ON BORROWED TIME: BANKS & CLIMATE CHANGE

Update Report, 2017

BOSTON COMMON
ASSET MANAGEMENT

Contents

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Introduction

> "We don't need an army of actuaries to tell us that the catastrophic impacts of climate change will be felt beyond the traditional horizons of most actors – imposing a cost on future generations that the current generation has no direct incentive to fix."
>
> Mark Carney, Governor of the Bank of England[1]

The global banking sector stands at a crossroads on climate. The Paris Agreement became effective in November 2016 and has catalyzed both the size and urgency of risks such as 'stranded assets', and the market for opportunities to finance the transition to a low-carbon economy. This is set to have a profound impact on the banking sector over the short and longer term.

As climate risk becomes recognized as critical to banks, investors want to know whether this risk is being managed well and at the highest levels of the organization. For example, are the world's biggest banks incorporating top level corporate assessments of the potential effects of climate change on their loan portfolios, or adopting policies and governance systems to comprehensively manage climate-related risks? And are they offering products and services that support the transition to a low-carbon economy?

Since 2014 Boston Common Asset Management has led a $500bn coalition of investors to examine banks' strategic approach to the management of climate-related risks. This report updates this work, building on our October 2015 report: "Are Banks Prepared for Climate Change?". These latest findings report on new policies, programs and products at 45 previously engaged banks. In addition, we identify industry-level trends on the revised call to action, and describe and define leading practices.

Summary Findings

This year's analysis reflects that banks are moving forward, but not quickly enough to keep pace with risks from a rapidly-changing climate. For example while major banks such as Citigroup, PNC Financial, and Westpac now undertake environmental stress testing on their credit portfolio; the

1. http://www.bankofengland.co.uk/publications/Pages/speeches/2015/844.aspx

vast majority of the banks assessed (over 80%) do not yet integrate the results of environmental stress testing into their business decisions.

We invited the banks to share any policy or program changes they have implemented since our last study. An encouraging 23 out of the 28 banks or over 80% have implemented substantive policy changes related to climate-risk. Across the board, banks are continuing to adopt policies and practices that support the transition to a low-carbon economy. They are integrating climate strategies into corporate governance systems, collecting climate data and expanding financing of and lending to energy efficiency and renewable energy.

The report finds:

- **Climate Strategy:** There has been marked progress in more explicit oversight at the board level, establishment of performance goals, and links to compensation.
- **Financing the Low Carbon Transition:** There is increased disclosure on how much these banks are financing or investing in energy efficiency and renewable energy. However, we continue to see little or no guidance on targets for lending or investing in renewable or energy efficiency.
- **Risk Management:** The greatest improvement was in the use of carbon footprinting and environmental stress tests. However we have yet to see how this information is integrated into management decision-making or goal-setting related to energy portfolio re-balancing or increased due diligence for carbon intensive sectors. Only a small number of banks are establishing or disclosing public goals to reduce exposure to carbon intensive sectors.

We hope this report will provide investors with new insights to bring into their ongoing engagements with global banks and to identify next steps for banks to accelerate the transition to a low-carbon economy.

2017 Call to Action

We encourage banks to continue to establish practices that reduce their vulnerability to climate change and accelerate the transition to a low-carbon economy. We urge investors to further engage banks to embed the management of climate risk across their business model via the following actions:

- Formalize long-term climate strategies focused on financing and lending activities, with performance goals and links to compensation at the Group and business unit level;
- Expand the use of assessment tools such carbon footprinting, environmental stress tests, and economic scenario analysis and integrate those findings in decision-making processes;
- Establish and disclose more explicit goals and targets focused on reducing exposure to carbon intensive sectors and increasing investment in renewable energy, energy efficiency, and climate adaptation; and
- Support coordination and collaboration of industry initiatives to accelerate the pace of change and use their public voice on climate action to encourage better government policy aligned with a below 2 degrees Celsius future.

Previous Reports

- In 2014 Boston Common produced a research report entitled: *Financing Climate Change: Carbon Risk in the Banking Sector* which concluded that many banks had not yet incorporated climate considerations into their risk management practices nor developed long-term climate strategies.
- In 2015, to act on this finding, Boston Common led a coalition of investors managing over $500 billion in assets to assess the practices and long-term management of 45 global banks on climate-related risks. This study used a set of ten climate performance metrics.
- Our findings were published in the October 2015 Impact Report: *Are Banks Prepared for Climate Change?* which was widely reported, including in the New York Times. This report concluded that despite progress, there remained a huge divide between banks' current practices and the financial sector's potential to support the transition to a low-carbon future. Further, our analysis showed a disconcerting lack of strategic or long-term approach to managing climate risk by leading global banks. Many of the opportunities linked to climate change mitigation and adaptation were not being grasped. Finally, less than half the banks in the study adequately assessed the carbon risk of their lending and underwriting activities or conducted climate related stress tests.
- The report urged further action by investors to engage banks to:
  - establish long-term, comprehensive climate strategies with board-level oversight and explicit links to executive compensation;
  - measure and disclose the total carbon footprint of financing activities, with a special focus on carbon-intensive sectors and targets to reduce overall exposure;
  - disclose quantitative figures and targets supporting energy efficiency and renewable energy financing as a proportion of
  - overall lending and investments; and
  - conduct regular environmental stress tests and disclose the integration of findings into decision-making.

As climate risk becomes recognized as critical to banks, investors want to know if this risk is being managed well.

Summary in Numbers

70%
of responding banks now undertaking **carbon footprints** or **environmental stress tests**

$786 billion
financed over the last 3 years by European and North American banks to the most carbon-intensive sectors and highest-risk projects, which could become stranded assets.

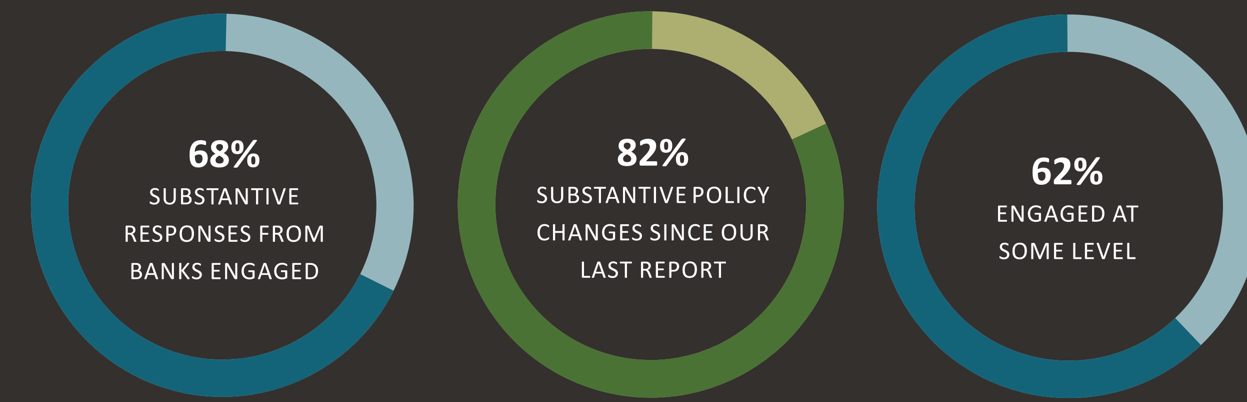
50% of banks
have explicitly linked climate-strategy goals to executive compensation

45
Global banks engaged in our follow-up initatve

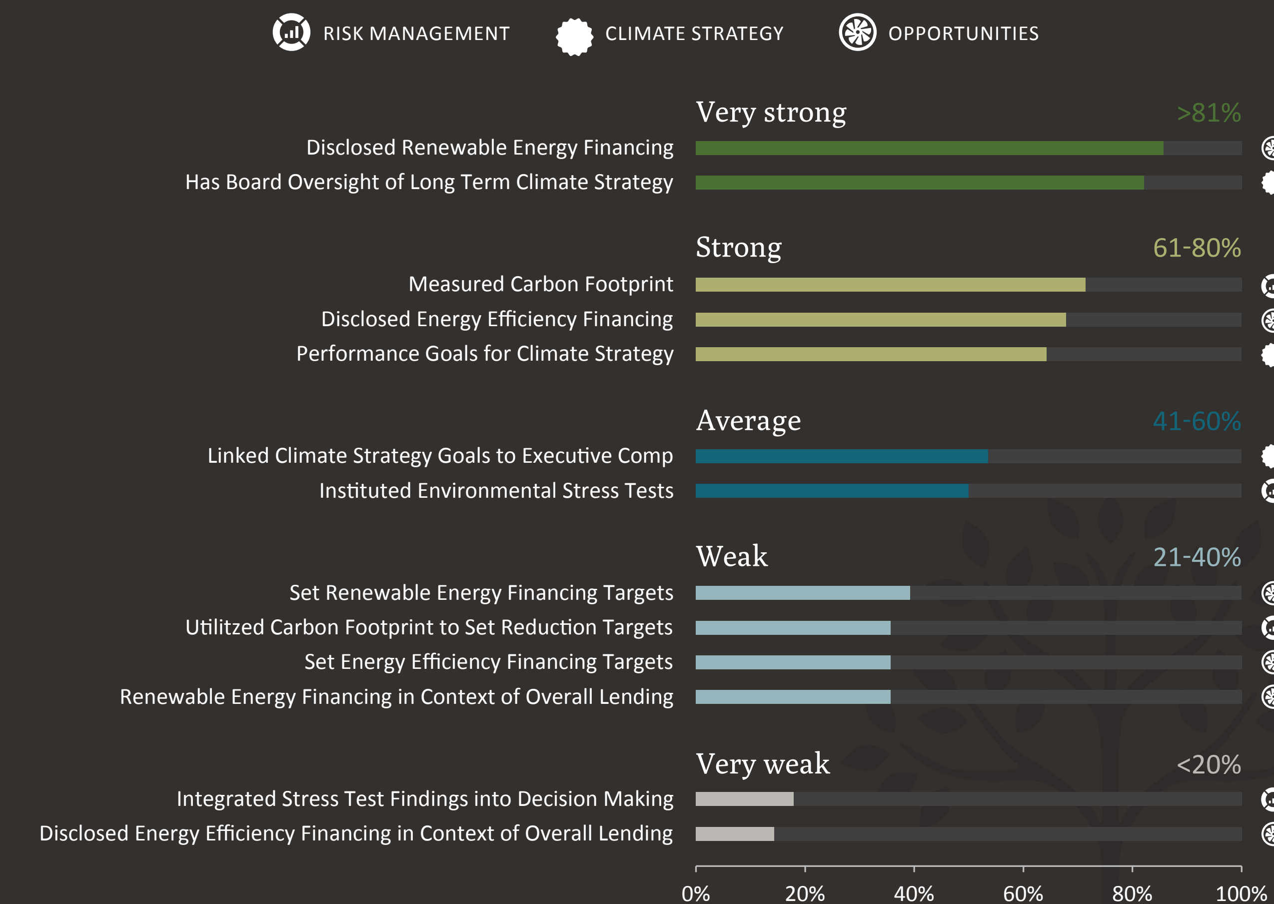
Over 80%
have adopted more explicit oversight of climate risk at board level

Less than 15%
integrating environmental stress test results into business decisions

28
Banks responded to our follow-up questions



Overall Bank Performance



Methodology

Boston Common was joined by the same lead investor group that supported the project in 2015 – Aequo (previously Batriente) , Australian Ethical Investment, Church of Sweden, Cometa, and Ethos – to reach out to the 45 banks engaged in our 2015 study to survey progress made since the last report (October 2015). Our 2016 bank survey questions covered 14 climate performance metrics under Climate Strategy, Risk Management and Financing Opportunities focused on assessment (2 metrics), management (7 metrics) and disclosure (4 metrics).

Twenty-eight companies provided substantive responses to our survey request and/or actively discussed the survey questions in ongoing dialogues with one or more of the lead shareholders. We used company survey responses, as well as their current public disclosures and information gleaned through investor engagements, to assess policy changes enacted over the past year.

While the banks that responded only represent 45% of the original 61 banks engaged in 2015, these banks are some of the more advanced players in the industry and many of them made our 2015 Top 20 list. We also attribute our successful response rate to the active engagement by Boston Common and the lead investor group including in-person meetings in their home country markets. The regional profile of the responses included Australia (4), Canada (4), Europe (13), Japan (2), and the U.S. (5). We saw a marked decline in the number of US banks responding and none of the Chinese banks chose to participate despite numerous outreach attempts.

This report aims to assess progress made by the global banks covered in the 2015 report on climate performance metrics and is not meant to provide a re-ranking.

SPOTLIGHT

Bank Survey Questions

Climate Strategy

Governance

- Has the bank established board-level oversight for long-term climate strategy?
- Has the bank established performance goals for the management or implementation of climate strategies?
- Has the bank explicitly linked climate strategy-related goals to executive compensation?

Risk Management

Carbon Footprinting

- Has the bank measured and disclosed the carbon footprint, or performed other benchmarking exercises, on any of its financing activities (e.g. its lending to the energy sector)?
- Has the bank utilized carbon footprinting or another benchmarking tool to set targets to reduce exposure to carbon-intensive industries?

Stress Testing

- Has the bank instituted regular environmental stress tests?
- If so, has the bank integrated stress test findings into decision-making?

Opportunities

Energy Efficiency Financing

- Has the bank quantitatively disclosed energy efficiency financing?
- Has the bank quantitatively disclosed energy efficiency financing in the context of overall lending and investments, for example as a proportion of overall lending and investments?
- Has the bank set targets for energy efficiency financing?

Renewable Energy Financing

- Has the bank quantitatively disclosed renewable energy financing?
- Has the bank quantitatively disclosed renewable energy financing in the context of overall lending and investments, for example as a proportion of overall lending and investments?
- Has the bank set targets for renewable energy financing?

Summary

Across the board, banks are continuing to adopt policies and programs that support the transition to a low-carbon economy. They are integrating climate strategies into corporate governance systems, conducting carbon footprinting or environmental stress testing, and expanding financing of and lending to energy efficiency and renewable energy.

Bank Policy Progress

Our 2016 survey asked the banks to share any policy or program changes they have implemented since we last assessed them in late 2015. An encouraging 23 of the 28 banks or over 82% have implemented substantive policy changes since the end of 2015.

These focused on their Climate Strategy (15 policy changes), Risk Management (20 policy changes), and Financing Opportunities (14 policy changes). We saw the most policy changes related to further restrictions on investing in coal and coal-fired power plants and increasing due diligence requirements for the most carbon intensive sectors.

Some of these notable policy changes are shared in the key findings sections.

Industry Level Results

Across the fourteen (14) climate performance metrics which expanded on the original set from the 2015 report, we saw the most improvement in the use of carbon footprinting and environmental stress tests. What we have not seen yet is how these assessments are being integrated into management decision-making or goal-setting focused on energy portfolio re-balancing or increasing due diligence for carbon intensive sectors.

We saw marked progress in more explicit oversight at the board level, establishment of performance goals, and links to compensation. Finally, we continue to see increasing disclosure by the banks on how much they are financing or investing in energy efficiency and renewable energy. However, we saw little or no contextual information about what percentage this represents of their overall lending or financing activities. Finally, too few banks are establishing or disclosing public goals to reduce exposure to carbon intensive sectors or providing guidance to investors on targets for their lending or investment in renewable energy or energy efficiency.

Chart: Overall performance at a glance

	ASSESSMENT	MANAGEMENT (Oversight, Goals and Quantitative Targets)	DISCLOSURE
Climate Strategy			
Board Level Oversight		Very Strong	
Performance Goals		Strong	
Executive Compensation		Average	
Risk Management			
Carbon Footprint or Other Benchmarking Exercise	Strong		Strong
Set Targets to Reduce Exposure to Carbon Intensive Sectors		Weak	
Environmental Stress Test	Average		
Integrate Stress Test Results Into Management Decisions		Very Weak	
Opportunities			
Energy Efficiency			
Quantitative Figures			Strong
% of Overall Lending/Financing			Very Weak
Set Targets		Weak	
Renewable Energy Financing			
Quantitative Figures			Very Strong
% of Overall Lending/Financing			Weak
Set Targets		Weak	

Key Findings

Climate Strategy

Nearly all responding banks report board-level oversight of climate issues, and most disclose strategic objectives for the management or implementation of climate strategies. However, many of these objectives focus on operational environmental footprint as opposed to the environmental risks and opportunities associated with financing and lending operations. Similarly, compensation is more commonly linked to indicators of operational environmental performance (e.g. greenhouse gas emissions) than to progress on financing specific or broader climate strategy-related objectives. Nevertheless, best practices are emerging. For example, **Barclays** has set a core objective to deliver financing solutions that accelerate the transition to a low-carbon economy and has linked senior executive compensation to company performance on this and other climate strategy goals. Overall, banks are strengthening their environmental policies to acknowledge global efforts to limit global warming to two degrees Celsius.

Leading practices identified in this performance area include: **Board Oversight**, **Performance Goals**, **Ties to Executive Compensation**.

Examples of Leading Practices

At **Barclays**, senior executive compensation is linked to company performance on climate strategy-related goals.

HSBC has designated its Chairman as ultimately responsible for climate change issues and has incorporated sustainability risk policies into its overall risk management framework.

In late 2015 **Commonwealth Bank of Australia** updated its Group Environment Policy to express its commitment to support the transition to a low-carbon economy, including through applying comprehensive environmental risk management frameworks to its lending and investing decisions.

Skandinaviska Enskilda Banken (SEB) has established objectives to continually integrate environmental, social, and governance (ESG) aspects into portfolio management, further develop ESG-focused products such as its green bond fund, and expand renewable energy financing.

Board level oversight	Performance goals	Executive compensation
Very strong	Strong	Average

Risk Management

Measurement of Climate Change Data

Banks are beginning to conduct carbon footprinting, although few report utilizing the findings to strategically reduce exposure to carbon-intensive industries. Notably, **Standard Chartered** recently released a public policy position on Climate Change and Energy among 20 position statements, which form the basis for their Environmental & Social (E&S) risk management and due diligence procedures. Standard Chartered is in the process of developing additional assessment criteria on climate risk for its energy sector clients aligned with the Paris Agreement goal to limit global temperature rises to less than 1.5 degrees Celsius. This is in addition to Standard Chartered's commitment to no longer invest in stand-alone, non-captive thermal coal mines and it imposed further carbon emission restrictions on coal-fired power plants. The bank has committed to investing $4 billion USD by 2020 in renewable energy. In other cases, banks have developed sector-specific policies – especially policies restricting financing and lending to coal mining and coal-fired power generation – prior to conducting any carbon benchmarking.

Environmental Stress Testing

More banks are conducting environmental stress tests. However, few disclose performing stress tests regularly or describe how they are integrating stress test findings into decision-making. There are some notable exceptions. **PNC Financial** has not only performed a stress test related to the implementation of the US EPA's Clean Power Plan, but also commits to conducting annual environment-related stress tests going forward.

Benchmarking (e.g carbon footprints)

Strong

Targets reducing exposure to carbon intensive sectors

Weak

Environmental stress test

Average

Integration of stress test results

Very weak

Examples of Leading Practices

Carbon Footprint Analysis, Environmental Stress Tests, Economic Scenario or Benchmark Analysis, Carbon Intensive Sector Reduction Goals & Policy Changes

Carbon Footprint & Policy Changes

Citigroup calculates the greenhouse gas (GHG) emissions reductions associated with its alternative energy financing. The bank has also calculated and reported the carbon emissions associated with the power plants it finances.

Commonwealth Bank of Australia continues to assess the carbon emissions associated with its business lending portfolio. The bank reports a 10% decline in the carbon intensity of the portfolio from FY2014 to FY2015.

Credit Suisse has conducted a benchmarking of its exposure, through its lending operations, to coal mining and thermal power generation and has revised its coal poliicy to restrict lending to those sectors.

Mitsubishi UFJ has estimated the carbon intensity of its syndicated loan activity. The bank also calculates and reports the carbon emissions reduction effect associated with its environmental loans.

UniCredit has estimated the external costs associated with its financing of coal-fired power plants and its overall financing of carbon-intensive industries, including assessing associated Scope 3 greenhouse gas (GHG) emissions.

Environmental Stress Testing & Policy Changes

JPMorgan Chase has assessed how evolving climate change regulations may impact its global power portfolio. In March 2016 the bank utilized findings from its portfolio review to update its Environmental and Social Policy Framework, including revising its coal financing policy to eliminate financing to new "green" coal mines, prohibiting financing of new coal-fired power plants in high-income OECD countries, and enhanced due diligence for other companies linked to coal production.

In 2015 **PNC Financial** completed its first analysis of how environmental issues, including implementation of the US EPA's Clean Power Plan, could impact its wholesale credit portfolio. PNC has committed to conducting annual environment-related stress tests going forward.

In 2015 **Royal Bank of Canada** analyzed approximately 100 of its largest clients in the energy and utilities sectors to estimate potential losses due to stranded asset risk.

UBS uses scenario-based stress testing to estimate its portfolios' exposure to increasing climate change regulations and severe weather events. In 2015 the bank assessed potential impacts of increasing climate change regulations and severe weather event scenarios on its energy and real estate loan portfolios.

Westpac has begun undertaking scenario modeling to "assess the longer term economic impacts of limiting global warming to two degrees Celsius". The bank presented its research in its 2016 Sustainability Performance Report, released in November 2016.

Opportunities: Energy Efficiency & Renewable Energy Financing

Banks are seizing opportunities to expand energy efficiency and renewable energy financing. Several banks have set multi-year, quantitative targets to support the transition to a low-carbon economy through financing. For example, **National Australia Bank (NAB)** plans to invest AUD 18 billion over seven years in energy efficiency, renewable energy, and low-emissions transport, among other activities. Banks are establishing targets for green bond issuances, endorsing the Green Bond Principles, or otherwise demonstrating increasing involvement in the green bonds market. Nevertheless, few banks quantitatively disclose energy efficiency and/or renewable energy financing in the context of overall lending and investments. While multiple banks reported internal discussions around how to track and report this information; there is clearly a lack of consensus in the industry around what such a disclosure should look like.

Examples of Leading Practices

Disclosing Financed Amounts including as a percentage of overall lending/financing activities and Setting Quantitative Goals and Targets

Australia and New Zealand (ANZ) Bank has set a five-year, AUD 10 billion commitment to fund and facilitate low-carbon solutions to support the transition to a low-carbon economy. In the first year, the bank funded and facilitated AUD 2.5 billion in low-carbon solutions.

In June 2016 **ING Group** set a target to increase its financing of "sustainable transitions" to EUR 35 billion by 2020.

In 2015 **Intesa Sanpaolo** provided EUR 1.5 billion in loans to business in environmental protection sectors such as renewable energy, energy efficiency, and sustainable agriculture.

Mitsubishi UFJ reports that in 2015 it ranked as the 2nd leading global project finance lead arranger for renewable energy.

In 2016 **MUFG Union Bank** committed to provide $15 billion in environmental financing and investments over five years, with 25 percent of that financing to benefit low- to moderate-income communities in the U.S.

	Quantitative Figures	% of Overall Lending/Financing	Set Targets
Financing of Energy Efficiency	Strong	Very weak	Weak
Renewable Energy Financing	Very strong	Weak	Weak

Conclusion

We are encouraged by the marked progress at many of the world's largest global banks in addressing climate change and commend their willingness to hold in-depth discussions and advance the dialogue around climate risk. Further, the banks we have assessed and engaged under this study have pledged to expand their investments in renewable energy, green bonds, low-emissions transportation, and agriculture. But more needs to be done by banks individually and collectively.

Limiting global warming to less than a 2 degrees Celsius rise requires a major shift in the way we operate financially and economically. We need to dramatically reallocate resources, and develop and adopt cleaner, more efficient technologies. The funding requirements for such an undertaking are immense and require the determination and power of investors, large asset owners, and public and private banks.

We are hopeful that the multitude of industry initiatives that have been launched since our first bank and climate change report in 2014 will accelerate this essential shift. These range from the **Montreal Carbon Pledge** which commits investors to report out on the carbon footprint of investment portfolios on an annual basis, to the **Green Bond Principles** revised in 2016 to ensure a more robust and transparent green bond market that has grown to $100 billion, and the **G20 Green Finance Study Group** aimed to identify market barriers to green finance.

One of the most relevant initiatives for investors is an industry-led **Task Force on Climate-related Financial Disclosures (TCFD) under the Financial Stability Board (FSB) which released guidance in mid-December 2016**. TCFD urged companies to integrate climate-related information in their mainstream financial reports and to describe the impact on their business of aligning with a global target to keep temperature rise below 2 degrees Celsius. The recommendations further underline the importance for banks to consider how the climate exposure of the

companies they lend to impacts their risk levels and the essential role they can play in financing our transition to a "low-carbon" future. To achieve this, we recommend that these organizations leverage each other's work to accelerate the pace of industry change.

In a keynote address at the conference which launched the TCFD initiative, **Mark Carney, the governor of the Bank of England, suggested that climate change was the issue of the future for the financial sector**. We agree. Investors hold the key to realizing this investment potential, and addressing climate risk in their portfolios, and thus wield enormous transformative power including through investor engagement of the global banking sector.

Chart: Industry initiatives

Industry Initiative	Focus	Bank Participation*
CARBON PRICING LEADERSHIP COALITION	Organized by the World Bank and launched at COP21 this group aims to advance the implementation of carbon pricing worldwide.	Canadian Imperial Bank of Commerce (CIBC), HSBC, National Australia Bank (NAB), Nordea Bank, Royal Bank of Canada (RBC), Scotiabank, and TD Bank
FINANCIAL STABILITY BOARD'S (FSB) TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES	The Task Force aims to develop consistent climate-related financial risk disclosures for adoption by banks.	Barclays, HSBC, and JPMorgan Chase
G20 GREEN FINANCE STUDY GROUP	The group launched under China's Presidency is researching institutional and market barriers to green finance and analyzing options to enhance the ability of the financial system to mobilize green investment.	JPMorgan Chase and UBS
GREEN BOND PRINCIPLES	Voluntary guidelines focused on transparency and disclosure to support the development of the Green Bond market.	Barclays, Credit Suisse, Royal Bank of Canada (RBC), and ING
MONTRÉAL CARBON PLEDGE	Financial institutions including banks commit to measuring and disclosing the carbon footprint of its portfolios on an annual basis.	BNP Paribas Investment Partners, HSBC Global Asset Management, Nordea, and SEB Investment Management
PARIS PLEDGE FOR ACTION	Banks communicate their support of the Paris Agreement to limit global temperature rise to less than two degrees Celsius.	Barclays, BNP Paribas, Deutsche Bank, HSBC, ING, Nordea, Skandinaviska Enskilda Banken (SEB), Standard Chartered, and Westpac
POSITIVE IMPACT MANIFESTO	This initiative convened by UNEP-FI and the Banking Commission calls for the financial sector to adopt a new financing paradigm that "verifiably produces a positive impact on the economy, society or the environment".	ING, Skandinaviska Enskilda Banken (SEB), and Westpac

*Only includes those banks that responded to the survey or were engaged.

Appendix

Banks Responded and Engaged

Bank	Country
Australia and New Zealand Banking Group	Australia
Barclays PLC	United Kingdom
BNP Paribas SA	France
Canadian Imperial Bank of Commerce	Canada
Citigroup Inc.	US
Commonwealth Bank of Australia	Australia
Credit Suisse	Switzerland
Deutsche Bank AG	Germany
DNB ASA	Norway
Fifth Third Bancorp	US
HSBC Holdings plc	United Kingdom
ING Group	Netherlands
Intesa Sanpaolo	Italy
JPMorgan Chase	US
MUFG Union Bank	US
Mitsubishi UFJ Financial Group	Japan
National Australia Bank	Australia
Nordea Bank AB	Norway
ORIX Corporation	Japan
PNC Financial	US
Royal Bank of Canada	Canada
Scotiabank (Bank of Nova Scotia)	Canada
Skandinaviska Enskilda Banken	Sweden
Standard Chartered PLC	United Kingdom
TD Bank Group	Canada
UBS AG	Switzerland
UniCredit	Italy
Westpac Banking Corporation	Australia

Timeline of Activity

2014

July

Research
Boston Common published "Financing Climate Change: Carbon Risk in the Banking Sector."

Research
Conducted baseline assessment of bank practices (CDP Carbon, Industry associates, Key climate change activies.)

July-Sept

Research
Sent letters to 61 global banks.

Sept

Engagement
Organized coalition of 80 investors with almost $500 billion in assets under management.

July-Sept

Engagement
Active engagement with 22 banks by lead investors

2015

Oct '14-Aug

Results
Analyzed 45 banks across 10 key metrics to produce Impact Report.

June-Sept

Results
Report Results shared with Investors and Engaged Banks

Oct–Mar

Engagement
Banks Engaged on Revised Call to Action

Engagement
Banks Surveyed on Revised Performance Metrics & New Policies

2016

Oct–Nov

Results
Bank Update Report Issued

Jan

2017

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