

Lessons for the Greater Bay Area from green finance in Europe

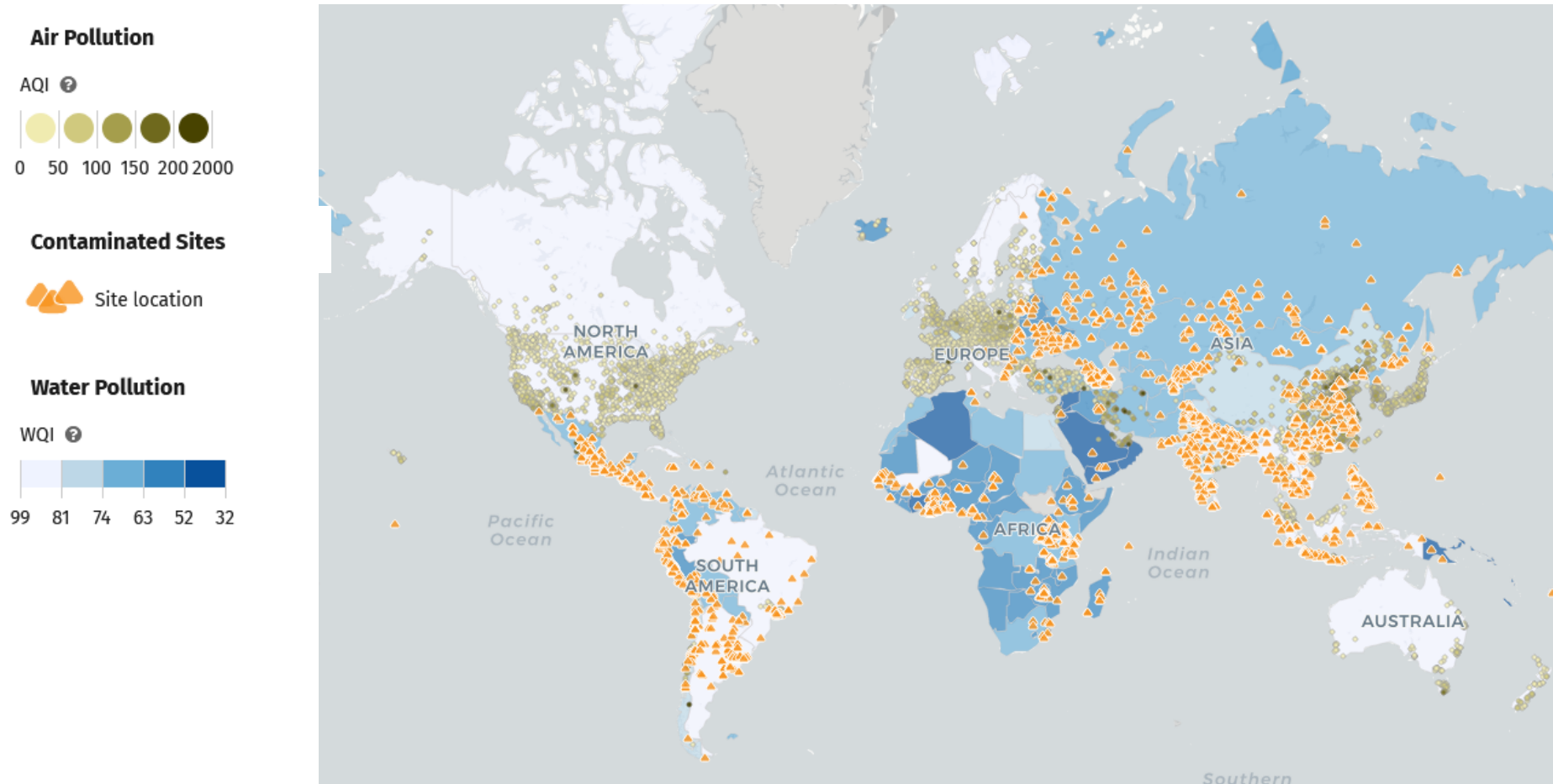
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Based on Research by NATIXIS Green Finance tea
June 2018

Environmental issues important everywhere including the EU



Source: GlobalPollution.org

Beyond technical solutions finance is very important



**But to what extent is green finance different from any other type of Financing?
Some lessons from Europe**

The Globalization of capital for green investment quite massive and growing fast. Europe still leanding

Table: Growth of SRI Assets by Region 2014-16, in billion USD

Region	2014	2016	CAGR
Europe	10,775	12,040	5.7%
United States	6,572	8,723	15.2%
Canada	729	1,086	22.0%
Australia/New Zealand	148	516	86.4%
Asia ex Japan	45	52	7.6%
Japan	7	474	724.0%
Total	18,276	22,890	11.90%

Source: Global Sustainable Investment Alliance (GSIA) – 2014/6 Global Sustainable Investment Review.²

Private versus Public Financing: What is the right mix?

Public finance essential in addition to private finance.

1. European Investment Bank



2. KfW



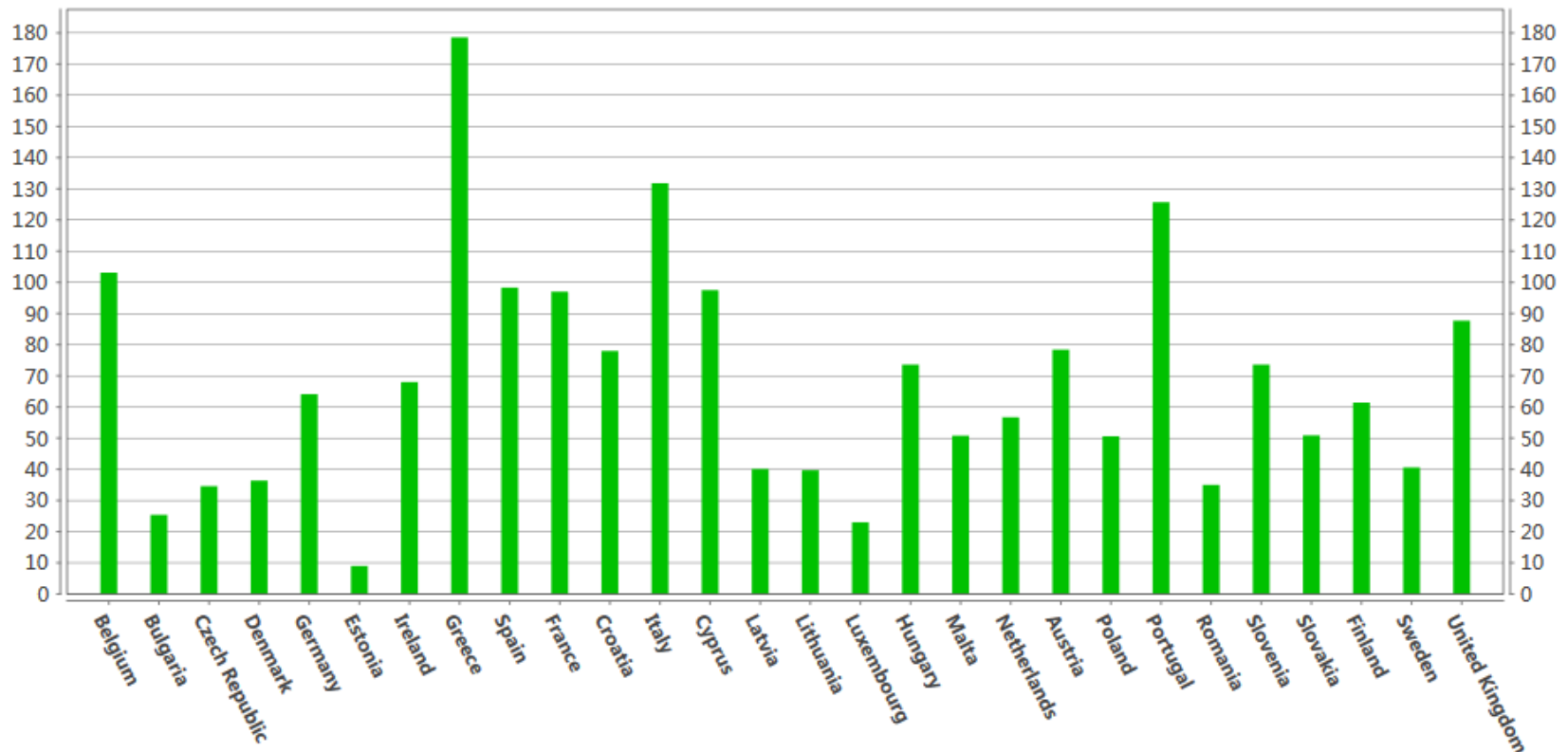
3. Green Investment Bank



However public finance alone cannot be a solution.

Public financing limited by EU's countries' generally high debt. Not different in China given its large local government debt and other contingent liabilities. Aging can only make things worse both in EU and China in terms of financing space for environmental projects

General government gross debt as % of GDP in EU28



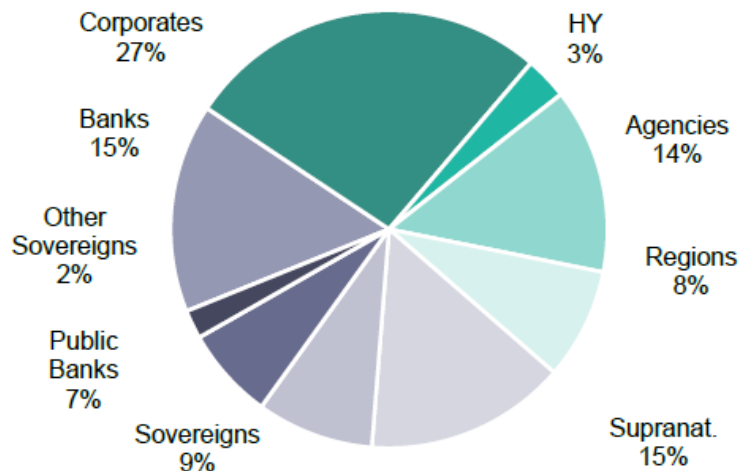
Private financing should come to the rescue ...but bank lending cannot be the channel due to regulation

- **Huge capital requirements** for long-term lending but..
- Increasing pressure in EU to reduce them for green projects
- An Action Plan released by EU Commission (high level commission for green finance) considering lowering capital requirements for green vs brown projects
- Also actions at global level (FSB)
- But clearly not possible to rely on bank financing yet

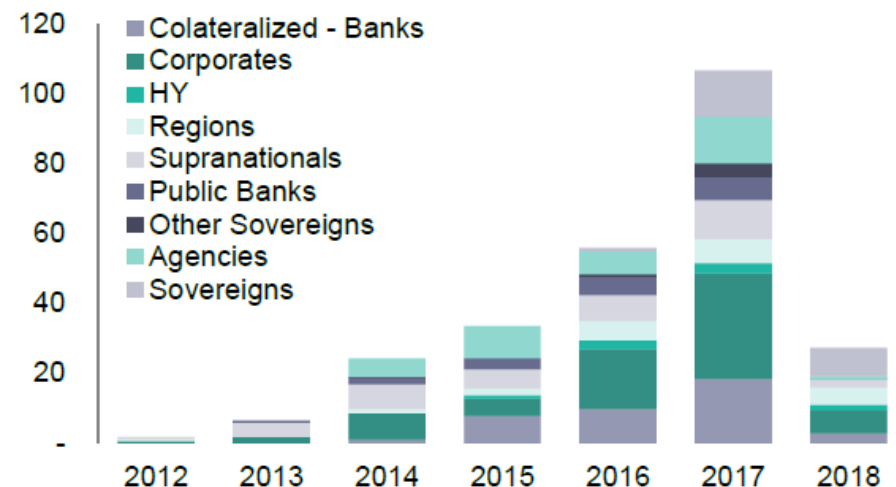
Green bonds to the rescue for private financing of green and not only issued by public sector but increasingly by corporate and banks

Corporate and bank issuers are increasingly important

By type of issuer

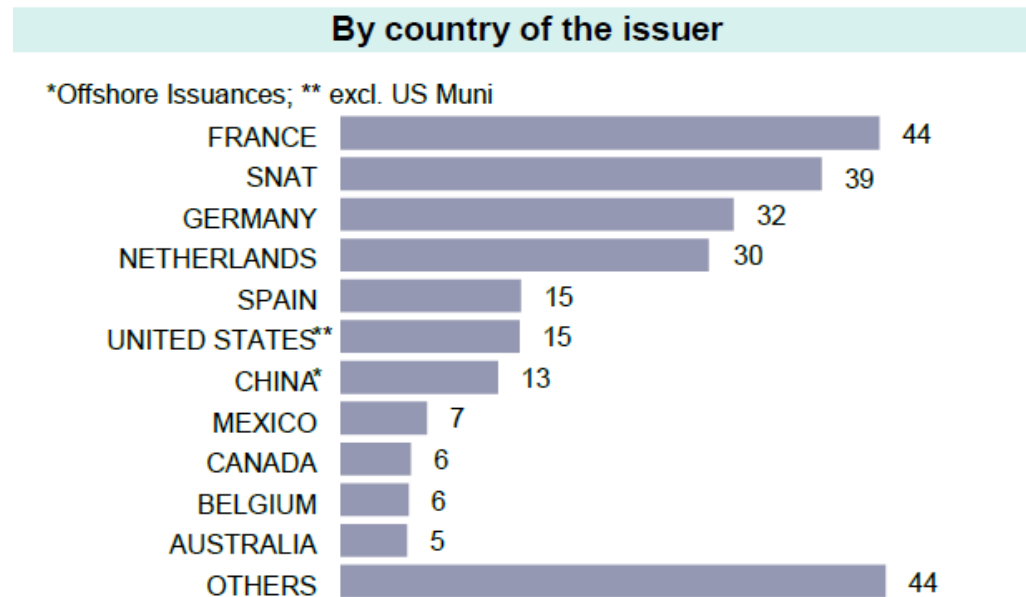


Evolution of the type of issuer



Data source: Natixis Green finance team

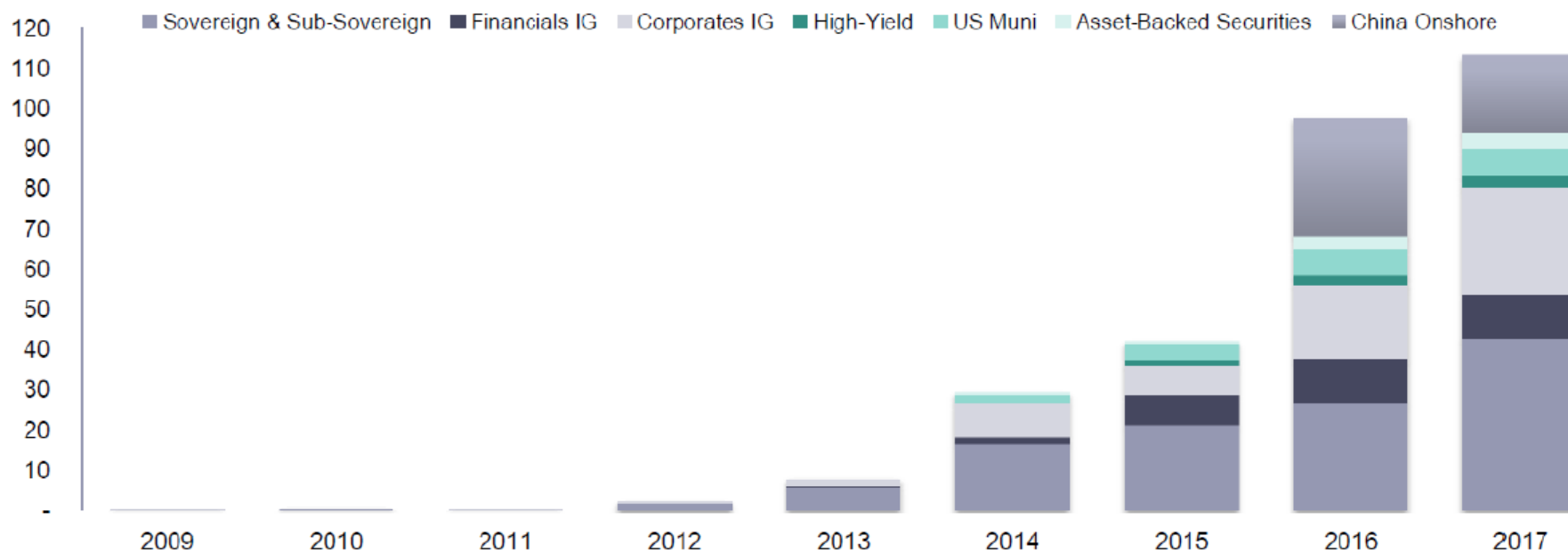
Top issuers by country still European (USD bn)



Data provided by NATIXIS Green finance team
Outstanding USD 200m and above & date as of Mar 2018

This is increasingly true also for China

Green bonds outstanding - all sizes since 2009 per year (\$bn equivalent - incl. Green ABS, Green Muni, China)

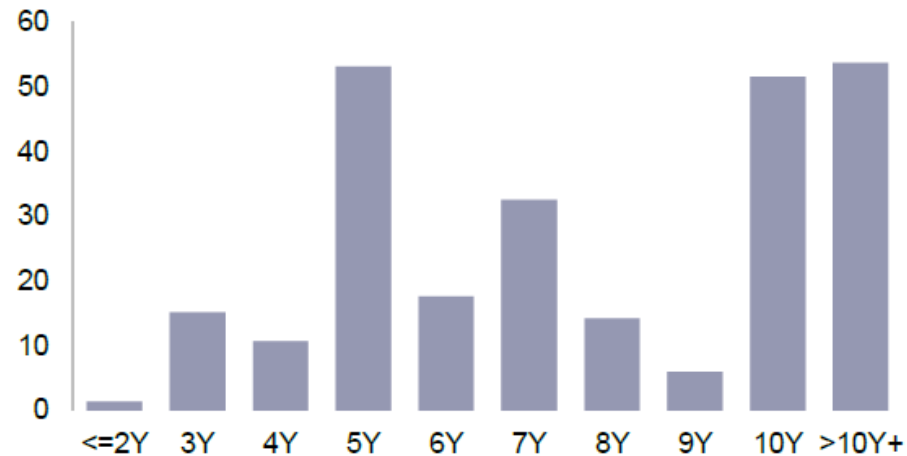


Data source: Natixis Green finance team

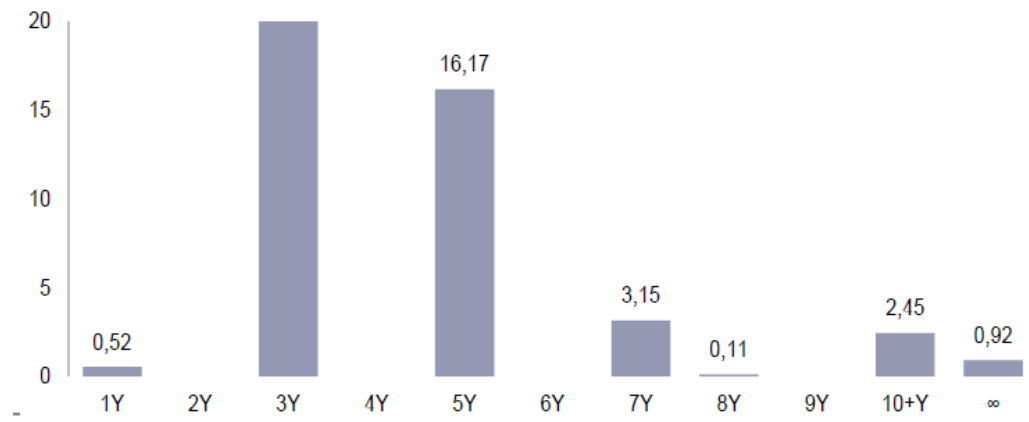
Date as of Mar 2018

However, China's bond market still too concentrate on short term maturities

Worldwide

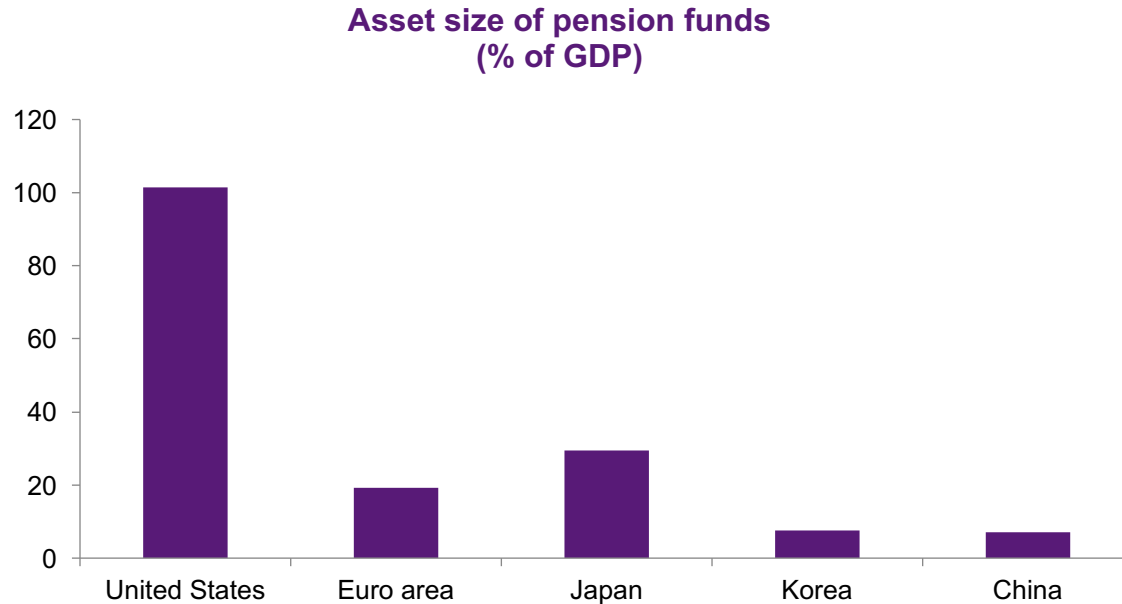


China



Date as of Sep 2017

And the size of institutional investors (especially pension funds) still limited, which is key to place green bonds



Source: IMF, Natixis

N.B. The data for China is of 2017, and the other data is of 2014

Finally, for GBA, it is important to look at the difficulties of cross-border projects.

EU has undergone many of those projects but with a more harmonized institutional framework

Same examples:

- **Cross-Border – Green, Renewable & Energy Efficiency Network** project financed by the EU in Bosnia-Herzegovina and the Republic of Croatia (Herzegovina-Neretva Canton and the Zadar County)
- **IRENE project** financed by European IPA funds (EU) to upgrade public lighting in Croatia, Bosnia and Herzegovina and Montenegro
- **Central European Green Corridors** financed by the EU to set up 15 fast-charging stations for electric cars have opened in Germany, Austria, Slovenia, Slovakia and Croatia