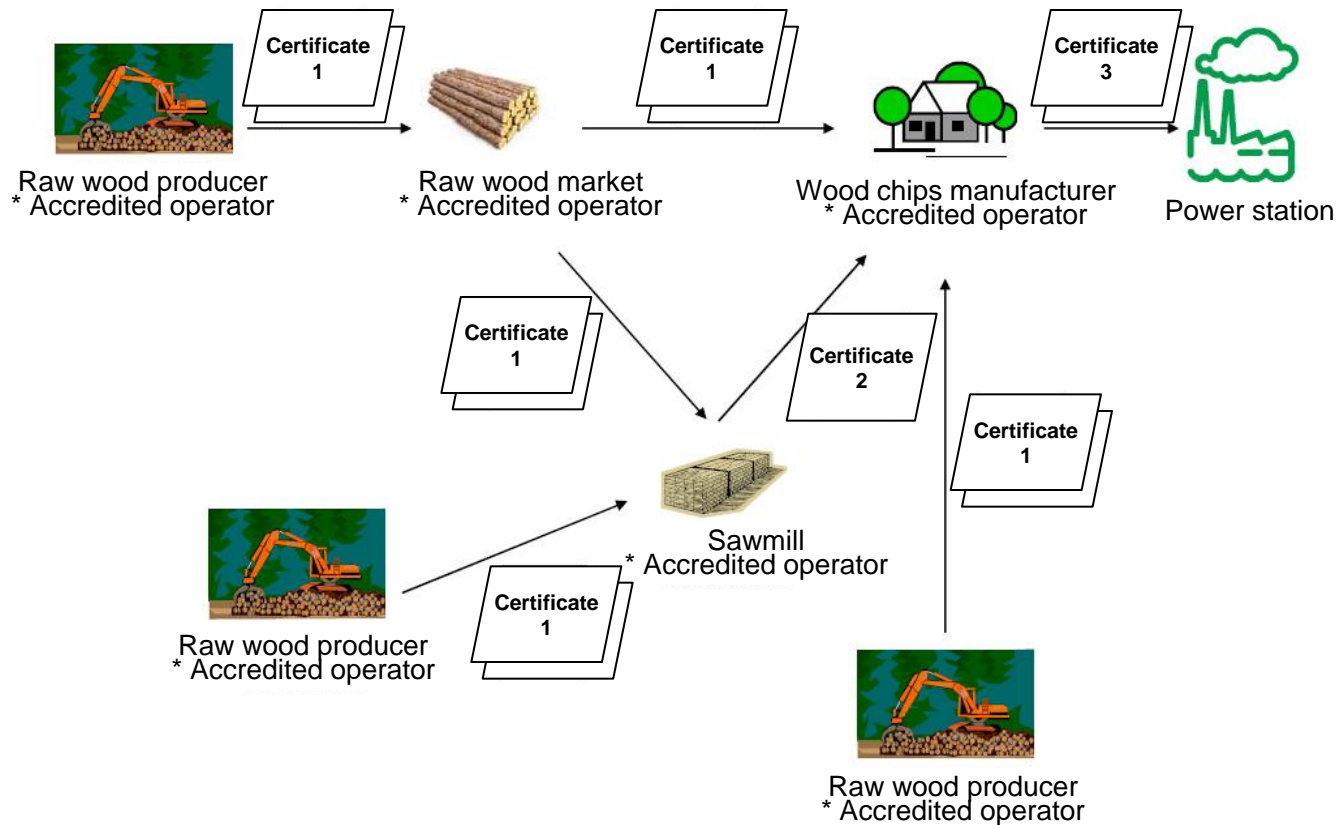
Category	Project Name	Use of Proceeds	
		Environment Supporter Bonds target project (2017)	New target project(2018)
Environmental measures that take advantage of opportunities presented by the Tokyo 2020 Olympics	Environmental measures for venues of the Tokyo 2020 Olympics		○
	Heat shielding/water retentive surfacing for Tokyo's road		○
Smart energy city development	Renovation/refurbishment of TMG owned facilities	○	
	Conversion of lighting in TMG owned facilities and roads to LED		○
	Promoting conservation of TMG facilities to ZEB *2		○
	Energy-saving in water supply and sewerage facilities		○
	Introduction of environmentally friendly TMG operated buses		○
Cool/Clean comfortable city development	Parks development	○	
	Improvements to combined sewerage pipes		○
	Advanced treatment at sewerage treatment plant		○
Adaptation to the effects of climate change	Medium and small river development	○	
	Development of storm-surge defense facilities	○	

*1 Voluntary industry guidelines established by international financial institutions, announced by the International Capital Market Association (ICMA), which serves as their secretariat. Of these, as well as appropriate compliance with the four core components (1. Use of proceeds 2. Process for project evaluation and selection 3. Management and proceeds and 4. Reporting), verification by a third-party institution is also recommended.

*2 Acronym for Net Zero Energy Building. Buildings in which primary energy consumption is reduced through the use of improvements to energy-saving performance and renewable energy, etc. so that net annual energy consumption is zero or close to zero.

Certification System of Wood biomass "Shimane-method"

- Certification system of wood fuel chips for power generation use
- This method aims to simplify the format of report and mitigate the complexity of fuel delivery and power supply procedure
- Any operators who are involved in wood biomass manufacture (raw wood producer, raw wood market, sawmill and wood chips manufacturer) needs to be accredited by Shimane Lumber Association
- Only the accredited operator could sell wood biomass with certificate attached
- Raw wood producer/market should submit certificate to clients with attached evidential documents



Demonstration scheme of "Pay-as-you-save (PAYS)"

- In the case of demonstration by Shizuoka Gas Company, replacement were done at two households.
- As a result of demonstration, it caused monthly savings of about 2,000 yen of electricity bills and also it was identified that 7 or 10 years of repayment is possible.

