

# Bonds and Climate Change

The state of the market in 2013

Economic Club of Toronto | 24 September 2013



# Context

- HSBC estimates that USD10trn in investment is required between 2010 and 2020 for the low-carbon economy
- Bonds will be critical: the bond market is now worth USD78trn vs. USD53trn for equities, the reverse of a few years ago.
  - Post-crisis realities and regulation will make debt capital markets even more important (Basel III)
- This is the 2nd annual report commissioned by HSBC designed to:
  - Estimate the size, themes and regional breakdown of the climate-themed bond market
  - Identify main developments since the first report in 2012
  - Highlight key themes for the year ahead

# Changing demand



## Principles for Responsible Investment

1000+ signatories representing  
USD32trn AUM

## Global Coalition on Climate Change

259 asset owners & asset  
managers representing  
USD22trn AUM

## Demand drivers

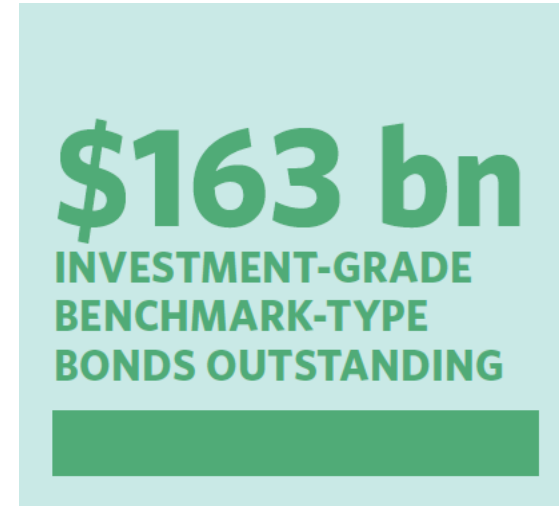
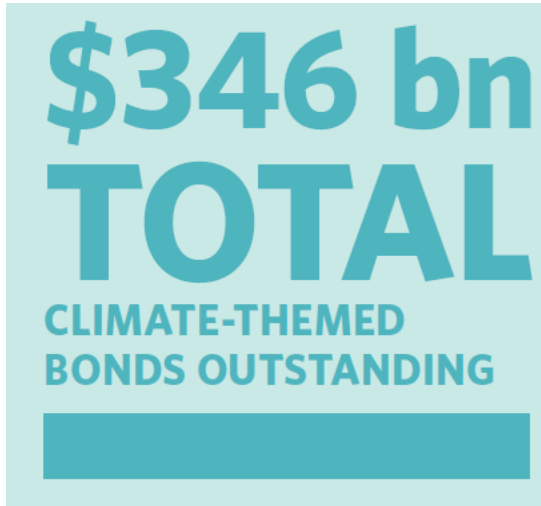
- Demand changing from niche to mainstream
- Reputation (Green marketing)
  - No pricing differentiation at this stage



GLOBAL INVESTOR COALITION ON CLIMATE CHANGE










# Key takeaways

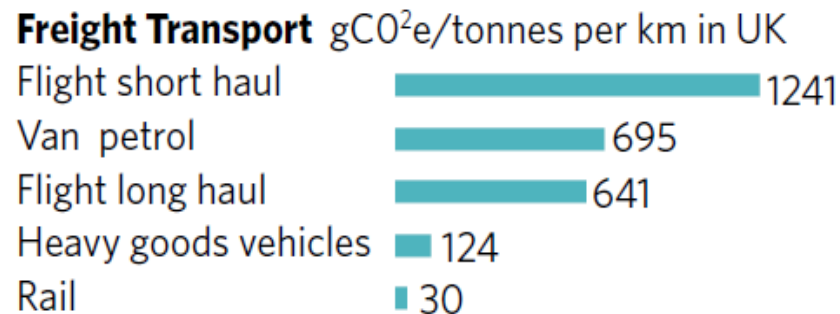
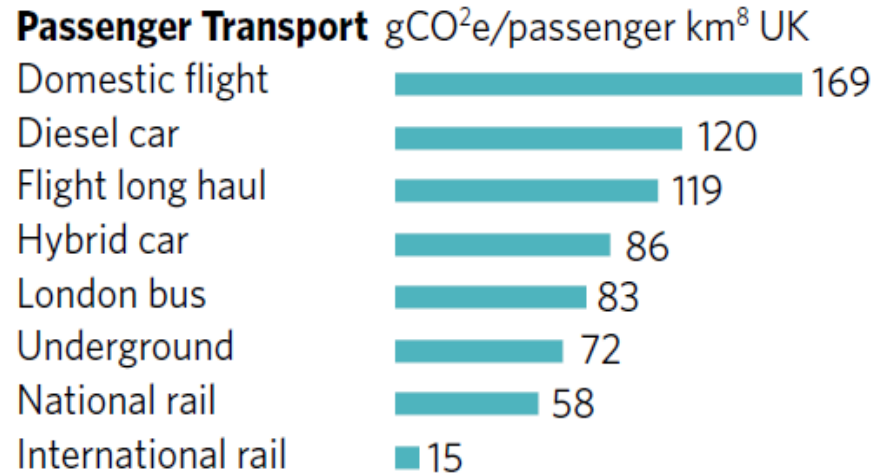


- Total of \$346bn is double last year's estimate
- 89% is investment grade
- China accounts for \$127bn of total (37%), followed by the UK and France
- Low carbon transport, notably rail, is 75%, then clean energy & climate finance

# For a low-carbon, climate resilient world

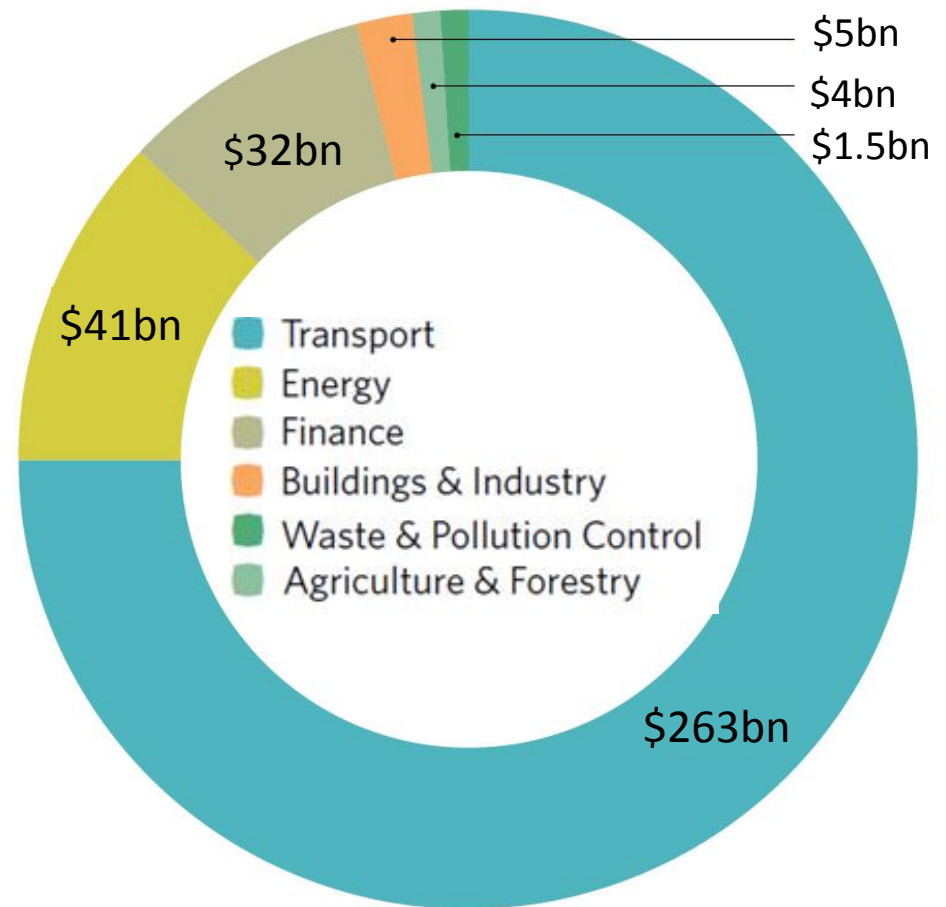
						
Transport	Finance	Energy	Buildings & industry	Waste & pollution control	Water	Agriculture & Forestry
<ul style="list-style-type: none"> <li>- Rail</li> <li>- EVs</li> <li>- Mass trans</li> <li>- biofuels</li> </ul>	<ul style="list-style-type: none"> <li>- Green MDB programs</li> <li>- Transport finance</li> </ul>	<ul style="list-style-type: none"> <li>- Wind power</li> <li>- Solar power</li> <li>- Hydro</li> <li>- Nuclear</li> <li>- Biomass</li> </ul>	<ul style="list-style-type: none"> <li>- LEDs</li> <li>- Insulation</li> <li>- Energy star appliances</li> <li>- EE munis</li> <li>- Retrofit</li> <li>- Green buildings</li> </ul>	<ul style="list-style-type: none"> <li>- Recycling</li> <li>- Recycled products</li> <li>- Air filters</li> <li>- Landfill gas</li> <li>- WTE</li> </ul>	<ul style="list-style-type: none"> <li>- Sustainable water mgmt</li> <li>- Efficient technology</li> <li>- Resilient infrastruc.</li> </ul>	<ul style="list-style-type: none"> <li>- Certified Paper /wood</li> <li>- Forest mgmt</li> <li>- Afforrestatn</li> <li>- Organic seeds &amp; fertilizers</li> </ul>

# Modal shift to rail is a key low-carb solution



# Climate bond universe = \$346bn

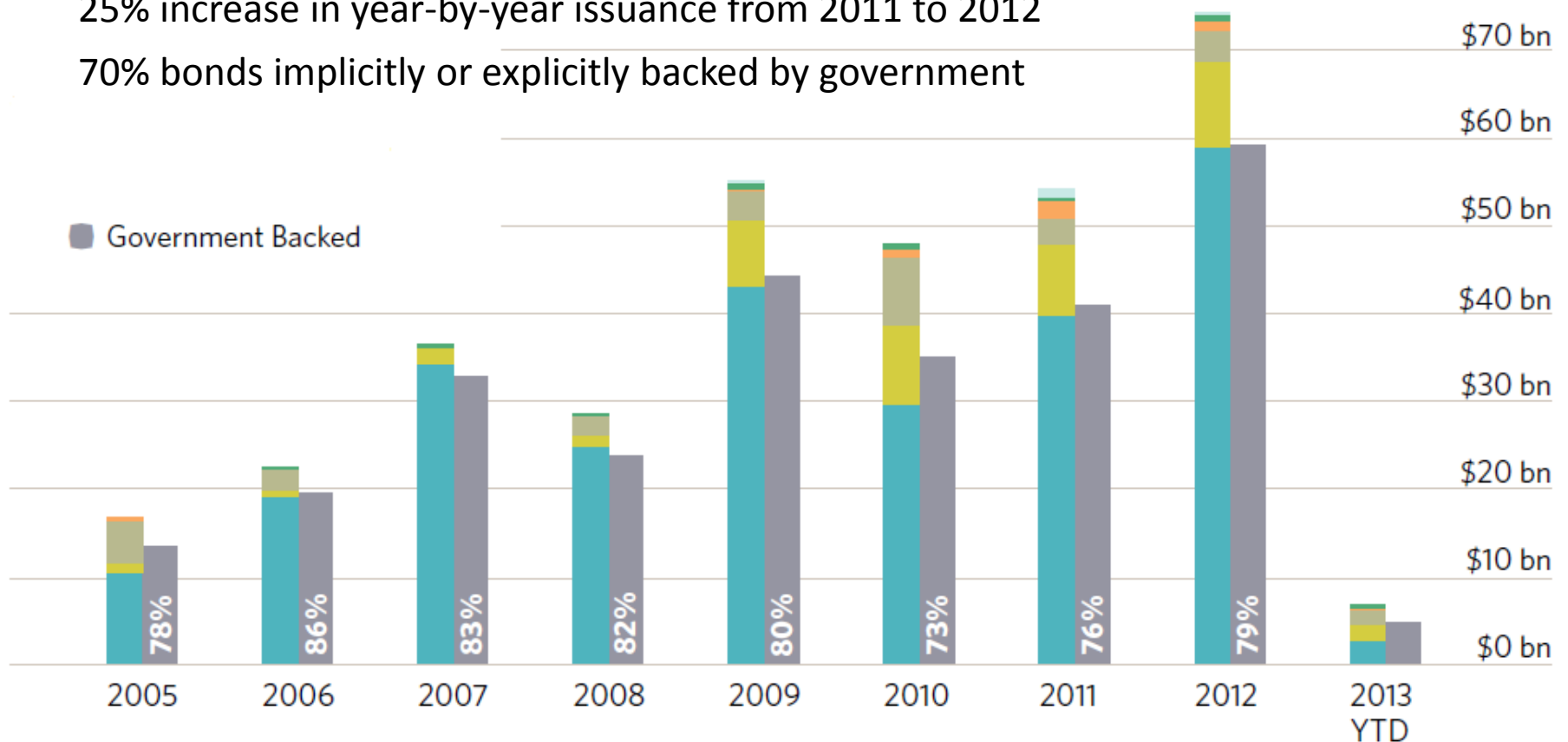
- Transport dominates at 76%
- Energy = \$41bn
- Climate Finance = \$32bn



# 2012 largest issuance year to date

25% increase in year-by-year issuance from 2011 to 2012

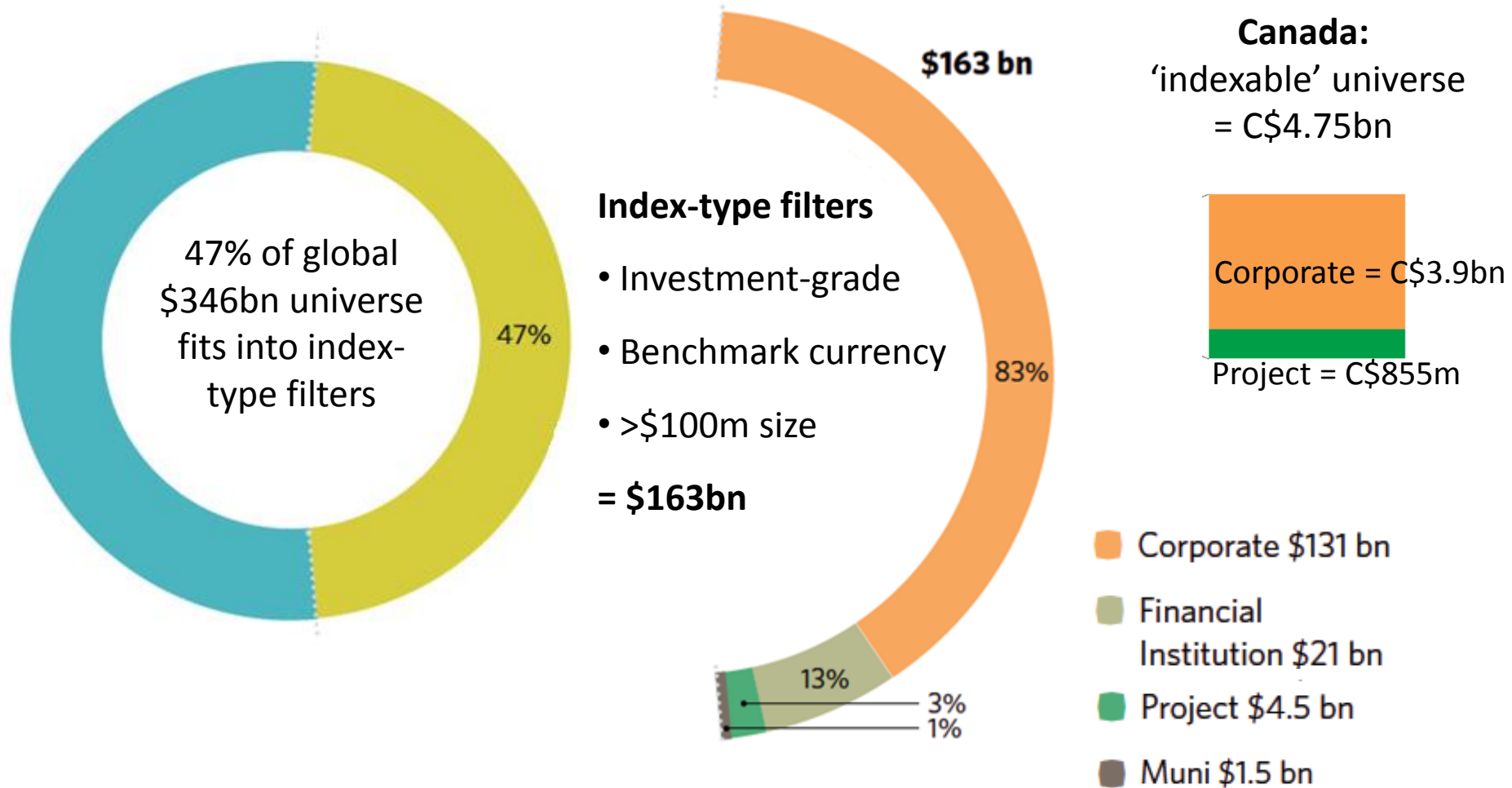
70% bonds implicitly or explicitly backed by government



Bonds outstanding 1 March 2013



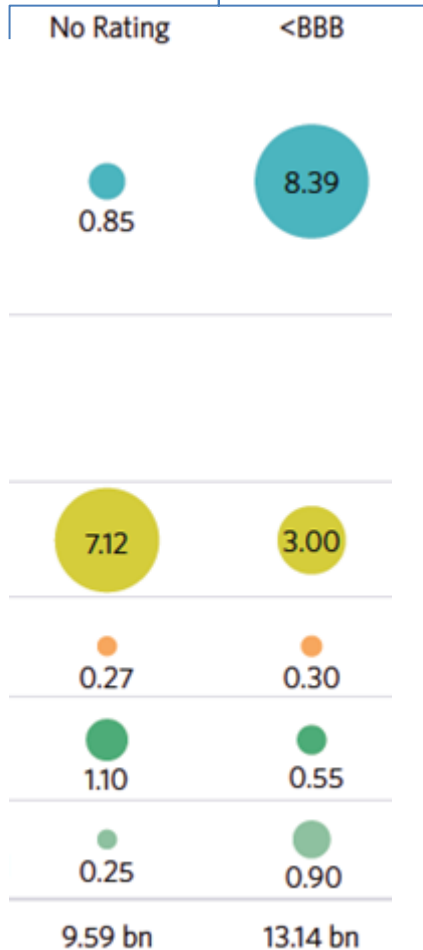
# Index-type filters reveal \$163bn universe



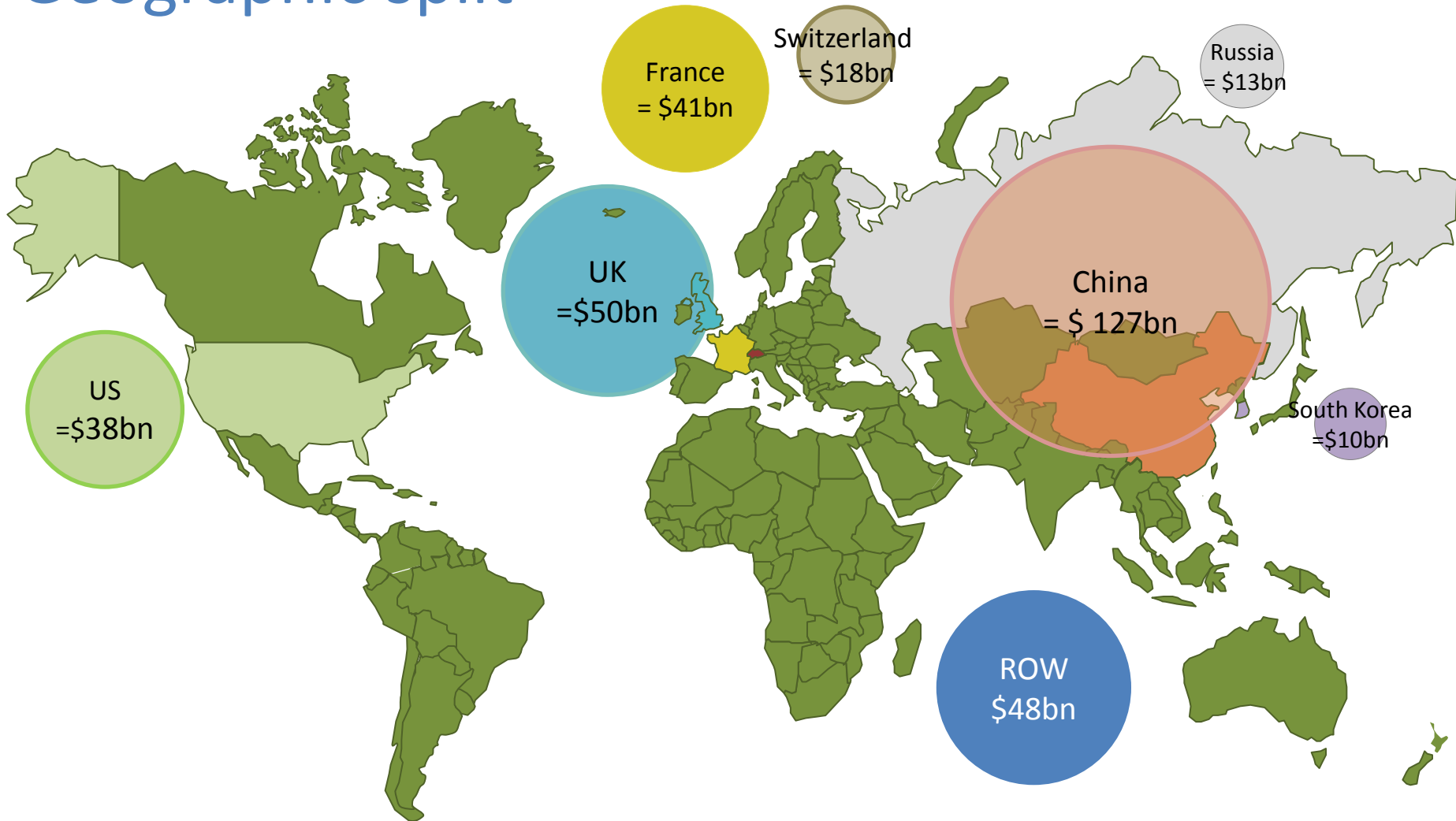
# Index universe: reasonable spread of IG

USD21.5bn junk

USD163 investment grade

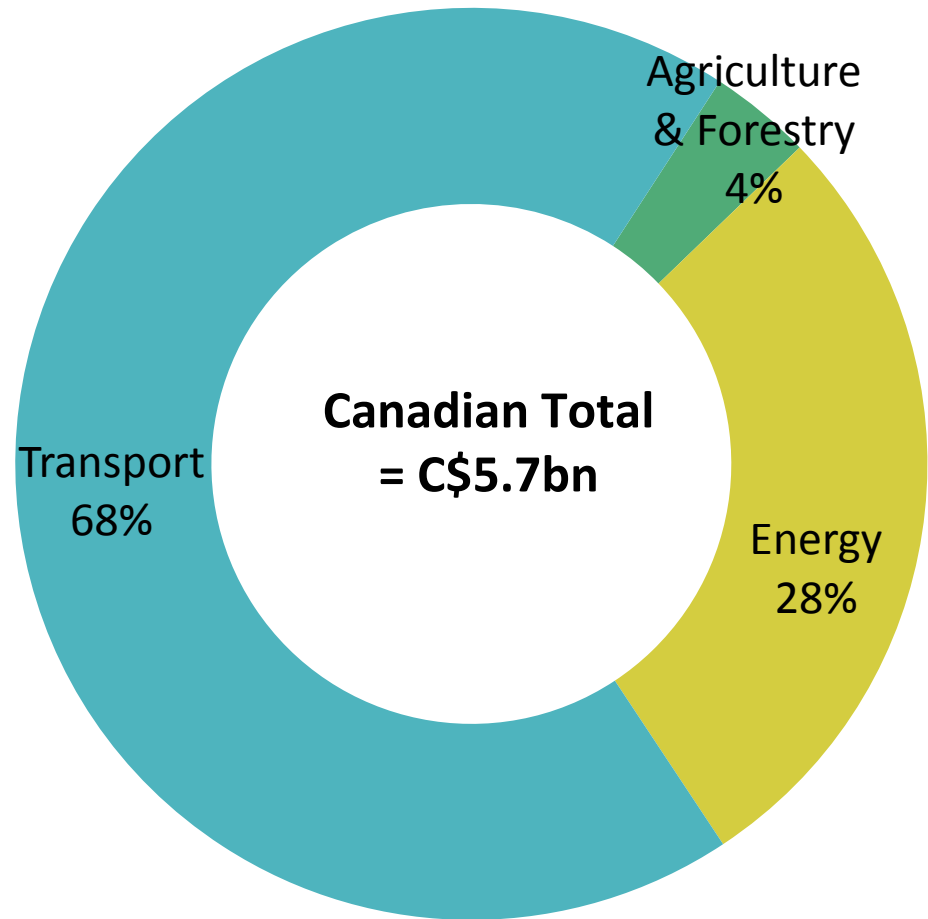


# Geographic split



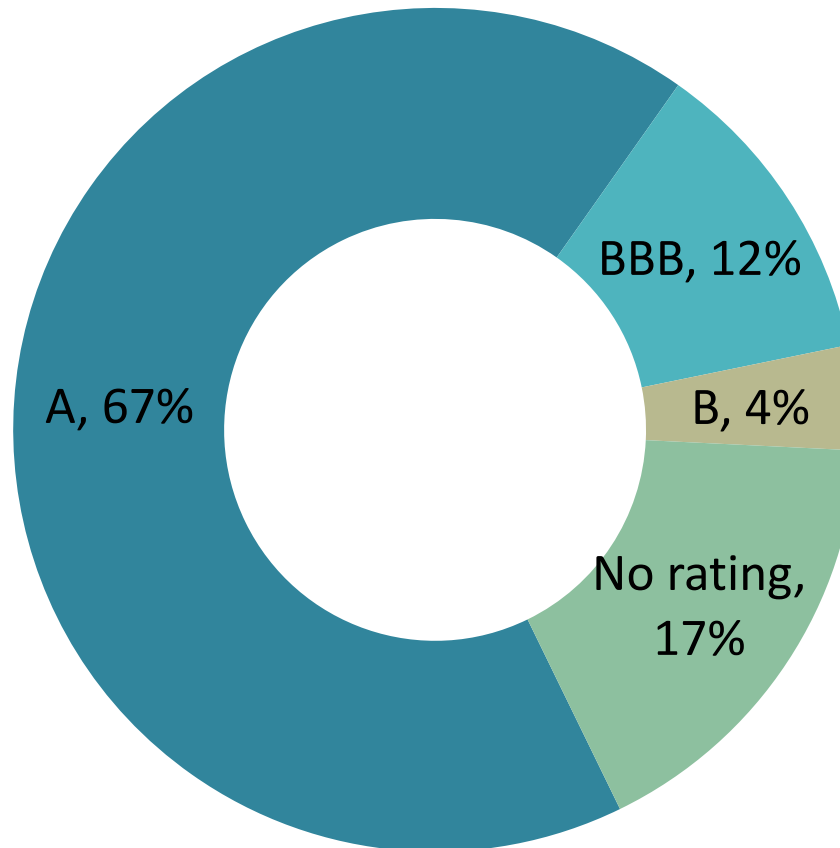
# Canada universe: thematic split

- **Transport dominant**
  - rail
  - mass transit bonds
- **Energy = 28%**
  - Renewables
  - Hydro definitions need clarity
  - Small bond sizes
- **Agriculture & Forestry = 4%**
  - 1 Forestry issuer
  - Certified timber and paper included



# An investment grade universe

## Canada full universe C\$5.7bn: Ratings breakdown



# Canada developments and trends

- 83% universe is **investment grade**
- **3 Canadian project bonds** in 2012
  - C\$450m Comber Wind, BBB
  - C250 L'érable Wind, BBB
  - C175m St. Clair solar PV farm, BBB
- C\$2.7bn issued in **CAD** across global universe
  - Issued by Canadian, French and Swiss issuers
- Driver of interest: **Canada's infrastructure gap**
  - Following flooding in Toronto and Calgary

# Canadian issuers

Sample of Canadian issuers	Theme
Canadian National Rail	Transport
Comber Wind project	Energy
Canadian Hydro Developers	Energy
L'Erable wind project	Energy
Boralex	Energy
Run of River Power	Energy
St Clair Holding	Energy
Innergex Renewable	Energy
NGP Blue Mountain	Energy
New Flyer Industries	Transport
Sprott Power Corp	Energy
Millar Western Forest Products	Ag & Forestry

# Buyers

- **MDB green bonds**

- Blackrock
- State Street Corp
- Vanguard
- Parnassus
- Calvert



- **Canadian Project bonds**

- Acuity Investment Management
- Blackrock
- CI Investments
- Bank of Nova Scotia



STATE STREET





# Transport



- Rail, bus, 2<sup>nd</sup> generation biofuels, electric vehicles
- Rail dominates with \$263bn (rail for coal is excluded)
  - High-speed rail & refurbishment in China large share
  - China Ministry of Rail included but questions over future bonds
  - Mature industry, hence volume
- Future:
  - Electric vehicles: **Tesla**, asset-linked from auto manufacturers
  - Tripling of rail, e.g. California High Speed
  - But other sectors will grow even faster

# Energy

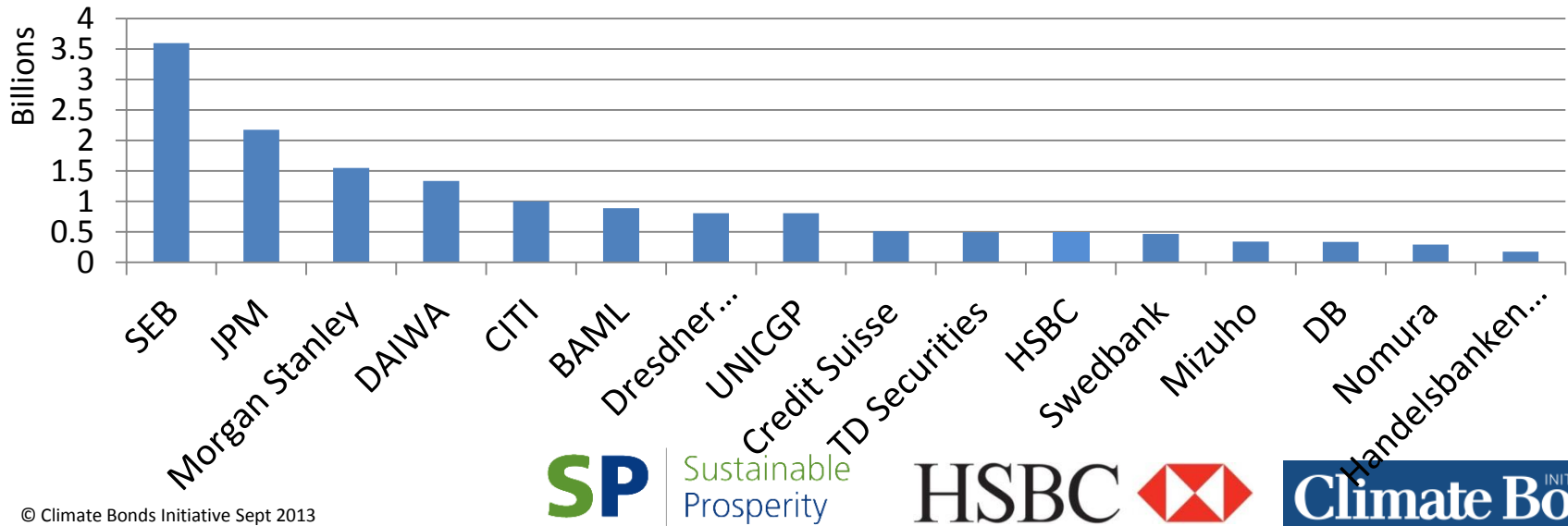


- \$41bn
  - Solar: 21%; wind: 24%
  - Nuclear: 32%
  - Hydro: 8%
- \$5.5bn in solar & wind project bonds incl. recent Canadian.
  - Mid American takes it to \$6.5bn
- **Future:**
  - RE investment funds
  - Rooftop solar ABS
  - Utility-scale assets
    - e.g. USD98bn potential EU offshore wind bonds

# Finance



- \$32bn from Financial Institutions
  - finance/leasing: EuroFIMA \$16bn, Indian Rail \$7bn, Porterbrook, IREDA
  - Climate/Green labelled \$7.2bn (\$2.5bn in 2012-2013)
  - Benchmarks from **IFC** (\$1bn) & **Kexim** (\$0.5bn) oversubscribed
- More recent: **EIB & World Bank** \$1.5bn over Summer
- Future: climate-labelled from **Munis** (Massachusetts), Regional banks



## Buildings & Industry



- \$4.8bn outstanding for EE solutions in buildings & industry
- 13% from LED manufacturers
- LG Electronics
  - Has near 100% EE certified products, far more than peers
- **Future: Siemens, GE, Schneider Electric etc.**

## Agriculture & Forestry



- \$3.8bn identified from corporate issuers
- 88% from forest management and paper manufacturers with sustainability certifications across operations
- Sweden, Portugal and US are main sources
- **Future: climate-resilient agriculture**

# Waste



- \$1.4bn outstanding
- Largely recycling and recycled
- Diversity of large waste management companies means bonds are not included
- **Future:** corporate use-of-proceeds-linked from large waste management companies. E.g. **Hera, Waste Management, Veolia**

# Water

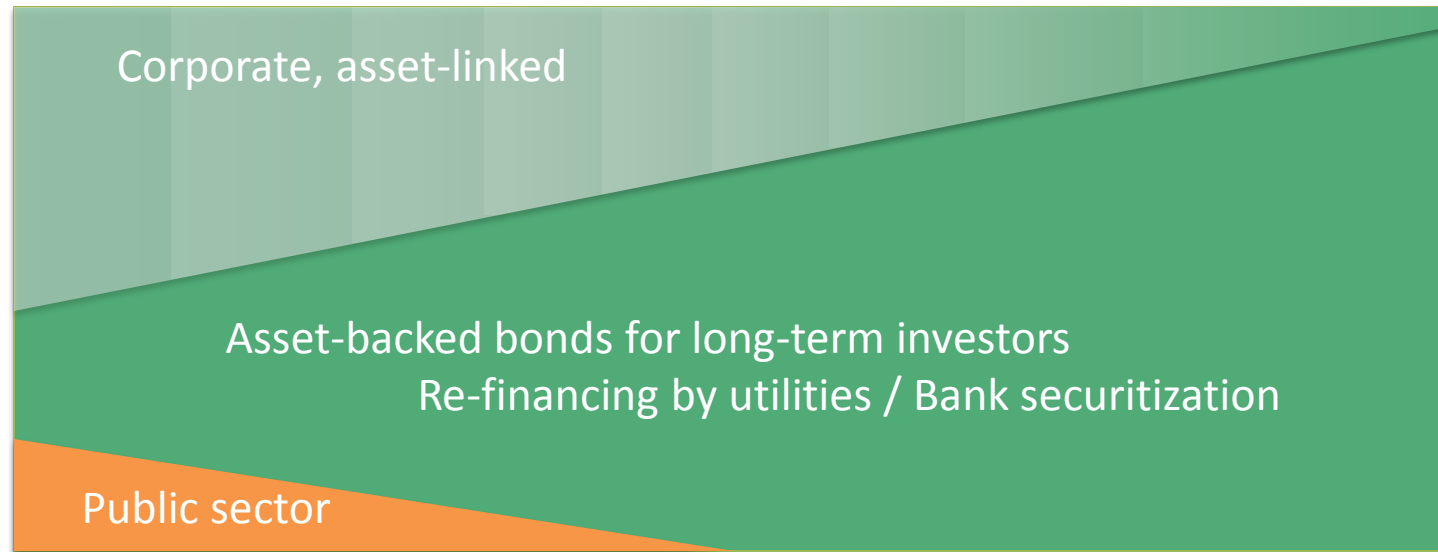


- Bonds financing a climate-resilient water supply remain difficult to identify
- Research indicated greater awareness of adaptation scenarios but not yet up to standard
- **Future:** flood protection; water infra in drought-threatened areas, sovereign adaptation bonds?

# Bonds and the capital pipeline



High risk  
Project finance  
First 2-5 years



Low risk  
Long-term holdings  
15-25 years

# Needed: public sector support

Already being done:

- Credit enhancement
- Public sector bodies as cornerstone issuers AND investors
- MDB role in emerging markets to screen portfolios, support aggregation platforms

Next?

- Tax incentives, retail pension investing incentives
- Discount rates for green mortgages, based on improved credit performance when utility bills are lower
- Risk weighting preferencing in Basel III

# Needed: scale

- **Scale:** aggregation
  - Benchmark sizes from MDBs et al
  - Aggregation
    - Green securitization
      - Regulation, transferability
      - Cooperative regional conduits: Pennsylvania, NYSERDA
      - Green mortgages





# Needed: common agreement

Transparency

Definitions: Taxonomy



ICT/Broadband + Infra upgrades for adaptation + Flood protection + Port upgrades

Buy-side to drive requirements

# Needed: assurance

Industry  
Advisory  
Group



\$11tn Climate Bond Standards Board



Technical  
Working Groups



European Bank  
for Reconstruction and Development

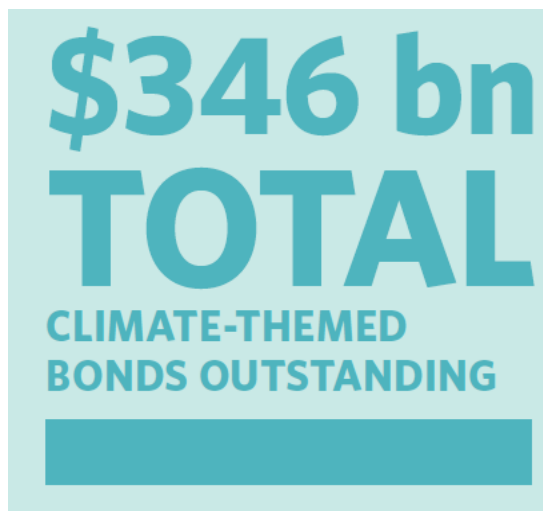


# Takeaways

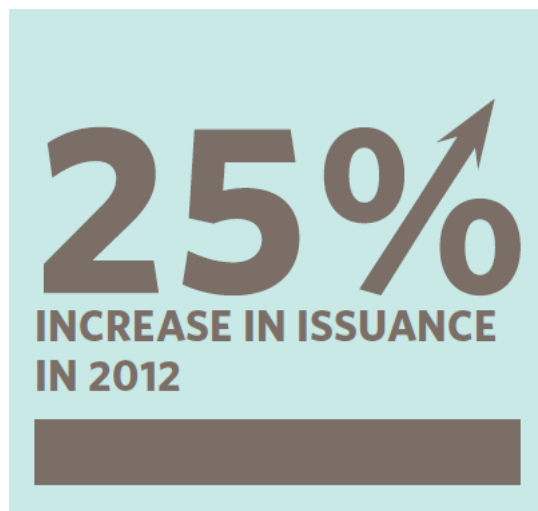
Thematic bond investing is **no longer niche**

Demand focus will be on **corporate use-of-proceeds-linked bonds**

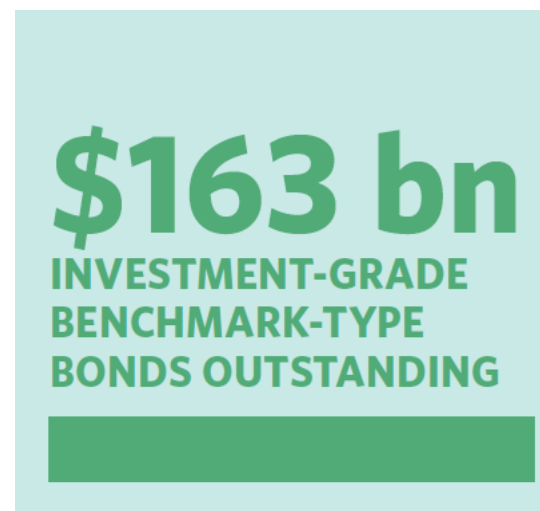
Expect China to take global lead



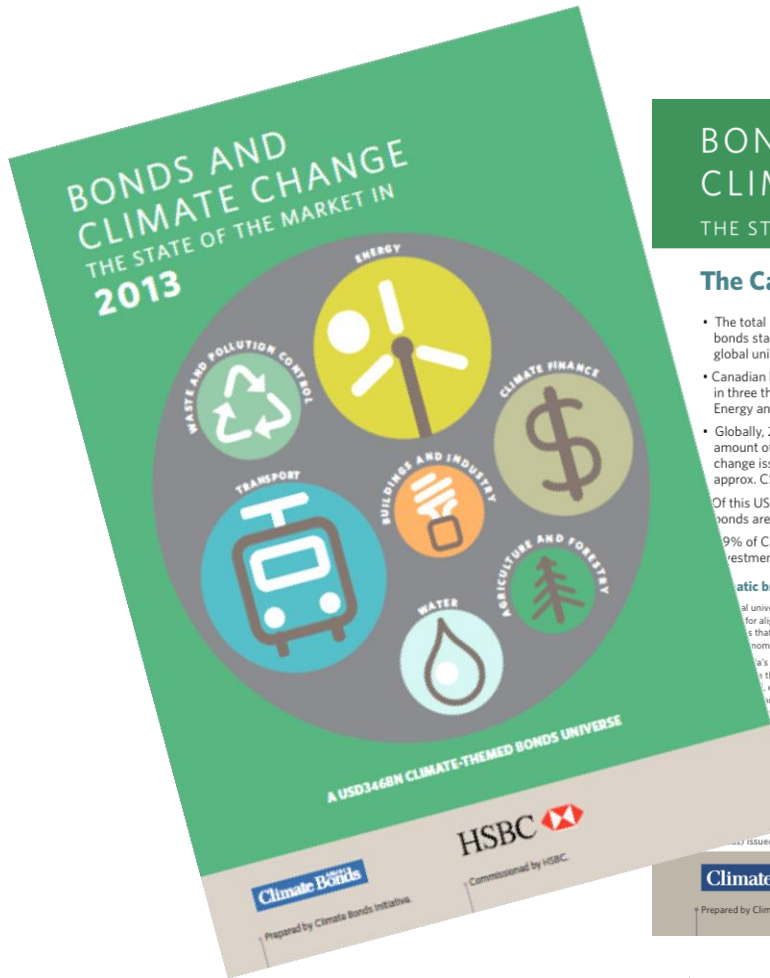
Expect growth



Continuing rate



Growth



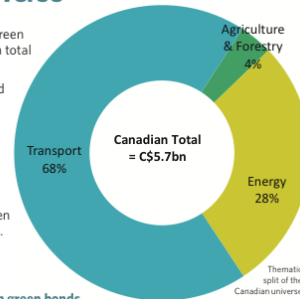
## BONDS AND CLIMATE CHANGE 2013

THE STATE OF THE MARKET

CANADA Supplement

### The Canadian Universe

- The total universe of Canadian green bonds stands at C\$5.7bn out of a total global universe of C\$346bn.
  - Canadian bonds have been issued in three themes: Transport, Energy and Forestry.
  - Globally, 2012 saw the largest amount of bonds for climate change issued to date, with approx. C\$74bn over the year.
- Of this USD74bn, C\$1.2bn of green bonds are from Canadian issuers.
- 9% of Canadian bonds are investment grade.



#### Thematic breakdown for Canadian green bonds

The total universe of bonds was for alignment with seven themes that are part of the low carbon economy.

The bonds fit into three themes: Sustainable (electric vehicles, transportation), Energy (renewable energy) and Forestry (includes wood and paper as well as other products).

The universe continues to grow in Canada and the amount issued has increased by up to 74% of the total universe.

7% Canadian issued mainly of transport bonds.

9% of Canadian bonds are investment grade since 2005.

The Energy Theme accounts for 28% of the universe and is made up primarily of wind and solar project bonds as well as hydro issuers.

Solar, wind and hydro projects were all supported by the government's eco-incentive scheme (from 2007-2011) which provided specific project support for Canadian Hydro Developers and others.

While the Energy theme is much smaller than Transport in terms of amount issued, there were many more issuers with smaller bond sizes being more common.

In the Agriculture & Forestry theme, there is one Canadian issuer- Millar Western Forest Products. The

green classification is because all of its pulp, lumber and woodland operations are certified to Forest Stewardship Council chain of custody or Sustainable Forestry Initiative standards.

There were some exclusions among hydro companies that also have non-qualifying assets, such as methane producing tropical dams. We intend to work with the hydro companies in the future to separate qualifying assets. This could lead to a further C\$17bn in Canadian-issued bonds being classified as green and would significantly alter Canada's position within the global green bonds universe.

Climate Bonds | HSBC | SP Sustainable Prosperity

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