

Taking the Carbon Out of Credit

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An integrated approach to removing climate emissions from lending



**Climate Safe
Lending Network**

July 2020

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FOREWORD



Geeta Aiyer, CFA
*Founder & President
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This is the decade in which, contrary to all that humanity has experienced before, we have everything in our power to address climate change. We have the capital, the

technology and the scientific knowledge. By aligning bank and non-bank lending to businesses as they decarbonize, we can make faster progress. In the context of dealing with and recovering from COVID-19 we witness the opportunities for global leadership across institutions and the need to incorporate a more systemic view of sustainability. While the global direction of travel seems inevitable, shifts in public policy are taking place across cities and nations. Proactive leadership from financial institutions is required now in order to make the most of the coming opportunities and navigate successfully through the emerging risks.

This paper from Climate Safe Lending sets out an integrated mechanism for tackling this challenge, with practical tools, enabling institutions to build upon existing initiatives in this arena and extend their individual and collective leadership.



Nigel Topping
*High Level Climate
 Action Champion,
 COP26*

Over the past decade, we have witnessed businesses increasing their understanding of climate science, stretching their ambitions, and setting science-based targets to align

their strategies to the goals of the Paris Climate Agreement. The race is now on to transition to a zero-carbon economy in the 2040s.

If we can collectively mobilize the finance sector so that it accelerates that transition, countries will then be able to stretch their own ambitions and commitments as they have all promised to do. That will help the private sector to act decisively to avoid the worst effects of the climate emergency. Lenders across the world, as primary investors in the real economy, have an important role in that story. As this paper demonstrates, financial institutions have huge agency through the relationship with their clients—how they use their influence and their capital in the coming years will impact everyone on the planet for decades to come.



CLIMATE SAFE LENDING NETWORK

Our goal: By 2025, European and North American bank lending is consistent with staying below a 2°C global temperature increase

We started [Climate Safe Lending](#) to help lending institutions collaborate with each other and other parts of the broader financial system—including investors, clients, academics, NGOs, policymakers and regulators—to accelerate the global shift to a climate-safe world. Aligning flows of lending from banks and non-banks with the transition to a net-zero carbon economy, on a timeline that helps us avoid the most severe destruction from climate change, requires rapid progress across the financial sector. It is not enough to understand the science or methodologies for assessment—making an impact in the real economy will take implementing critical strategies, organizational processes, and deep culture changes.

The COVID-19 crisis lays bare the fragility of our economic systems and the urgency of using the financial system to flatten the climate curve, rather than contribute to its acceleration. We believe that connecting across diverse networks in a shared pursuit of collective and appreciative inquiry can help catalyze this process. Our [Climate Safe Learning Lab](#) held in September 2019 confirmed the huge appetite among individuals working within major financial institutions to co-create meaningful change. In the decade ahead, the goal of our network is to help drive changes in mindset and leadership to make a demonstrable difference in the financial system. And, by taking the carbon out of credit, we can contribute to reversing the climate arrow and look forward to a safer and healthier planet.

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Positive Money

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ABOUT THE AUTHOR



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James Vaccaro is a strategist and systems thinker with a background in sustainable finance. James has over 20 years of senior management experience in sustainable banking and investment and acts as a Special Advisor to Triodos Bank. He has advised on share offers and bond issues for leading charities and businesses, managed equity investments, and has been a non-executive director for a wide range of environmental and social businesses. James is also a member of United Kingdom, European, and international sustainable finance advisory groups and is the author of several papers on sustainable finance and impact investing.

EXECUTIVE SUMMARY

**What can banks do to demonstrate leadership in addressing climate change?
How does managing risks relate to managing impact and setting targets?
And what practical strategies can lending institutions implement that will
accelerate the transitions of their clients and support innovative new solutions?**

1. Taking responsibility for climate risk
2. Being accountable for climate impact
3. Stopping the flow to fossil fuels
4. Decarbonizing economies and balance sheets
5. Financing innovation for a sustainable future

The Climate Safe Lending Network was set up to catalyze progress in discussions between banks and the full range of their stakeholders to adequately and urgently address climate change. To “Take the Carbon Out of Credit” requires a multi-layered approach encompassing the following leadership priorities:

1. Taking responsibility for climate risk

Get the fundamentals in order

We start with the fundamentals of managing risk. Under the framework of Task Force on Climate-related Financial Disclosures (TCFD), banks need to understand and disclose the physical and transition risks of the assets they hold. It is a framework that many argue should be mandatory, and across institutions there is momentum to implement it. But integrating the financial risks caused by environmental risks is not the same as understanding a financial institution’s contribution to systemic or planetary risks. Institutions need to go beyond managing their own financial risks and consider their impacts and, therefore positive and negative contributions, to systemic risks.

2. Being accountable for climate impact

Understand and contextualize your contribution so you can set targets now

Banks are starting to use frameworks to assess their climate impact and set targets. Methodologies for carbon accounting across an entire portfolio are evolving and will be refined over time. Rather than waiting for the perfect methodology, it is important that banks, together with their boards and stakeholders, set public targets now and report on progress transparently and regularly. The focus can then shift to the deeper work of developing strategies for reducing climate emissions through its activities and relationships with clients.

3. Stopping the flow to fossil fuels

Exit strategies from high-carbon economy and deforestation

Positive action needs to be contextualized with the flows of financing towards the most damaging climate sectors including fossil fuels and deforestation. At a time where even JPMorgan Chase analysts recognize that business as usual ‘opens the earth to a greater likelihood of a catastrophic outcome,’ the shift out of fossil fuels should seem inevitable. As a response to the COVID-19 pandemic, we can expect to see lobbyists from high-carbon industries calling for a return to business-as-usual so that the economy can bounce back. As stewards of the future, it is important that banks demonstrate leadership in helping us to move forward into low-carbon, sustainable, and resilient economies. As primary investors in the real economy, bank divestment from fossil fuels and deforestation can alter the cost of capital and the landscape of political risk for the fossil fuel industry and play a potentially significant role in accelerating decarbonization.

4. Decarbonizing economies and balance sheets

The priority today is to galvanize practical action between banks and their clients in the real economy. We offer a strategy toolkit with 10 interventions designed to help banks make a difference:

5. Financing innovation for a sustainable future

The pathways to climate-safe lending cannot all be determined today. We are likely to see breakthrough solutions that can disrupt sectors. Events such as COVID-19 can also disrupt our patterns of behavior. However, there are plenty of existing innovations—both technologies and business models—that are ready to scale and can play an important role in decarbonization. These include the hydrogen economy, regenerative agriculture, restoration of marine ecosystems, and retrofitting of our built environment. Many of these business models may rely upon diverse income streams representing the multiple positive impacts they may create. This leads to business model innovation that, with the application of banking expertise and support, could transform the sustainability of our economies much faster than we can predict today.



The Climate Safe Lending Strategy Toolkit

Creating sector decarbonization plans



Banks can engage their sector-relationship teams to monitor and understand how their activity compares to current best practices and to a net-zero solution.

Requesting & monitoring decarbonization plans



Lenders can provide debt to customers with conditions and borrower covenants that link to events of default.

Mobilizing client networks



Banks take advantage of opportunities to mobilize their client networks and to arrange connections and introductions to help businesses make progress.

Directing incentives



Offering financial incentives can stimulate demand and compensate for some of the costs of making the investments needed for transition (e.g. via green mortgages)

Investing in scalable interventions and assets



Applying solutions or technologies that could be applied across sectors (e.g. energy-efficient cooling or lighting solutions) that could be financed via leasing or asset finance.

Greening operations



While the operations of a bank contribute to only a small proportion of its climate impact, greening its operations may have additional benefits, like bringing insights into their day-to-day work and their client contacts.

Peer learning networks



By joining together in pre-competitive collaboration sessions, lenders can share insights and learn together, driving the financial sector forward in enhancing sustainability.

Campaigns & public advocacy



In communicating their sustainability messages, banks powerfully signal the direction of a market, influencing entrepreneurs and stimulating demand for sustainable solutions.

Mobilizing retail clients



Retail deposits are a major component of funding for lending institutions. Individuals are not just savers; they are also active citizens and consumers. Banks can mobilize retail clients via communications or specific products.

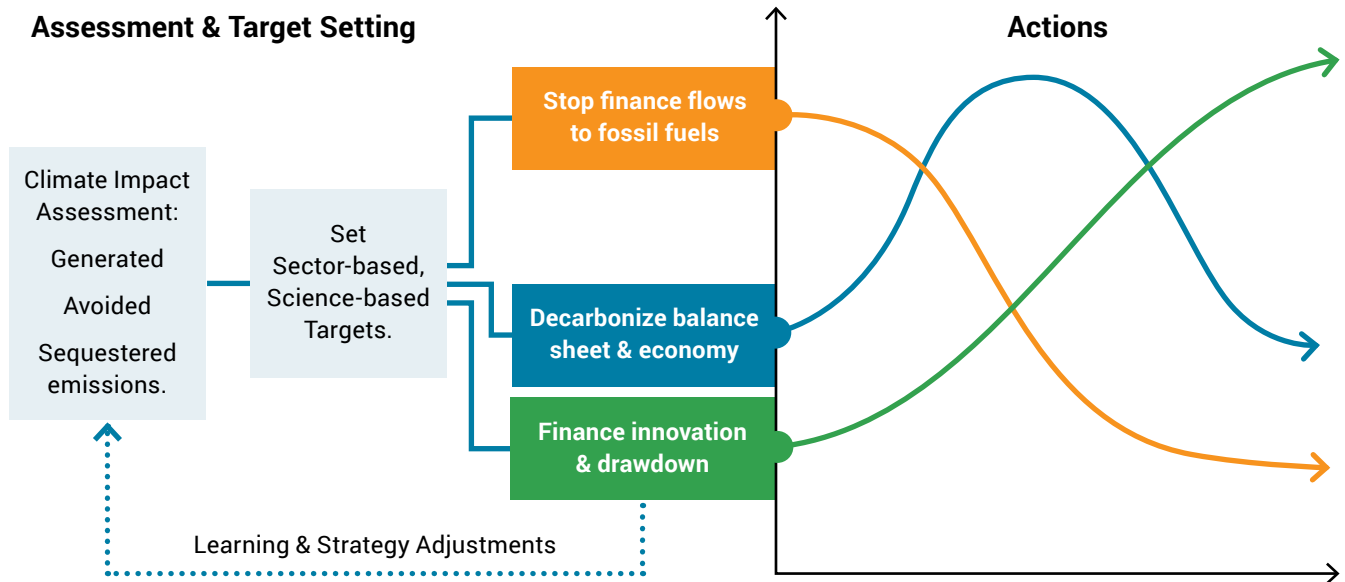
Lobbying in public policy and links to public finance



By positively influencing the public policy arena, banks could play a pivotal role in ensuring that green policies do transform the real economy.

We have set out the three horizons approach to Climate Safe Lending (see below) which shows how the process of target-setting can mobilize the activities on an iterative basis within each bank.

Three horizons model for Climate Safe Lending



The Triple-A bank of the future

The test for whether a lending institution is ‘climate safe’ is a borrowed concept from ratings agencies, in which ‘AAA’ is the highest rating. When looking at climate safety, sustainability and resilience, we modify this concept to rate banks as ‘Triple A’ if they:

Anticipate Risk: Base assessments of clients not just on events that have occurred in the past, but on reality-based expectations for their future and adapting their policies.

Add Value: Banks will need to decarbonize and optimize the social, environmental, and economic value this produces for clients. Lenders can play a proactive role through strategies mentioned in this paper.

Act Now: Align business strategy with positive environmental impact. Direct entrepreneurial efforts towards addressing climate change, with an urgency commensurate to the challenge. Doing so will accelerate progress across the economy and in the development of policy. Acting now is a key indicator of a bank’s readiness to step positively into the future, with society’s support and encouragement.



TAKING THE CARBON OUT OF CREDIT

In this paper, we set out five strategic elements that together can form an integrated approach to *Taking the Carbon Out of Credit*. These action areas collectively describe an approach that any lending institution can incorporate within its strategy:

1. Taking responsibility for climate risk
2. Being accountable for climate impact
3. Stopping the flow to fossil fuels
4. Decarbonizing economies and balance sheets
5. Financing innovation for a sustainable future

This is not an instruction manual. Every lending institution is different in terms of its geography, sector-focus, business model, and client base. However, in facing a collective challenge, it is essential to identify shared challenges and common goals to create shared learning opportunities.

We believe that there are many practices and ideas which can be cross-fertilized and improved to generate effective strategies to help business decarbonize and to support innovation for transformational change.

We want to encourage debate and participation among financial practitioners, policymakers, and the public. In a Climate Safe Learning Lab event held in September 2019 in New York City, 21 senior bank representatives from North America, Europe, and Africa explored the levers for change within their own organizations and within the broader system. Working together the participants learned to diagnose key issues, shared ways to act as effective internal change-makers, recognized how to capitalize on opportunities for change, practiced peer-coaching to help each other move forward, and mobilized the wisdom and support of peers in other financial institutions that are also committed to progress.

We believe that by learning together we can move faster and further.

To find out more about the Climate Safe Lending Network visit www.climatesafelending.org or contact: connect@climatesafelending.org

WHY WE NEED CLIMATE SAFE LENDING

From era of change, to change of era

We are living in an era of change—that's not a new phenomenon. Humans have always managed uncertainty and learned to rapidly adapt. We have developed technologies and found new patterns to organize ourselves. We have evolved an intricate series of relationships between people to allow for the exchange of value which we call the economy. And we've built an entire financial system on top of this.

Since a core purpose of the financial system is to help society manage risks, financial institutions have created sophisticated techniques for assessing and judging probabilities of a business venture succeeding or failing. These are the result of assessment, review, and analysis. Bankers have learned what to look for within a sector and the safe limits within which to lend. As vast quantities of data have been analyzed, patterns that have emerged have guided the development of informed regulations. When all of these resources work, transactions happen and savers

remain reassured that their risks are under control. But sometimes, it all stops working.

In the global financial crisis of 2008, we witnessed a mass systemic failure in the financial system. The sophisticated models had been based on assumptions that were visibly and obviously unreliable. When it came to the crunch, the complicated risk models proved to have a common flaw: garbage in, garbage out. We learned that many financial institutions had become far too distant from the real economy to notice what was hiding in plain sight. They continued to follow past practices without questioning them, until the crash happened. Governments bailed out banks to avoid the global economy going over the edge, causing many countries to pay heavily through austerity measures. Regulators responded by addressing conduct rules and enforcing restrictions on certain activities. Banks were forced to carry more capital. The financial system tried to return to normality and stability where the models would work again if only people did their jobs properly.



Fast forward to today, we now appear to be living in a change of era. And that really is a new phenomenon.

With the COVID-19 pandemic, the global community has witnessed the fragility of our health and economic systems. The pandemic serves as a harbinger of what will come as the climate crisis broadens and deepens; if humanity fails to come together to flatten the climate curve. The recovery from the pandemic offers the opportunity for transformative resilience. We can use what we have learned about the interconnected nature of the world and the dependencies of our economic and financial systems on human and planetary health. We have the leadership opportunity to move forward rather than bouncing back.

The climate, which humanity has relied upon in developing civilization and agriculture, is being disrupted. In the past four decades, we have seen over 1°C increase in global temperature. We have witnessed the destruction of more than 60 percent of all wildlife. Our oceans have become acidic and now contain huge quantities of plastic waste. Large swaths of our global community have already experienced devastating destruction from intensifying storms, floods, droughts, and fires.

If we continue on our current trajectory toward a global warming of 1.5-2°C or beyond, later this century we will experience conditions that human civilization has never lived through, likely making the horrific COVID-19 pandemic pale in comparison. Our society and our economies will be heavily disrupted, with some parts of the world unable to satisfy the basic conditions for human life. The financial sector, precariously built upon the economy, will suffer. The losses will be distributed, almost certainly unevenly. The techniques we use to judge risks today, based on the assumptions of a stable planet, might be of little value as we move into planetary breakdown caused by climate change. We will be in uncharted territory and money will not be able to save the global economy. Whereas central banks and governments can step in after a financial crisis, we will be helpless when facing a breakdown of nature.

The Broader Socio-Economic Context

Climate change is generally framed as an environmental issue. Indeed, this paper focuses on the reduction of climate impacts and acceleration of environmental solutions. But we cannot separate climate change from its systemic social context. The physical and transition risks anticipated by the impacts of climate change will not be evenly distributed. From countries with insufficient resources to adapt to individuals without the training or opportunities for immediate local employment, there are major risks that climate change will further magnify socio-economic inequalities. Marginalized communities and people living in areas where climate change is already occurring will continue to suffer disproportionate impacts. It is, therefore, essential that social justice is fully integrated into how banks consider a just transition to an inclusive green economy without using short-term

economic consequences as an excuse to prolong long-term environmentally damaging practices.

The leadership role of lenders

We know that this future scenario is avoidable. We know what would decelerate and reverse the climate emissions in our atmosphere. We have the technologies available to do it. Many of these (like solar and wind energy) are cost-competitive or better in comparison to their climate-polluting alternatives. Other clean-tech innovations (like high-tech energy-efficient products and large-scale battery storage) are developing rapidly, with costs falling and expertise rising. We also see the promise of new technologies to drawdown existing atmospheric carbon, including opportunities in agriculture that are low-cost and come with additional ecosystem, rural economy-, and global food security benefits. But there is still more work to be done on new business models in order to see the pace of change we need in some areas, such as the restoration of nature.

Banks can play a huge role in accelerating these transitions. As primary investors in the real economy, lenders have a huge influence on the day-to-day strategies of its businesses. Banks allocate capital to projects ranging from instantly accessible savings accounts to infrastructure projects that can last for decades. They can analyze data across sectors and make connections across their vast client networks. If they recognize that their purpose includes managing real-world impacts alongside financial risks, they can become catalysts in global efforts to avoid catastrophic environmental damage.

However, to be real leaders on this journey to climate-safe lending, banks need to address some fundamental contradictions within their own business models and operating structures. Increases in lending to new green projects can be undermined by the continuation of financing to the fossil fuels industry. The reliance on revenues either on or off balance sheet significantly slows the pace of change. It's not possible to accelerate when you're driving with the brakes on. We are witnessing important steps being taken across the financial sector—from financial institutions to regulators. Over 170 banks endorsed the UN Principles for Responsible Banking in September 2019 whose first principle includes the “alignment of business strategy [to...] the Sustainable Development Goals [and the] Paris Climate Agreement.”

Prioritizing impact in finance not only generates positive impact for the environment, society and the global economy—it can underpin the resilience of banks' and clients' business models in the face of unfamiliar risks. This is why Climate Safe Lending was created. By forming a network of lenders from leading financial institutions, along with their clients and investors, financial and climate experts, NGOs, and academics, we can host meaningful conversations that can accelerate positive change. We can connect internal cultural change with best-practice policies and technical insights. And we can connect business strategy to the debates on financial reform and emerging ideas from thought leaders. Together, we can turn the tide on climate change, creating a financial sector that can responsibly serve the needs of society in the decades ahead.

1: TAKING RESPONSIBILITY FOR CLIMATE RISK

Managing climate risk is core business

Managing risks on behalf of stakeholders is a fundamental purpose of every lending institution. If a bank doesn't get that element right, it fails. If it ignores major emerging risks that are likely to have significant impact on the economy, that bank wouldn't just be failing at the periphery: it would be negligent.

Managing risk means understanding the entire range of forces that could influence a borrower's ability to repay. That clearly includes environmental risks, which are likely to become more significant as a consequence of climate change —especially when these environmental risks are the force behind the impacts society will face, including to health, food security and infrastructure systems. Understanding where and how climate risks may appear and how they can be managed, is critical for all lending institutions' risk management practices.

Why haven't environmental risks been sufficiently taken into account by banks so far? Perhaps because there is nothing in past experience that could provide a reliable analysis. We haven't seen global temperatures like today's since civilization began, nor atmospheric CO2 levels like today's for 800,000 years. So, it is not easy to accurately

predict the full extent of what is ahead of us. And these risks are unfamiliar to lending officers, relationship managers, and credit risk managers. Yet we have plenty of scientific evidence about what the likely outcomes are and how we should prepare ourselves. We now know much about the ongoing and potential impacts of climate change and the likely policy responses that may emerge. So, integrating this analysis into every lending decision is entirely possible.

Disclosing climate-related risks

When the Taskforce for Climate-related Financial Disclosures (TCFD) was set up in 2015 by the Financial Stability Board, chaired by Mark Carney, the intention was to ensure that sufficient information would be available for financial institutions to make judgments about how climate change contributes to financial risks, including:

- Physical risks (loss or damage as a consequence of climate change) and;
- Transition risks (financial losses as a consequence of the policies required to avoid climate change).

The Task Force recommended disclosure on 11 areas as shown below¹:

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

Carney and many other supporters have argued that TCFD should become mandatory and there appears to be momentum among financial institutions moving in that direction.² Other voluntary frameworks, such as the French “Article 173” regulation,³ mobilized some leading French financial institutions in the wake of the Paris Climate Agreement. But over subsequent years, these initiatives have had very small ripple effects on the wider banking community and disclosures have been very limited.⁴ It is therefore important to ensure that TCFD disclosures are made across all of the 11 categories of recommendations of the Task Force, and to the appropriate level of detail. Despite banks being well-represented among those reporting under TCFD, there are still many areas which are omitted or under-disclosed. For example, in 2018 reports, only one in five banks disclosed the “resilience of their organization’s strategy”⁵—indicating that TCFD may not yet drive strategic conversations among executive management and boards.

Evaluating the potential of physical risks

At the end of 2019, bushfires in Australia⁶ destroyed a landmass larger than the whole of Florida. This catastrophe directly impacted one third of the national population, killed 1.25 billion animals, and led to expected financial losses of \$3.3 billion in tourism, retail, and agriculture, with a further \$0.9 billion in insurance claims. These fires burned in a world where we have 1°C of warming.⁷ We may reach 1.5°C within the first half of the current decade.⁸

If banks continue to lend without integrating physical risks there could be severe financial consequences. Currently, many areas are known to be at risk of flooding or forest fires. Continuing to provide credit to promote development in these areas without mitigation of risk could be considered reckless. Given that banks and most lenders primarily manage downside risks, it is very possible that some regions might see banks pulling out in the future. This would have widespread economic ramifications including significant negative impact on some local communities.

Banks must act in accordance with their legal duties which include fiduciary duties and human rights responsibilities as set out in the UN Guiding Principles on Business and Human Rights. The impacts of climate change have been recognized as posing a major risk to human rights and banks have a legal responsibility to ensure that their operations don’t endanger these rights.

What is the impact on broader financial stability?

Mark Carney has described climate change risk as a “tragedy of the horizon” in that “once climate change becomes a defining issue for financial stability, it may already be too late.” In its publication “The Green Swan”⁹ the Bank of International Settlements (BIS) questioned whether many of the current risk management practices within banks were really adequate for assessing the impact of climate risks on financial stability:



Climate-related risks [...] are characterised by deep uncertainty and nonlinearity, their chances of occurrence are not reflected in past data, and the possibility of extreme values cannot be ruled out. In this context, traditional approaches to risk management consisting in extrapolating historical data and on assumptions of normal distributions are largely irrelevant to assess future climate related risks.

They went on to note that climate risk differs from some of the large, unpredictable “black swan”¹⁰ events of the past.

- *There is a high degree of certainty that some combination of physical and transition risks will materialize in the future.*
- *Climate catastrophes are even more serious than most systemic financial crises; they could pose an existential threat to humanity, as increasingly emphasized by climate scientists.*
- *The complex chain reactions and cascade effects associated with both physical and transition risks could generate fundamentally unpredictable environmental, geopolitical, social, and economic dynamics.*
- Most of the assessment in TCFD looks at the financial consequences of climate change that might impact the lender. This takes a ‘micro-prudential’ view. Many banks with considerable fossil fuel portfolios might conclude that risks are low—perhaps because such loans are typically of short duration, such as to fracking businesses (hence future financial losses may not impact the bank). Or perhaps its because the counterparty is a sovereign-backed entity e.g. a state utility which controls significant oil and gas reserves.¹¹

Mark Carney has recently suggested¹² that disclosure should be extended to cover:

- The percentage of “net-zero (climate impact) aligned” assets
- Progress on transition (against sector specific pathways)
- The warming potential of the portfolio (in degrees Celsius)

This approach would help institutional investors to better understand and compare each bank’s position with respect to climate risk, so that they could take action in line with their own policies and strategy.

Would enhanced risk management weaken financial performance? In fact, the integration of Environmental, Social and Governance (ESG) risk factors has been demonstrated to have wide financial benefits. The Global Alliance for Banking on Values recently studied

the world’s top 100 commercial banks and found that adopting a strategic focus on ESG issues leads to financial outperformance.¹³ So, there are important commercial arguments that support greater integration.

Stress-testing the future

Central banks are not regulators of the environment. But as significant public bodies, they have an important role to play. Central banks, as regulators of financial stability which rests upon the broader environmental and social stability, are recognizing that environmental stability cannot be achieved in a world disrupted by climate change. A financial crisis can be addressed, however imperfectly, by financial means. By contrast, as *New York Times* columnist Thomas Friedman noted, “Nature doesn’t do bailouts.” The first step for central banks to take is to review the way in which they conduct stress tests for banks, including attending to the more systemic and longer term consequences. The Bank of England has taken the lead in this, by extending its time horizon for stress tests to 30 years.

The European Central Bank has laid out its plans¹⁴ for a stress test that considers macro-economic factors such as the de-leveraging of the banking sector. For example, what would be the impact on the economy if banks manage climate risks by stepping away from certain industries or geographies within a short timeline?

From risks to impact

The further we move toward scenarios in which temperatures rise to increasingly dangerous levels, the greater the probability and potency of physical risks. The more we delay implementing policies to address climate change, the more likely we are to face sudden and disorderly transitions, with predictable economic shocks and financial losses. Despite the TCFD report mentioning “risks and opportunities,” it is worth noting that these are the risks and opportunities for individual financial institutions.

“It’s a big misconception about TCFD that the opportunities refer to positive impact for the planet,” explains Remco Fisher, head of United Nations Environment Programme Finance Initiative (UNEP FI). “Whilst it is essential, TCFD only provides one part of the equation—looking at the impact on banks, not the impact generated by them.”

To go beyond their climate-related financial risks as institutions, lenders need to look at how they manage their impact on the climate. That means exploring accountability for the contributions, both positive and negative, that will make effective progress on climate change.

2. BEING ACCOUNTABLE FOR CLIMATE IMPACT

Are we trying to protect the climate with finance, or protect finance from a changing climate? That question was recently posed in a *Bloomberg* article.¹⁵ It feels like a good question with an obvious answer: we must do both if we are to secure a healthy economy and a healthy society. That means managing both environmental risk (the inward effect) and environmental impact (the outward effect), and building these into new standard operating procedures. New regulations that build on the goals of TCFD may be on the horizon which include both the financial and social/environmental aspects of a financial institution’s activity. For example, the EU’s Non-Financial Risk Directive (NFRD)¹⁶ contains a “double materiality,” i.e. an assessment of both “financial materiality” and “environmental and social materiality.”

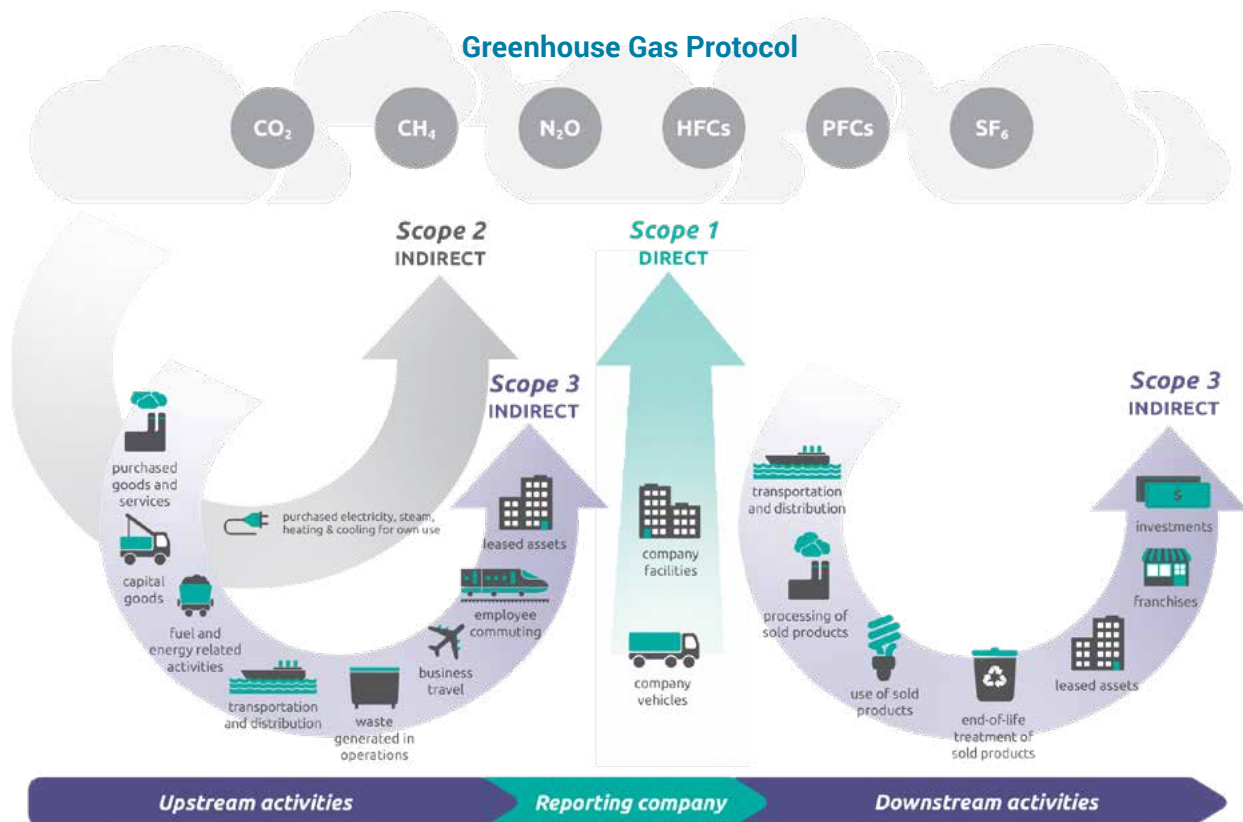
If banks want to manage their reputations and get ahead of future policy changes, they need to understand and account for the impacts of their decisions. The climate impact of a bank is most closely tied to its lending and revenue-generating activities. These factors massively outweigh

the direct and indirect emissions of a bank’s operations, not that those should be ignored.

To form a true and fair view of the climate impacts of lending activities is not an easy task. First, we have to consider scope. The Greenhouse Gas Protocol¹⁷ (see figure below) defines three categories: Scope 1—the direct emissions from operations, Scope 2—the indirect emissions of energy consumed, and Scope 3—the indirect emissions of the upstream and downstream supply chain. For lending institutions, the most significant impact may involve downstream Scope 3 (the borrowers). Depending on the sector, one might then need to consider the Scope 1 and Scope 2 emissions of those borrowers—and potentially the borrower’s Scope 3 emissions as well.

What are the results of a climate impact assessment?

An assessment is then based upon a sector-by-sector evaluation of the climate impact of the borrowers. What





level of climate emissions does each borrower produce? How much of those emissions should be attributed to each lender? (For example, if part of a loan syndication.)

Various methodologies already exist to provide financial institutions with insights such as:

- What is the total climate impact for which we are accountable (on balance sheet and on revenue-generating off-balance sheet activities)?
- What is the relative climate impact (per \$, €, £)?
- What is the climate impact per sector?
- What is the climate impact intensity per sector (e.g. per m2 of property or per MWh of energy)?
- What is the planned improvement in climate impact per client or per sector?
- How does that climate impact intensity per sector relate to current market practice, best practice and alternatives?

Together with data on technology and policy developments in specific sectors, these insights can help institutions to set science-based targets to align themselves with climate-safe scenarios. For example, Triodos Bank’s 2019 Annual Report¹⁸ provides a sectoral breakdown of its balance sheet in terms of the related climate emissions covering the majority of its lending. Its analysis differentiates among generated, avoided, and sequestered emissions.

From assessments to science-based targets

The Science Based Targets Initiative (SBTI) was set up by the World Resources Institute (WRI), Carbon Disclosure

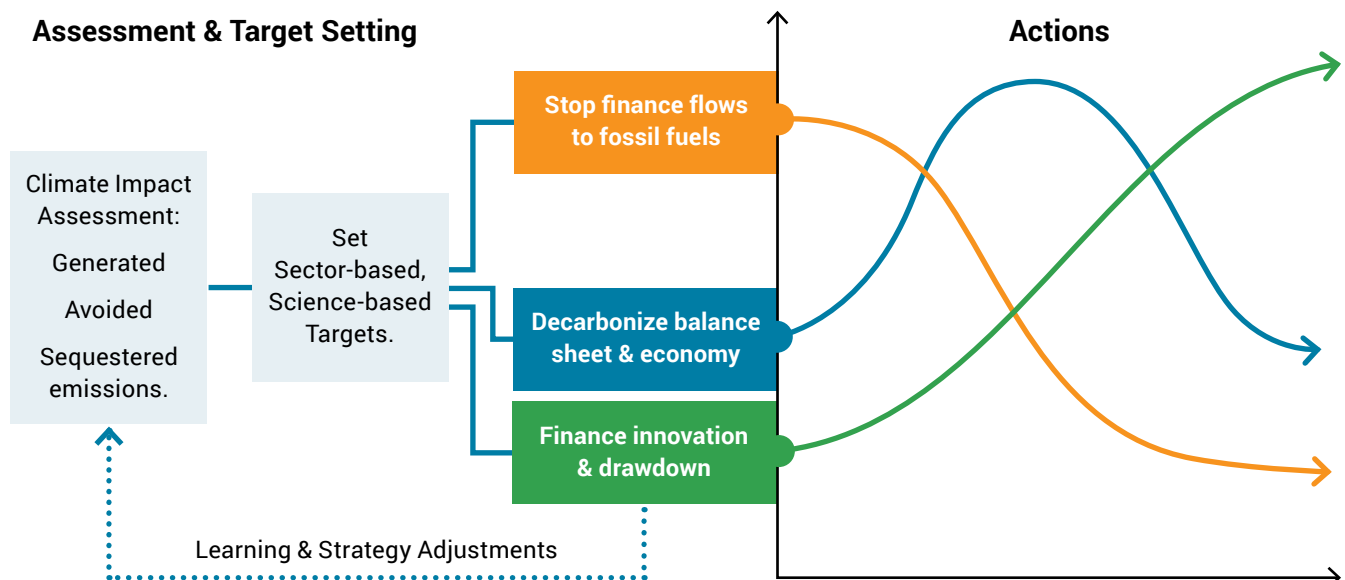
Project (CDP) and World Wildlife Fund (WWF). Over 800 companies worldwide have now signed up to set science-based targets under this framework, with 330 having approved targets. SBTi is currently working on the criteria for financial institutions to be launched in 2020.

Carbon accounting frameworks and sector-based trajectories underly the methodologies for target-setting. These are already being used in a number of banks across the world:

- Partnership for Carbon Accounting in Financials (PCAF), which enables sector-based accounting of climate impact across a bank’s lending portfolio.
- Paris Agreement Capital Transition Assessment (PACTA), which provides a forward-looking scenario analysis for fossil fuels, power, transport, and heavy industry sectors.

It is important that a bank sets out a target and a strategy for reducing climate emissions through its activities. Setting a public target and then reporting on progress toward it, transparently and regularly (e.g. within annual reports), are key mechanisms (and reflected in the UN Principles for Responsible Banking). Having boards discuss and agree upon targets helps bind a bank’s entire management to a shared set of goals. As strategies are implemented and outcomes reviewed, the bank may be able to learn how it can best meet its targets over time. An optimum set of strategies is likely to emerge over time that likely cannot be known at the point of setting the targets. Therefore, it is critical that lenders move towards setting science-based targets right now and shift their attention to the process of improving and refining their strategies through their relationships with clients and other stakeholders.

Three horizons model for Climate Safe Lending



The integrated process for climate action

Borrowing from the McKinsey Three Horizons Model¹⁹ (which describes an organization's innovation program in terms of (i) changes to a company's existing business model in the short-term, (ii) extensions of a company's existing business model and core capabilities to new customers, markets, or targets, and (iii) the creation of new capabilities and new business to take advantage of or respond to disruptive opportunities) the actions for lenders could be understood along the lines of:

First horizon:

Rapid decline in fossil fuel consumption through stopping new flows of finance and winding down existing facilities through transition plans. This could be viewed as "efficiency" in the original McKinsey model by equating climate emissions as unnecessary waste.

Second horizon:

Decarbonizing clients across each sector of the balance sheet, by adopting sector-based integrated strategies (see section 4).

Third horizon:

Innovation for the business of the future; transformative investment in climate solutions including those that sequester climate emissions.

Reducing climate impact starts with a comprehensive sector-by-sector assessment of emissions generated, avoided, and sequestered by clients. This enables the bank's senior management and board to commit to sector-based, science-based targets. This first step is followed by implementation of strategies to reduce the climate impact of the lender's activity. The shift from assessment to intervention is represented in the connected diagrams on page 12.

Continuing change is inevitable; organizations know they must continuously adapt to policy and market changes. Climate assessments are unlikely to be perfect to begin with; however, they need to be good enough to start the learning and improvement process. Effective adaptation is likely to involve a cyclical process with strategy

adjustments informed by experience. Firms have to accept this imperfection and step into the inevitable uncertainty and vulnerability with the tools available at the time. To wait for all of the data and the perfect methodology would cause unnecessary delays with inevitably negative consequences.

In setting targets, lenders can mobilize their relationship managers to develop and implement sector-specific strategies. Points to consider could include:

- What if clients were to level-up to existing best practices now?
- How could clients transition to net-zero through investment?
- Are there some common approaches or technologies that could be applied across the sector (e.g. supported by asset finance)?
- What if we were to support businesses demonstrating high-sustainability alternatives (e.g. net-zero or carbon-negative housing or property developments)?

Systemic Change

More institutions are starting to make progress in assessments and target-setting, and increasingly, they are acting together. The UN Principles for Responsible Banking have coordinated a group of 33 banks that have made a Collective Commitment to Climate Action, pledging to set targets by September 2022 to reach a significantly below 2°C and ideally 1.5°C scenario. A similar commitment was reached by the Spanish Banking Association during COP25 in Madrid in December 2019. These commitments are important in signaling to workers within those lending institutions and their clients.

The more that executive management and boards make ambitious steps and set bold targets, the more expectations and culture will shift across a sector. At a company-wide level, senior management can monitor and better understand how their own targets and performance compare to national targets, such as specific temperature scenarios. By exploring the ways in which financial institutions can accelerate decarbonization pathways in the economy, governments and policy-makers could stretch their own ambitions and targets through Nationally Determined Contributions (NDCs). This can create a feedback loop that could prove to be a significant opportunity for closing the gap between our current global trajectory and the path that we need to be on.

3. STOPPING THE FLOW TO FOSSIL FUELS

We cannot continue with the business-as-usual (BAU) approach, that only worsens climate change. In a recent research note from JPMorgan Chase (Mackie & Murray, 2020), the authors note:

One thing is sure: BAU opens the earth to a greater likelihood of a catastrophic outcome from the fat upper tail of the probability distribution. It also increases the likelihood that the costs of dealing with climate change will go up as action is delayed. And finally, it increases the likelihood that the changes in the climate will be irreversible.

An obvious starting point for any lending institution in addressing climate change is to eliminate the ways in which they are contributing to the problem. In simplistic terms, that means ending lending to new fossil fuel extraction. However, making effective policies toward that end will require grappling with complications and nuances.

Over recent years, many banks have committed to ending fossil fuel financing. In the first few months of 2020, we have seen movement from banks that had initially resisted making such commitments:

Goldman Sachs: Ruled out direct finance for new or expanding thermal coal mines and coal-fired power plant projects worldwide, as well as direct finance for new Arctic oil exploration and production. It has committed to phase out financing for significant thermal coal mining companies without diversification strategies.

JPMorgan Chase: Ending fossil fuel loans for Arctic oil drilling and phase out loans for thermal coal mining.

UBS: Ending finance for new offshore oil projects in the Arctic, thermal coal mines and oil sands on undeveloped land.

This trend may continue. Share Action recently tabled a shareholder resolution for the Barclays annual general meeting (AGM) in May 2020 for it to publish a plan to phase out the provision of financial services (including project finance, corporate finance, and underwriting) to companies in the energy and utilities sector that are not aligned with the Paris Climate Agreement. Barclays responded in advance

of the AGM by publishing a revised policy with a target to become net-zero through their entire business by 2050.

Contextualizing and calibrating fossil fuel commitments

Beyond the press releases, there are often significant qualifications²⁰ or exclusions (either specific to technology or geography) that dampen the universal nature of these commitments. A more calibrated approach is required to assess whether or not a lender is taking commensurate action.

Here, we should break down some of the fossil fuel policies in more detail and assess their relevance and effectiveness:

- **No new finance for the specified purpose of fossil fuel extraction expansion.** This seems like a common baseline for all banks to adopt globally right now since it directly contributes to physical risk and global financial instability.
- **No new direct finance for new fossil fuel generation projects.** This is usually structured as project finance based upon the future revenues of the generation asset. Many banks are now pulling out of coal as the economics for building new coal plants in most Organisation for Economic Co-operation and Development (OECD) countries do not work. Given that so-called “clean coal” projects (with carbon capture and storage) are more expensive than traditional coal, which itself is no longer competitive, this will not help the economic argument for coal investment. Banks that have pulled out of new fossil fuel generation projects (such as the South African banks—Nedbank, Standard Bank, and First Rand, in the case of Thabametsi and Khanyisa coal fired power plants)²¹ have influenced the viability of those plants, which now may not be built.
- **Selecting less polluting fossil fuels.** Many utilities are switching from coal to gas, since gas produces less emissions than coal. However, additional gas network investment may also become stranded in the event that carbon taxation or pricing is introduced. A key factor in making decisions about gas fired power station

In November 2019, the European Investment Bank (EIB) voted to end fossil fuel finance by 2021. Other development banks may consider similar policies. And the move has a major influence on commercial banks across Europe for whom the EIB acts as a provider of wholesale finance. Those who adapt to its role as Europe’s climate bank will prosper. Those who don’t risk being left behind.

investment is the future transition plans to cleaner fuels being used in conjunction with gas or replacing gas (such as “green” hydrogen produced by renewable electricity).

- **Stopping finance flows to companies that continue fossil fuel business.** For many utilities, including those in transition towards clean technologies, there may be legacy fossil fuel investments. Lenders could convert general purpose loans to specific purpose loans for assets that enable transition. This way, they would be able to prevent indirectly supporting fossil fuel expansion. Banks may also specifically request transition plans and targets from their borrowers, attaching price incentives or limits on lending to meeting agreed sustainability performance targets.

However the significant grey area is in providing general purpose corporate finance to companies that continue to expand their fossil fuel business. When not part of an agreed transition plan that can demonstrate compliance with a significantly below 2°C warming scenario, the bank could consider divestment, reducing exposure, increasing pricing, or a combination of methods.

A review of oil companies’ recent commitments (see below) shows that much remains to be done in order to meet Paris Climate Agreement targets.

Since many of these companies have credit ratings which are higher than AA and generally receive corporate loans, they have an effective discount applied to their risk weighting, making it cheaper for them to lend to fossil fuel companies. The Basel II rules²³ provide a discount equivalent to 50-80 percent of the capital that would otherwise need to be held against such lending.

The case for leadership: How far do banks need to go?

As a response to the COVID-19 pandemic, we can expect to see lobbyists from high-carbon industries calling for a return to business-as-usual so that the economy can bounce back. As stewards of the future, it is important that banks demonstrate leadership in helping us to move forward into low-carbon, sustainable, and resilient economies. Many banks are considering divestment now due to the financial risks of stranded assets, particularly in

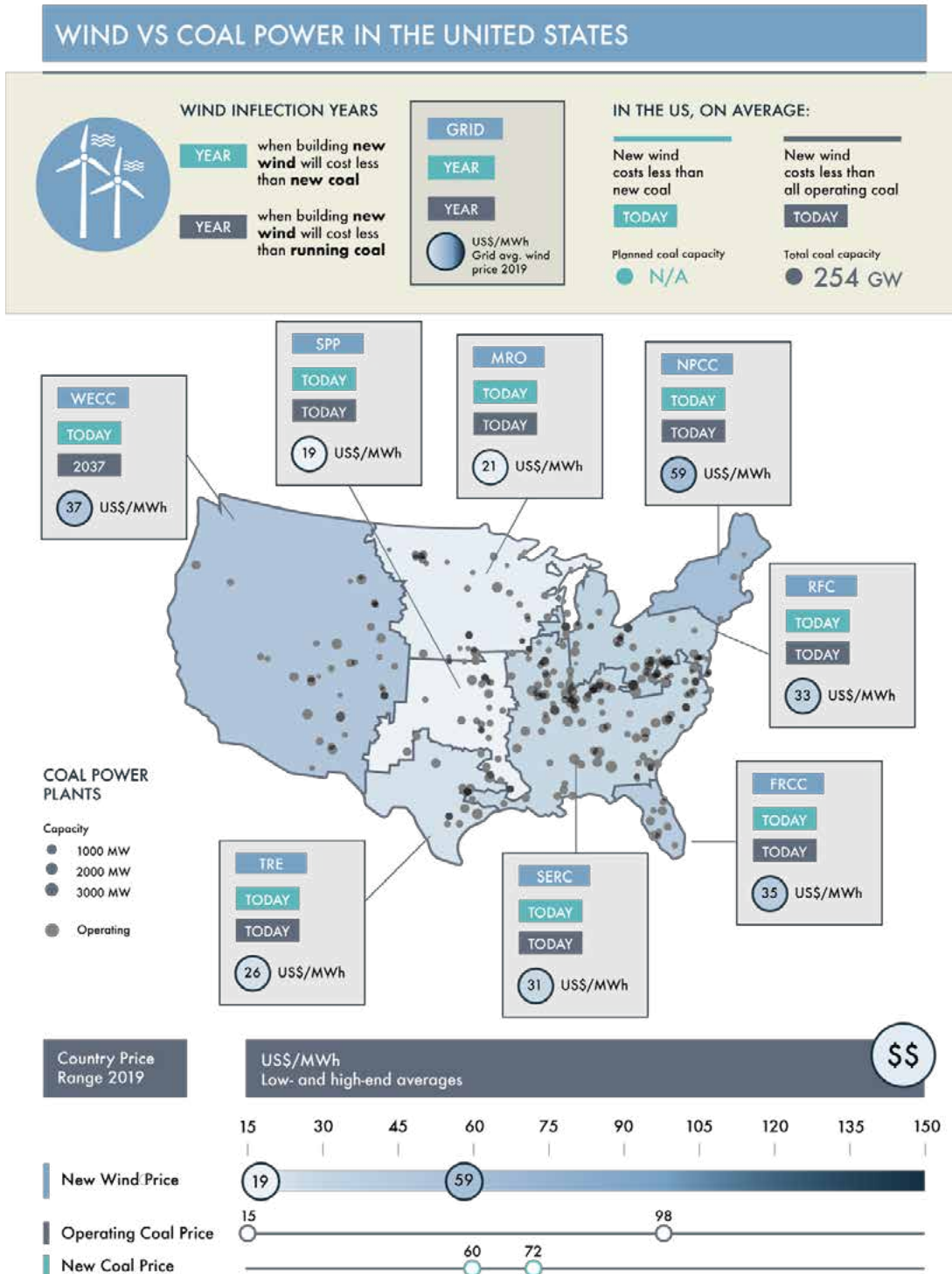
 Climate goals Select oil and gas companies' carbon emission reduction targets			
	Segment	Scope 3	Target
Exxon Mobil Corp	Upstream		Reduce greenhouse gas emissions intensity at oil sands by 10% from 2016 to 2023
Royal Dutch Shell PLC	Total Company	●	Reduce carbon intensity for all products by 2%-3% from 2016 to 2021, by 20% in 2035 and by about 50% in 2050
Chevron Corp	Upstream		Reduce upstream oil and natural gas net greenhouse gas emission intensity by 5%-10% and 2%-5%, respectively, from 2016 to 2023
Total SA	Total Company		Reduce scope 1 and 2 emissions from 46 million tonnes in 2015 to 40 million tonnes in 2025
	Total Company	●	Reduce carbon intensity of sold products by 15% from 2015 to 2030 and possibly by up to 40% in 2040
BP PLC	Total Company		Reduce scope 1 and 2 emissions sustainably by 3.5 million tones from 2016 to 2025, equal to net zero
Equinor ASA	Total Company		Reduce greenhouse gas emissions (scope 1 and 2) in Norway by 40% by 2030, 70% by 2040 and to near zero by 2050
	Upstream		Reduce carbon intensity of upstream portfolio from 10 kilograms to 8 kilograms by 2030
Eni SpA	Upstream		Reduce greenhouse gas upstream emissions intensity by 43% from 2014 to 2025
	Upstream		Reduce scope 1 carbon emissions to net zero by 2030
Repsol SA	Total Company	●	Reduce carbon intensity by 10% in 2025, 20% in 2030, 40% in 2040 and to net zero emissions in 2050
	Total Company		Reduce absolute carbon emissions by 3 million tonnes from 2018 to 2025

As of January 2020.
 Excludes specific plans for carbon sinks and similar measure as well as reduction targets for methane only.
 Sources: Morningstar; companies; news report



coal. The economics of coal are already beginning to break down with coal assets being undercut by cheaper and cleaner renewable energy installations. As the cost of new installations falls beneath the cost of keeping existing coal plants running, the coal assets become stranded and banks will have exposure on their balance sheets.

Despite US Government policy support for the coal industry, building new wind energy is cheaper on average across the United States than running existing coal fired plants. It's the same in Europe. This could mean major losses for banks that have existing lending via project finance without adequate levels of capital held to absorb these losses.



Source: Carbon Tracker: How to waste over half a trillion dollars

Consider the case of the proposed Woodhouse Colliery in West Cumbria, England. In 2019, this first coal mine to be developed in the UK for 30 years was granted planning permission. The company's website asserts the necessity of their product for the manufacture of steel used in the production of wind turbines and other low-carbon technologies. However, companies such as Liberty Steel are now committing to be zero carbon steel by 2030. They aim to do this by replacing metallurgic coal with electric arc furnaces. As this technology develops, it will render metallurgic coal redundant. The Woodhouse Colliery is designed to operate for fifty years (taking it into the 2070s). In financing terms, there is a very high probability that it would become a stranded asset. In policy terms it is difficult to see how it could be compliant with UK government legislation to achieve a net-zero economy by 2050.

Some banks consider natural gas as a transition fuel—one which is less polluting than coal. This is often true, but incomplete. Consider scenarios that envision new policies to accelerate our transition to a net-zero climate emissions economy: some of these would curtail gas as well as coal. And although options may emerge for full carbon capture and storage, or for using hydrogen in the gas network, whether these options will be economically competitive is unknown. Going forward, investments and transition plans involving gas should be scrutinized carefully, so as to avoid locking in future problems from today's solutions.

Phasing out lending to fossil fuel companies is not an easy decision, but the flexibility for a lender to make such a decision is far greater than for many working within the fossil fuel industry. Financial institutions with specialist project finance and utilities teams will be able to apply those skills in new areas of the green economy. These lenders will be able to engage with existing energy companies that decide to transition quickly, and with emerging players who will innovate and disrupt markets. Banks that embrace this leadership challenge now can immediately apply

themselves to creating opportunities in our new, net-zero aligned economy.

Getting out: the case for divestment

Withdrawing offers of debt from fossil fuel companies can have an immediate effect on fossil fuel expansion in the real economy. Restricting the supply of funding can raise the overall cost of capital to build new facilities, making their economics nonviable. But what of divesting—ending relationships with clients who continue to stay in fossil fuels without adequate transition plans? Divestment raises some complex issues, such as whether it would address problems in the real economy or merely shift them to other banks.

Consider an example from the capital markets. Axa CEO Thomas Buberl²⁶ outlined the company's plans to phase out coal investment by 2030 in OECD countries and by 2040 elsewhere. He also reported that when Axa had previously divested from an energy company that was not taking climate risk seriously, it had experienced an increase in the level of subsequent engagement. The divested company changed their practices and Axa reinvested again. While

The other frontier: the battle against deforestation

Even as fossil fuels are creating our greatest problem, deforestation is destroying its most valuable solution. In 2018, an area of forest the size of Germany was cleared globally, including a tropical rainforest area the size of Belgium.²⁴ In 2019, the scope of deforestation is likely to have increased. It is difficult to imagine such vast areas—equivalent to three times the land area of Paris being cleared daily. Deforestation risks huge environmental consequences. Most obvious is a contribution to climate change through the loss of a major carbon sink. Another risk is of more frequent pandemics (especially “zoonotic” diseases originating in animals such as Ebola, Zika or COVID-19) that may arise from driving wild animals from their habitats. This is systemic risk at a phenomenal scale, yet still 68 percent of financial institutions²⁵ have no deforestation policy in place. And we lack systemic capital control measures to effectively tackle this.





dependent upon context, it appears that divestment can sometimes be an effective form of engagement.

But banks are not capital markets. Lending institutions with banking licenses have protection for depositors. Effectively, these are guarantees organized by the government. For as long as there are liabilities within the banking sector not covered by the capital held by banks, those liabilities are effectively shifted onto governments; they become socialized losses. Governments that attempt to push environmental policy further and faster might trigger greater liabilities of this sort (e.g. banning fossil fuel use leading to huge “disorderly” transition losses). In that event, with insufficient capital reserves built up, governments would suffer the full force of the rebound as the losses were passed back through the banking sector.

Conversely, if a country has successfully decarbonized its banking sector, its government would be far less constrained in advancing policies that their electorates are calling for. This is a major differentiation for the banking industry which is highly enmeshed with the protections offered by the state to depositors. This lack of separation between banks and state currently acts as a drag force

in decarbonization policy. In a country where banks have divested and decarbonized, it might lift the brakes on governments taking more radical action on climate change.

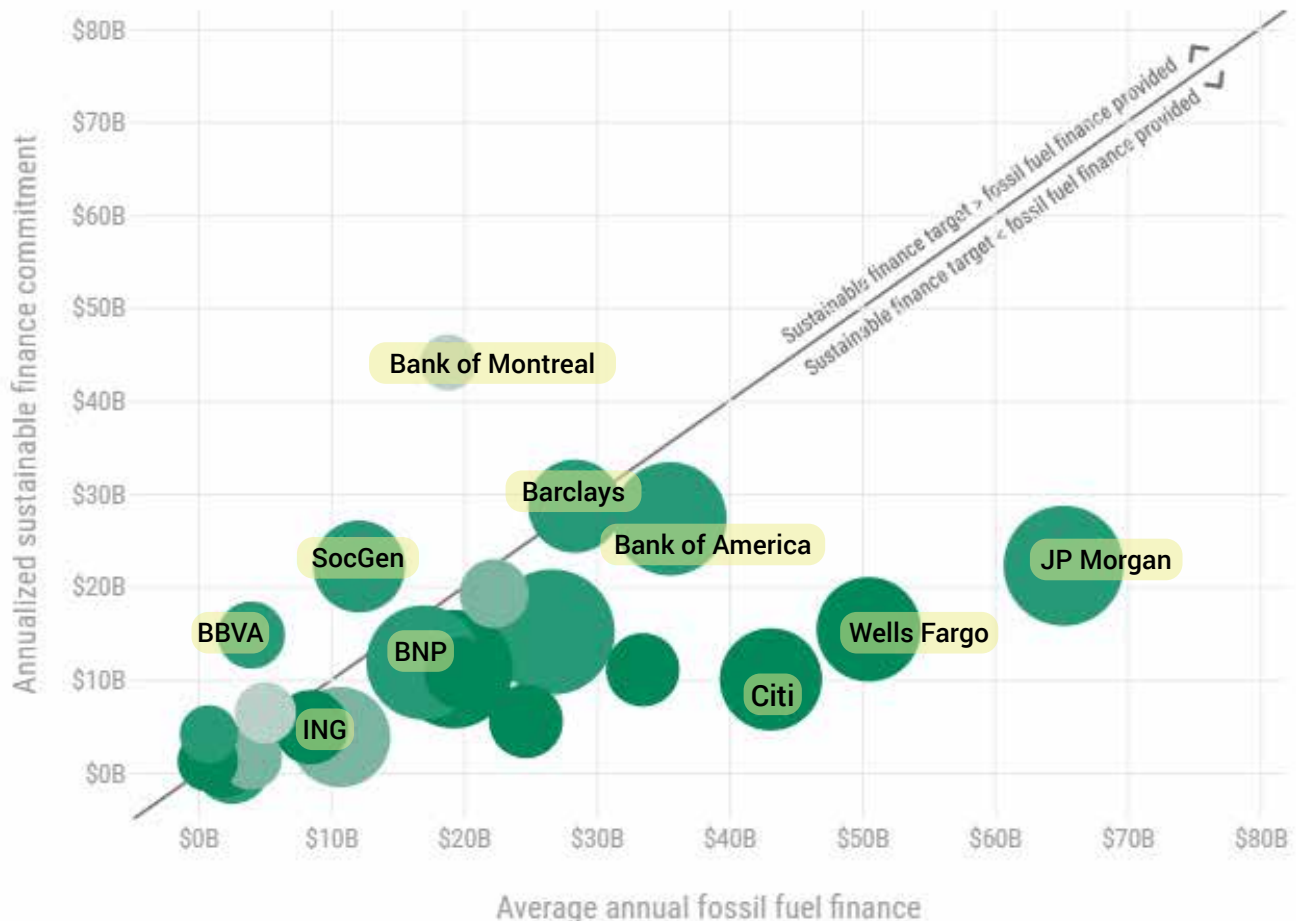
Contextualizing green commitments

Many banks have announced commitments amounting to billions of dollars to be invested in the green economy. But these commitments must be weighed against the counterbalancing force of continued support for fossil fuels and other environmentally harmful investments. The graph below,²⁷ based on data from the World Resources Institute, plots banks’ commitments to green initiatives against their investments in fossil fuel lending.

Banks are now trying to compete on their green credentials, announcing major funding for sustainable projects. However, praise for their positive commitments must be balanced with accountability for their negative impacts.

Banks that stop the flow of finance to fossil fuels can then move on to implementing a wealth of strategies and approaches to help their clients in decarbonizing. We will address these in the next section.

Adapted from World Resources Institute Bank’s Commitment to Green Initiatives



4. DECARBONIZING BALANCE SHEETS & ECONOMIES

Banks have significant agency and influence with their business clients. Loan conditions, if breached, can lead to a default situation that clients are highly motivated to avoid. And given that many business expansion plans are contingent upon continued and additional credit, the bank-client relationship is very important for the future development of any company. As primary funders of the real economy, banks also influence the broader national-scale economic policy arena. That influence extends to macro-economic or fiscal policies which can drive markets. So how can banks best use this agency and influence to help their clients, and entire sectors of the economy, to decarbonize?

Each sector will have its own decarbonization pathway, and many markets will be heavily influenced by national

policies, innovation, and market intervention. So, there is no one-size-fits-all approach to decarbonizing a balance sheet. But tools and approaches are available that can be used in specific combinations tailored to each context.

It is highly likely that climate impact targets will be set without full knowledge of how a bank will be able to implement them. Banks such as RBS and Lloyds, have recently committed to reducing the climate impact of their portfolio by 50 percent by 2030. Along with others on a similar journey, they will embark upon an ongoing strategy development process, needing to continually assess and learn the effectiveness of various approaches in different contexts. In this section we offer ten approaches to consider adding to lenders' toolkit of actions that can help them decarbonize their portfolios:

The Climate Safe Lending Strategy Toolkit

Strategy

Decarbonization



Creating sector decarbonization plans.

Banks can engage their sector-relationship teams to monitor and understand how their activity compares to current best practices and to a net-zero solution. Lenders can then develop and share insights with clients on the implications for transition pathways, business costs and benefits, and the risks of not acting.

ING's Terra Progress Report shows a sector-by-sector decarbonization pathway, and evaluates their progress towards full alignment with the Paris Agreement.²⁸ Its Climate Alignment Dashboard demonstrates the CO2e intensity per sector of their portfolio and convergence pathways compared to the market and the relevant climate scenario. It used a simple red-green indicator to show whether the sector portfolio is on track with the convergence pathway.



Requesting and monitoring decarbonization plans.

Lenders can provide debt to customers with conditions and borrower covenants that link to events of default. This leverage can be highly effective in steering behavior and encouraging compliance. For clients in transition, the lender may scrutinize the decarbonization strategy during the loan assessment process and set specific targets, milestones, or deadlines for clients to decarbonize, which the lender can then monitor over the course of the loan.

The "Poseidon Principles" for lending to the shipping industry ensure that lenders integrate compliance on decarbonization plans into their loan agreements with each signatory. The Principles state that "We will require that ongoing compliance with the Poseidon Principles is made contractual in our new Business Activities using standardized covenant clauses. We will contribute to the update and addition of standardized clauses through the annual review process."

The Climate Safe Lending Strategy Toolkit (continued)

Strategy



Mobilizing client networks.

Banks and lending institutions (whether global or local) have rich networks of business clients. Among those, some may offer sustainability solutions and many more may be concerned about climate change and ready to explore how they might achieve transition. This creates huge opportunities for banks to mobilize their client networks, arranging connections and introductions to help businesses make progress. Offering advice directly can sometimes be problematic for banks, so introducing clients to networks enables efficient knowledge transfer without compromising the impartiality of judging credit decisions.



Directing incentives.

Banks are able to shift behaviors within the market directly via price signals. Offering financial incentives can stimulate demand and compensate for some of the costs of making the investments needed for transition.



Investing in scalable interventions and assets.

Some techniques and technologies exist that might be applied across sectors. Once a lender identifies an approach that could be used for multiple clients, it could design a product to help facilitate broader roll-out. For example, there may be a new form of highly energy efficient appliance that could be financed via leasing or asset finance.

Decarbonization

Triodos Bank have helped many businesses succeed in making sustainability improvements by connecting them with other sustainable providers in their network. For example, Triodos has introduced organic farmers to healthcare providers to supply local, organic food. Within the built environment, the bank has had particular success with cultural and heritage properties which were considered difficult to retrofit for energy efficiency. In several cases it was able to stimulate improvements from a “G” (the worst-performing energy rating) to an “A” (the best). Triodos is seeking to enhance its level of insights through its new Impact Prism tool.

The Energy Efficient Mortgage Initiative, backed by 52 lending institutions, aims to create a standardized “energy efficient mortgage,” where building owners are incentivized to improve the energy efficiency of their buildings or acquire already energy efficient properties by way of preferential financing conditions linked to the mortgage. Some mortgage providers, such as Triodos Bank in the Netherlands, offer supplemental loans of up to €25,000 for retrofitting upgrades at half of the mortgage interest rate.

Several large corporates are receiving sustainability-linked loans from institutions such as ING and BBVA, where the interest rate is tied to their sustainability performance as measured by external sustainability ratings agencies.

Vermont-based credit union, VSECU, offers a wide range of loan programs for individuals and businesses that wish to purchase green assets such as solar panels, energy storage units, and green vehicles. VSECU also offers energy improvement loans and off-grid mortgages.

The Climate Safe Lending Strategy Toolkit (continued)

Strategy



Greening operations.

While the operations of a bank contribute to only a small proportion of its climate impact, greening its operations may have additional benefits. Green teams working on internal sustainability can nurture enthusiasm for taking action and help individuals across teams to collaborate and learn how to navigate the practical challenges of achieving positive change. This, in turn, can bring insights into their day-to-day work and their client contacts. It also can generate opportunities to try new approaches (potentially from customers or prospects) that can help their customers' business development.



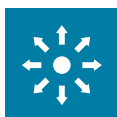
Peer learning networks.

By joining together in pre-competitive collaboration sessions, lenders can share insights and learn together, driving the financial sector forward in enhancing sustainability. Networks of institutions such as the UN Principles for Responsible Banking or the Global Alliance for Banking on Values, bring together leaders and communities of practice through a range of programs.



Campaigns & public advocacy.

In communicating their sustainability messages, banks powerfully signal the direction of a market, influencing entrepreneurs and stimulating demand for sustainable solutions.



Mobilizing retail clients.

Retail deposits are a major component of funding for lending institutions. Individuals are not just savers; they are also active citizens and consumers. Given public concern about climate change, especially amongst millennials, banks can mobilize retail clients to support initiatives to decarbonize their lending. This might involve communications or specific products that engage retail customers.

Decarbonization

Royal Bank of Scotland (RBS) created the Innovation Gateway to help them find new ideas to save energy, water and waste across its estate. The Gateway's purposes went beyond delivering cost savings and environmental benefits. Social value was added by including start-ups and SMEs (small and medium enterprises) that often find it difficult to test new ideas or do business with large corporates.

UNEP-FI launched the UN Principles for Responsible Banking (UN PRB) in September 2019. With over 170 signatories, the UN PRB now acts as an umbrella for learning and development among banks across the world and at varying stages of their sustainability journeys. The Global Alliance for Banking on Values, formed in 2009, is a network of over 60 leading sustainability banks that are demonstrating positive impact. Beyond institutional associations are other learning and development initiatives, such as the Climate Safe Learning Lab.

By publicly and visibly communicating sustainability strategies, banks help to mobilize their employee and client communities, making progress on sustainability easier. Some of their advertising campaigns, such as that of BNP Paribas, help to position sustainability as the new mainstream, thereby shifting market perspectives.

Ålandsbank in Finland launched a credit card designed to save the Baltic Sea by calculating a carbon footprint of every transaction. Its index is open source for any financial institution to use and is being used by banks with 40 million customers worldwide.

The Climate Safe Lending Strategy Toolkit (continued)

Strategy



Lobbying in public policy and links to public finance.

Private finance can play an active role but it will not be sufficient on its own. It is imperative that lending institutions reinforce their voluntary green activities by aligning their public policy advocacy and ceasing any lobbying that is contradictory to the goals of global climate safety. Banks will only be truly committed to a climate safe future and convinced of the opportunities of a post-transition world when they set aside any public policy positions that protect legacy business in polluting sectors. Without this element in place, banks risk undermining their positive achievements. But by bringing positive collective influence into the public policy arena, banks could play a pivotal role in ensuring that green policies transform the real economy.

Decarbonization

The European Commission consultation on the Renewed Sustainable Finance Strategy²⁹ (published in April 2020) notes that the COVID-19 outbreak outlines the:

- Critical need to strengthen sustainability and resilience of our societies and the ways in which our economies function.
- Subtle links and risks associated with human activity and biodiversity loss.
- Need to address multiple and interacting threats to ecosystems and wildlife to buffer against the risk of future pandemics, as well as preserve and enhance their role as carbon sinks and in climate adaptation.
- Financial system as a whole must accelerate:
 - support to businesses on their transition paths towards sustainability
 - businesses that are already sustainable
 - placing buffers to support decarbonization pathways across the EU and in corporations of all sizes.

Combining tools to form effective strategies

Whereas any of these ten tools can be useful on their own, they can be used most effectively when applied in combination to strategy development.

If a bank has a number of clients in a sector, i.e. in automotives, it could:

- purchase or lease its own fleet of Electric Vehicles (EV) powered by its own on-site renewable energy;
- request a transition plan from its automotive sector clients (in reference to national policies);
- offer retail clients EV car loans at incentivized loan rates to drive demand;
- publicly commit to and communicate its strategy thereby raising its profile;
- organize supply-chain networking so that manufacturing clients can learn how to accelerate their own transitions;

- learn how to assess the risks and opportunities in new supply chains; and
- network with banks and investors in other countries to understand emerging trends.

By recognizing and sharing data on the transition, the bank may play a role in underpinning government policy to move further and faster, thereby motivate clients further, supported by the bank's rapidly developing competences.

The pitfalls: Hitting the target, missing the point.

Targets have a history of distorting the actions they seek to promote. If lenders let targets dominate their strategy they may inadvertently incentivize the wrong type of activity. If lenders cherry-pick projects and simply sell off problematic parts of their portfolios, they would be side-stepping the issues. But in supporting new models that incentivize sustainable markets, lenders can help drive sector change. If banks divest from the fossil fuel sector, this will increase the

political risk for fossil fuels by reducing government liabilities for any losses associated with accelerated closures.

It will also be important for lenders to consider broader impacts and consequences. Climate change is not an isolated and discrete problem. Considering a wider range of social as well as environmental impacts will be critical in being able to implement responsible policies and strategies. Under its Positive Impact Initiatives, UNEP FI has designed corporate-level and portfolio-level Impact Analysis Tools to

help banks gain a cross-cutting view of their clients' impact status. By taking a holistic view, current impacts can be identified and assessed more strategically while working to reduce future negative impacts and increase future positive impacts. The UN Principles for Responsible Banking, also launched by UNEP FI, encourage every bank to consider in which areas it has greatest impact and where it could make the most difference. This might lead to local variation and less uniformity of approaches, but would help to ensure we manage what matters most.

Examples of banks using toolkit strategies



Campaigns & public advocacy. BNP Paribas bank has launched an advertising campaign to position sustainability as the new mainstream, thereby shifting market perspectives.



Mobilizing retail clients. Ålandsbank in Finland launched a credit card designed to save the Baltic Sea by calculating a carbon footprint of every transaction. Its index is open source for any financial institution to use, and is now available to banks with 40 million customers worldwide.

5. FINANCING INNOVATION FOR A SUSTAINABLE FUTURE

Ending flows of finance towards the problems (e.g., fossil fuels, deforestation) is the first horizon. What then are the “third horizon” innovations that will define banks of the future? What new business models need to be developed, scaled up, and financed to address climate change? How can lenders go beyond reducing climate emissions to financing the removal and sequestration of existing carbon emissions from the atmosphere?

Already a number of solutions are offered—such as planting more trees. However, business models that can restore ecosystems and nature have not yet been successful in leveraging private finance or bank lending. Also, less obvious solutions and emerging solutions are possible, including innovations that would transform pathways to decarbonization. Some of these solutions have the potential to render “transition technologies” no longer necessary or helpful within a short timeline. This has significant implications for banks that consider supporting long-term infrastructure projects.

New business models for nature

The natural world and biodiversity are intimately linked to the global human economy. Links among these have been explored under the general heading of “Nature-Based Solutions.” While it is not the role of nature to simply support

human civilization, it is deeply in the interest of human civilization, including our economy, to support efforts to protect our natural environment. Yet, the lack of monetary value that economies assign to nature exacerbates its exploitation and destruction in support of economic growth. New economic models, business model innovation, and financial structures could help to drive a new wave of conservation in the real economy.

Multiple-impact business models

Once the value of nature restoration is systematically quantified, a new financing model can be developed. This could follow the lines of Environmental Impact Bonds (based upon Social Impact Bonds) which are underpinned by ‘payment-by-results’ contracts. For example, an innovative scheme in Washington, DC, raised \$25 million for green infrastructure (rain gardens, green roofs, permeable pavements) to prevent sewage contamination of rivers during storms. Many natural capital projects, such as peatland or wetland restoration, can have multiple benefits including reduced flood risk (climate resilience), prevention of water contamination, and climate change mitigation through carbon sequestration. Together these revenue lines could be used to drive investment in restoring natural ecosystems.

New flows of finance: the new climate economics value of a whale

Consider the case of great whales. According to a paper from the IMF³⁰ based on recent marine biology research, these mammals provide critical climate benefits. Whales capture huge amounts of carbon within their bodies, but they also play a critical role in feeding the oceans’ phytoplankton that collectively absorb more carbon than the equivalent of four Amazon rainforests. It is estimated that even at modest price for carbon, a whale’s ecological and economic value is in excess of \$2 million, yet in commercial whaling, a whale sells for around \$24,000 (around 1 percent of its full human economic value). Protecting whales from hazards such as collisions with ships, plastic waste and entanglement in fishing nets could help restore depleted whale populations. Turning this into a practical business opportunity would require not only primary legislation from key governments, but also a new sector of conservation finance supported by banks.





One example of a broader-scale ecological restoration is the organization Commonland. Around the world, it organizes large-scale natural landscape restoration³¹ of

degraded land, thereby integrating natural and economic development while involving local stakeholders. Its model is based on a wide range of investments and returns:

Investment

- Restoring landscape
- Regenerative (perennial) agriculture, agroforestry
- Planting usable trees
- Polyculture, silvopasture, fodder banks
- Improved grazing and pasture management
- Restoring perennial vegetation and soil

Return

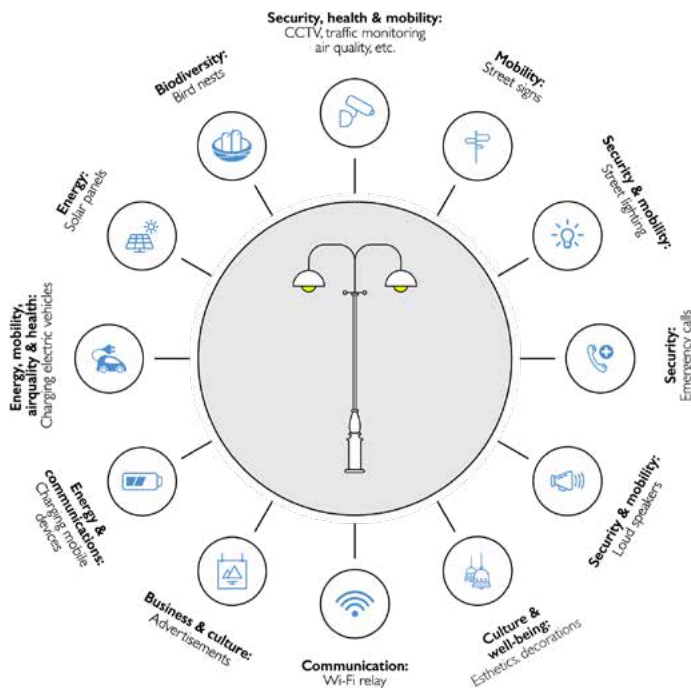
- CO² capture, water cycles, and soil health restored
- Restored biodiversity
- Agroforestry
- Regenerative crops and products; fruit trees, timber, non-timber forest products
- Ecotourism

Another example, identified as part of the UNEP FI Positive Impact Initiative³², includes a theoretical smart-lamppost. With it, the initiative identified 12 distinct positive social and environmental impacts:

emissions with residual carbon offset through carbon sequestration projects. Researchers are developing technologies for cement production using electrochemical processes which eliminate all fossil fuels used in the production process. Through these and other routes, financing transition pathways for previous high-emissions construction materials may be possible in future lending.

However, zero-carbon cement might not necessarily be the most effective solution. Rapid developments in methods of construction, including building with cross-laminated timber, demonstrate the potential for resilient natural products that have the potential to support carbon-negative buildings. This timber is being used in high-density multi-story property developments (including skyscrapers), offering both immediate environmental benefits and a vision of how alternatives could disrupt the transition pathways of various industries. With costs for highly energy efficient property developments (like Passive House) comparable to 20th century construction approaches, lenders could help incentivize the growth of this alternative technology, thereby increasing demand and enabling a sector-wide transition.

The majority of properties built today will still be standing in 2050. The optimum solution for existing buildings is not necessarily tearing them down and starting over since there is a considerable amount of carbon embedded in the building materials. This means that significant attention needs to be paid to retrofitting existing buildings. The majority of financing for householders is provided by bank lenders. In considering energy retrofits, many individuals may be able to undertake simple or economically feasible actions but it could be difficult to coordinate deep enough retrofitting to achieve net-zero housing. If individuals are only able to make incremental improvements as part of more general refurbishments, much of the housing stock will not progress beyond a moderate level of energy efficiency. However, solutions do exist for whole-house net-zero retrofits.³⁵ Lenders could play a crucial role in helping



Innovations in construction

Concrete is one of the most prolific building materials on earth. Its climate impact, mostly from its binding ingredient, cement, is very high (contributing around eight percent of global emissions).³³ New technologies³⁴ now enable CO₂ to be trapped within the finished concrete, which offers the further advantage of being stronger than regular concrete. Manufacturers are offering net-zero cement products that supplement a 70 percent reduction in internal carbon



View from the street in Roxbury, Massachusetts, depicts the new five-story, 14-unit residential building, which will be one of the largest mass-timber residential buildings in the US. Credit: Generate Architecture and Technologies

to develop new longer-term financing mechanisms that enable carbon-neutral (or even carbon-negative) homes.

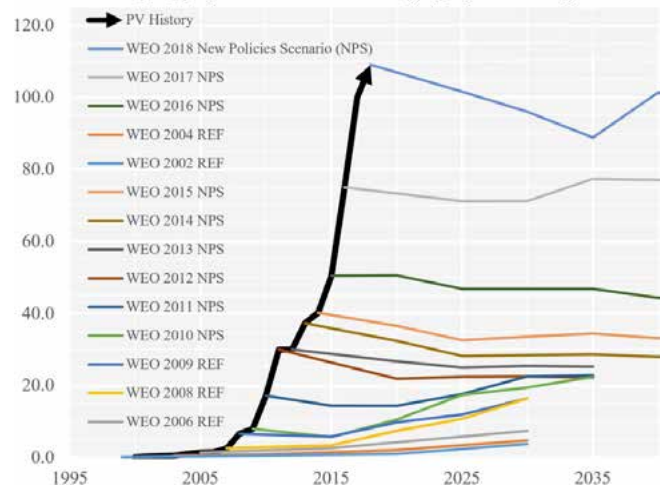
Scaling innovation everywhere

Nobel prize-winning economist Paul Romer outlines the case for the endogenous growth model, whereby human and knowledge capital drives economic growth. Lending institutions can drive growth in sustainable sectors by investing in know-how and relationships. Such capital facilitates transactions and encourages sustainable entrepreneurs and innovation, thereby accelerating the transition beyond what is predicted today. If practiced across the entire financial sector, this would become a major source of added value that can help to position a lender within a market, creating a “race to the top.”

We have already seen evidence supporting the endogenous growth model. Witness the growth of the solar market, which had been consistently forecast by the International Energy Agency to be lower than its actual rate of implementation:

Endogenous growth

Annual PV additions: historic data vs IEA WEO predictions
In GW of added capacity per year - source International Energy Agency - World Energy Outlook



<https://www.visualcapitalist.com/experts-bad-forecasting-solar/>

The costs of energy storage have sometimes been held up as being prohibitively high, which is then used to justify continuing investment in fossil fuels. However, like the costs of passive photovoltaics, large-scale storage costs appear to be steadily falling.³⁶ The more that finance supports new energy storage, the more its costs will fall. Additional renewable energy capacity can then be added, driving even greater demand for energy storage and hence accelerating the energy transition.



The planned Oakwood timber tower, a 300m wooden skyscraper proposed in Barbican, London. Credit: PLP Architecture

Or take “green hydrogen.” Today, hydrogen is mainly produced industrially from natural gas. While it might be possible to capture and store the CO² from that process, the greenest way of creating hydrogen is via electrolysis using renewable energy. So-called “green hydrogen” currently costs two to three times more to produce. However electrolysis costs are expected to fall by around 70 percent within the decade ahead,³⁷ whereas gas and carbon costs are expected to increase. Thus, green hydrogen might become cost competitive with fossil fuels within five to 10 years.¹⁸ Hydrogen may be used in transport, as a replacement or partial replacement for gas in gas networks, and directly in industrial processes such as steel-making.

Given banks’ role in promoting and signaling developments (section 4 on decarbonization strategies), and the ways in which investment can fuel green growth to accelerate transition, banks are far from being neutral. Those that direct business development activities into scalable innovations and those that collaborate effectively with impact investors, green venture capital investors, and research & development teams, will become catalysts in the transition of many economic sectors.

A few of many opportunities available for banks to explore include:

- Direct Air Carbon Capture—directly removing CO₂ from the atmosphere and storing it. Carbon capture and storage is used in almost all scenarios for achieving a net-zero economy within a timeline necessary to reach 1.5°C. However, longer-term risks remain to be addressed, such as leakage.
- Telecoms technologies that reduce travel by offering effective alternative communications methods.
- Quantum computing technology could dramatically reduce computer energy use (relevant for data centers).
- Circular Economy—closed-loop production mechanisms that eliminate waste and continuously reuse resources.
- Sustainable food production and land use—including regenerative and organic agriculture, silvopasture, carbon-farming, and methane-reduction methods for livestock.

These developments come alongside emerging trends in the economy. Disruptive innovations of the Fourth Industrial Revolution include pay-for-use, data-driven, decentralized business models employing artificial intelligence in a world connected by sensors in an internet of things. This may bring huge disruptions to the banking industry—both within its own operations (which may be revolutionized by Fintech), and in its lending markets. Change does not sit too comfortably in banks. Tried and tested business models with proven technology and management practices can lead to predictable results, and predictability provides considerable comfort. Transition implies innovative or revolutionary ways of doing things with low familiarity for relationship managers. Regulators may become concerned about banks moving ahead before key competencies are developed.

To step into a new world, banks may need to engage more widely: with their relationship teams, regulators, industry associations, and legislators. If they get that right, they can accelerate their market development strategies and speed up change in ways that allow them to demonstrate they are managing risk diligently and responsibly. If market trends continue on their current trajectories then balancing rapid progress and resilience may define banking leadership a decade from now.



CONCLUSION: THE TRIPLE-A BANK OF THE FUTURE – ANTICIPATING RISK, ADDING VALUE, ACTING NOW!

In the banking world, the effectiveness of risk management is denoted by a bank's credit rating as provided by a ratings agency. The denomination of AAA is the highest rating possible, denoting the "safest" banks. But what might a rating system look like that evaluates risk on a more systemic, longer-term, forward-looking and environmentally inclusive basis?

From the issues raised in this paper we suggest that the new AAA banks will:

Anticipate Risk:

Base assessments of clients not just on events that have occurred in the past, but on reality-based expectations for their future and adapting their policies. Recognize their contributions to systemic risk and act with due responsibility.

Add Value:

For clients to be resilient and thrive in the future, banks will need to decarbonize and optimize the social, environmental, and economic value this produces for clients. Lenders can play a proactive role through some of the strategies mentioned in this paper. By extension, banks will be able to add value across multiple areas of social and environmental value when considering broader global challenges, such as those expressed in the Sustainable Development Goals.

Act Now:

Align business strategy with positive environmental impact. Direct entrepreneurial efforts towards addressing climate change, with an urgency commensurate to the challenge. Doing so will accelerate progress across the economy and in the development of policy. Sufficient frameworks are available to start making sense of the available data. Sources of market insight on emerging solutions are plentiful. And a huge amount of science validates the sense that time is short. Financial institutions need to act on the basis of scientific understanding despite some levels of uncertainty attaching to data or methodologies. Acting now is a key indicator of a bank's readiness to step positively into the future, with society's support and encouragement.

The Climate Safe Lending Network appreciates that this is likely to be a journey for any institution. Some lenders may need to keep building on progress; others will need to make huge shifts in their culture, behaviors, and practices. We exist to help institutions make sense of these changes. We provide a safe space to explore topics and to help create diverse and powerful networks to nurture individuals and motivate change. We invite you to join our network and work together to help accelerate your bank's journey on a sustainable path to climate-safe lending.

Taking the next steps

The Climate Safe Lending Network would like to hear from banks and their key stakeholders in taking these ideas forward.

Banks can discuss these ideas, concepts and strategies further and learn from peers via the Climate Safe Learning Lab.

Stakeholders including investors, corporate clients, NGOs, academics, and others can engage further on how to influence and work together in accelerating the transitions towards climate safe lending through Climate Safe Lending's engagement programs.

Author: James Vaccaro
For Climate Safe Lending Network ©2020

REFERENCES

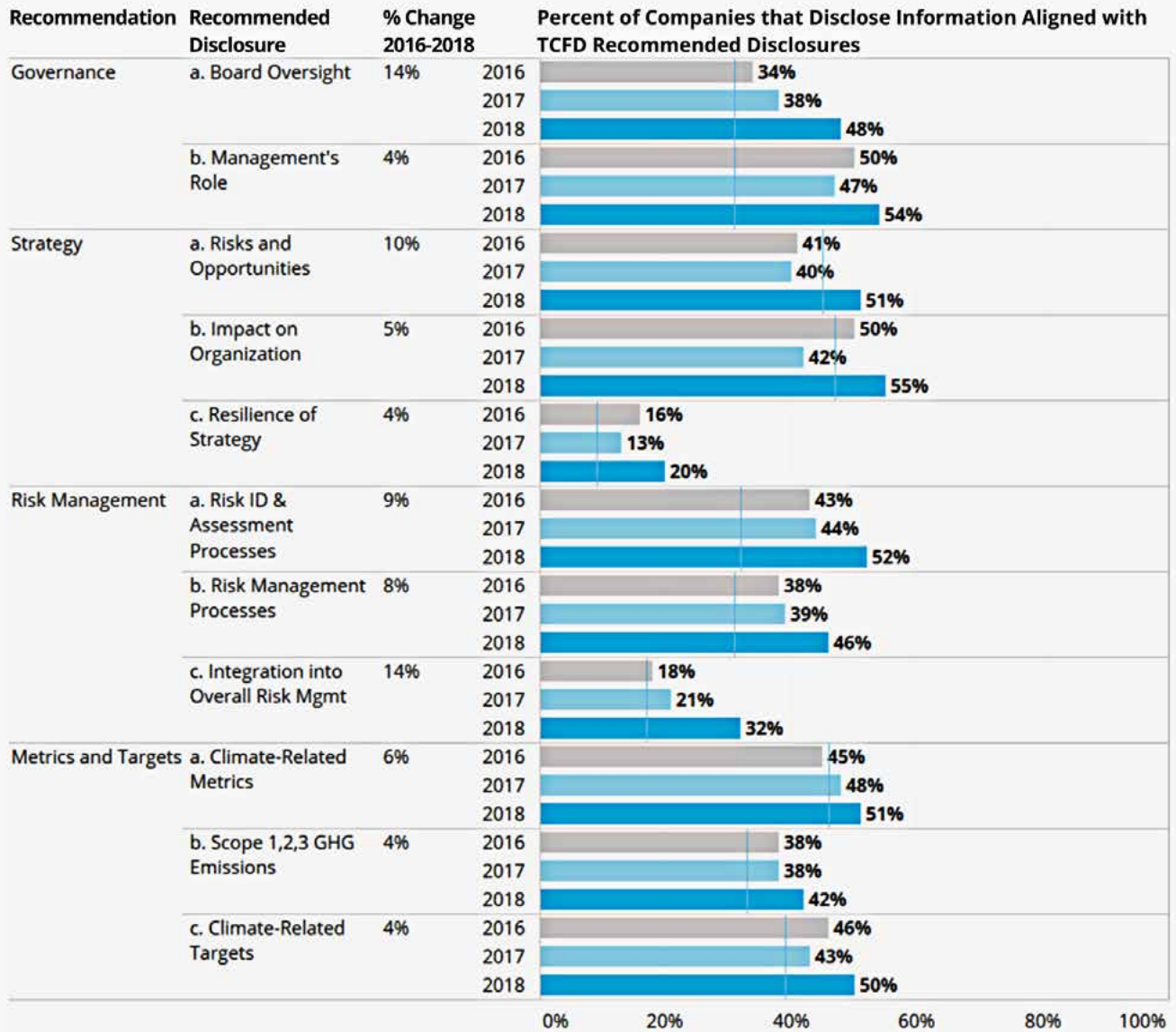
- 1 From <https://www.fsb-tcfd.org/wp-content/uploads/2019/06/2019-TCFD-Status-Report-FINAL-053119.pdf> Task Force on Climate-related Financial Disclosures: Status Report June 2019
- 2 [Task Force on Climate-related Financial Disclosures: Status Report June 2019]
- 3 https://www.frenchsif.org/isr-esg/wp-content/uploads/Understanding_article173-French_SIF_Handbook.pdf
- 4 https://www.novethic.com/fileadmin//user_upload/tx_ausynovethicetudes/pdf_complets/173_SHADES_OF_REPORTING_Focus_on_French_Institutional_Investors.pdf
- 5 [Task Force on Climate-related Financial Disclosures: Status Report June 2019] page 21:
- 6 From Amelia Moulis: <https://www.cisl.cam.ac.uk/news/blog/from-the-frontlines-of-climate-change>
- 7 <https://climateanalytics.org/briefings/global-warming-reaches-1c-above-preindustrial-warmest-in-more-than-11000-years/>
- 8 <https://www.theguardian.com/environment/2019/feb/06/met-office-global-warming-could-exceed-1-point-5-c-in-five-years>
- 9 <https://www.bis.org/publ/othp31.pdf>
- 10 Nassim Nicholas Taleb, *The Black Swan*
- 11 The International Energy Agency estimates that national oil companies such as Saudi Aramco and the National Iranian Oil Company and internationally-active state-owned firms such as China National Petroleum Corporation and Russia's *Gazprom* control 66 percent of global oil reserves and 60 percent of global gas reserves.
- 12 <https://www.bankofengland.co.uk/-/media/boe/files/speech/2020/the-road-to-glasgow-speech-by-mark-carney.pdf?la=en&hash=DCA8689207770DCBBB179C-BADBE3296F7982FDF5>
- 13 <http://www.gabv.org/wp-content/uploads/Do-sustainable-banks-outperform.pdf>
- 14 Christine Lagarde, speech 27 Feb 2020, London: https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp200227_1~5eac0ce39a.en.html
- 15 <https://www.bloombergquint.com/markets/should-markets-help-prevent-climate-disaster-or-just-curb-losses>
- 16 https://ec.europa.eu/finance/docs/policy/190618-climate-related-information-reporting-guidelines_en.pdf
- 17 https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporting-Standard_041613_2.pdf [figure 1.1, [page 5]
- 18 <https://www.annual-report-triodos.com/2018/executive-board-report/impact-and-financial-results/the-impact-of-our-finance/ decarbonising-the-economy.html>
- 19 <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/enduring-ideas-the-three-horizons-of-growth>
- 20 The table on page 32 (from Rainforest Action Network/ Banktrack) sets out a summary of the commitments made (with data from 2018) showing the categories of commitment from a range of banks
- 21 <https://www.africaoilandpower.com/2019/04/17/standard-bank-withdraws-funding-of-new-coal-ipp-s-in-south-africa/>
- 22 <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/56004151>
- 23 Basel II rules: Risk Weighted Assets for corporate loans: AAA to AA- (20percent), A+ to A- (50percent)
- 24 <https://www.wri.org/blog/2019/04/world-lost-belgium-sized-area-primary-rainforests-last-year>
- 25 Global Canopyt, *Forest 500 Annual Report*: <https://forest500.org/publications/forest-500-annual-report-2019-companies-getting-it-wrong-deforestation>
- 26 <https://www.theguardian.com/business/2019/nov/27/coal-insurer-axa-to-divest-from-fossil-fuel-investments-underwriting>
- 27 <https://www.wri.org/blog/2019/10/how-are-banks-doing-sustainable-finance-commitments-not-good-enough>
- 28 *ING Terra Report 2019*, page 11
- 29 https://ec.europa.eu/info/consultations/finance-2020-sustainable-finance-strategy_en
- 30 <https://www.imf.org/external/pubs/ft/fandd/2019/12/natures-solution-to-climate-change-chami.htm>
- 31 <https://www.commonland.com/4-returns/>
- 32 <https://www.unepfi.org/wordpress/wp-content/uploads/2018/11/Rethinking-Impact-to-Finance-the-SDGs.pdf>
- 33 <https://www.weforum.org/agenda/2019/09/cement-production-country-world-third-largest-emitter/>
- 34 *Carbon cure* [<https://www.forbes.com/sites/jeffkart/2019/02/23/carboncure-technology-says-goodbye-to-carbon-dioxide-hello-to-greener-concrete/#12b3ffd47311>]
- 35 See *Energiesprong*: <https://energiesprong.org/about/>
- 36 <https://about.bnef.com/blog/battery-powers-latest-plunge-costs-threatens-coal-gas/>
- 37 <https://www.iea.org/commentaries/the-clean-hydrogen-future-has-already-begun>
- 38 <https://www.rechargenews.com/transition/green-hydrogen-cheaper-than-unabated-fossil-fuel-h2-by-2030-hydrogen-council/2-1-741658>

APPENDICES

Appendix 1: Banking Review Results by Year

Figure 10

Banking Review Results by Year



Legend: | Percentage of total population that disclosed information aligned with TCFD recommended disclosures in 2018



Appendix 2: Climate Goals & RAN

<p>FOSSIL FUEL EXCLUSION Prohibits all financing for all fossil fuel projects and companies.</p> <p>EXCLUSION OF ALL FOSSIL FUEL PROJECTS AND PHASE-OUT OF ALL FOSSIL FUEL FINANCING Prohibits all financing for all fossil fuel projects and all companies expanding fossil fuels, and commits to phase out the remainder of fossil fuel financing on a timeline compliant with limiting climate change to 1.5°.</p>	
<p>EXCLUSION OF FOSSIL FUEL PROJECTS AND ALL EXPANSION COMPANIES Prohibits all financing for all fossil fuel projects and all companies expanding fossil fuels.</p> <p>EXCLUSION OF FOSSIL FUEL PROJECTS AND SOME EXPANSION COMPANIES Prohibits all financing for all fossil fuel projects, as well as for all companies expanding coal and some companies expanding oil and gas.</p> <p>EXCLUSION OF FOSSIL FUEL PROJECTS AND SOME COAL EXPANSION COMPANIES Prohibits all financing for all fossil fuel projects, as well as for some companies expanding coal.</p>	
<p>EXCLUSION OF FOSSIL FUEL PROJECTS, OR PARTIAL PROJECT EXCLUSION WITH SOME CORPORATE FINANCING RESTRICTIONS Prohibits all financing for all fossil fuel projects, or prohibits all financing for all coal projects, some oil and gas projects, and some companies expanding coal.</p>	<p>EUROPE: ABN AMRO</p>
<p>FULL COAL PROJECT EXCLUSION PLUS ADDITIONAL RESTRICTIONS Prohibits all financing for all coal projects, and prohibits financing for either some oil and gas projects or some companies expanding coal.</p>	<p>EUROPE: BNP Paribas, BPCE/Natixis, Commerzbank, Crédit Agricole, ING, KBC, Rabobank, RBS, Santander, Société Générale, Standard Chartered</p> <p>UNITED STATES: US Bank</p>
<p>FULL COAL PROJECT EXCLUSION Prohibits all financing for all coal projects, or prohibits financing for some coal projects and some oil and gas projects.</p> <p>PARTIAL COAL PROJECT EXCLUSION Prohibits some financing for coal projects.</p>	<p>AUSTRALIA: NAB</p> <p>EUROPE: Barclays, BBVA, Deutsche Bank, HSBC</p> <p>AUSTRALIA: ANZ, Westpac</p> <p>CANADA: TD</p> <p>EUROPE: Credit Suisse, UBS</p> <p>JAPAN: SMBC Group</p> <p>SINGAPORE: DBS Bank, OCBC Bank, UOB</p> <p>UNITED STATES: Bank of America, Citi, Goldman Sachs, JPMorgan Chase, Morgan Stanley, PNC Wells Fargo</p>
<p>NO POLICY No exclusions of fossil fuel expansion or commitments to phase out fossil fuel financing.</p>	<p>AUSTRALIA: Commonwealth Bank</p> <p>CANADA: Bank of Montreal, CIBC, RBC, Scotiabank</p> <p>CHINA: Agricultural Bank of China, Bank of China, China Construction Bank, ICBC</p> <p>EUROPE: UniCredit</p> <p>JAPAN: Mizuho, MUFG</p>