CLIMATE CHANGE
Three imperatives for financial services
First, climate risk is not yet being factored into capital pricing and allocation decisions. Partly this is because of the difficulty in doing so. Assessing the impact of either physical climate change or of rapid transition is complex, and not well captured by models that are built on historical data. But the science is developing fast, built around forward-looking scenario analysis. We have applied this to model one type of transition risk — the impact of a carbon tax on two carbon-heavy industries: power and oil & gas. We estimate credit losses of $50 billion — $300 billion on outstanding debt in this scenario. Critically, the impact varies widely across companies, with the probability of default rising by two or three times for the firms most impacted. Across all industries losses could reach $1 trillion. Few firms are calculating these risks at a granular level, and even fewer are feeding them through into origination and portfolio management decisions. These risks must be better accounted for as a matter of urgency.

Second, the financial services industry is significantly underestimating the income potential of the shift towards a green economy. We estimate industry earnings of $80 billion from wholesale banks serving ‘black/brown’ corporates – certainly a lot to lose. Set against that we estimate earnings today of ~$40 billion from sustainable finance across both investing and financing. However, if predictions that the green economy will require up to $6 trillion in capital in the coming years are even close to being correct then the opportunity in financial services is huge, ranging from $50 billion to $150 billion in incremental revenues across activities. Financial services firms are short on sources of growth today; this represents arguably the single biggest growth opportunity for the industry.

So what can be done to move faster? Many competing approaches are emerging and the data and disclosures are all still weak. There are many analytical gaps and there is no overarching framework. These things will all improve over time. But the time has come for the industry to move firmly into action.
WE SEE THREE IMPERATIVES

IMPERATIVE 1 Act on your risks
First, the industry needs to tackle the complex work needed to understand its risks. It then needs to act on this. Rating agencies, banks, asset managers and insurance companies need to significantly invest in improving data capture and granular modelling of physical and transition risks, and reflecting this in credit ratings and security valuations. Better corporate disclosure is vital and financial services firms can play an important role in pushing for this. But measurement alone is not sufficient. In parallel, processes need to be changed to allow the decision makers to incorporate this risk and include it in discussions with customers. The underwriters and risk managers responsible for pricing and underwriting decisions need to adapt quickly, as do the incentives and policies that steer the business.

IMPERATIVE 2 Seize the opportunities
Growing public concern about the environment is feeding a boom in demand for greener investments. It will also drive an accelerating shift towards a greener economy, and the products and services created to enable this will have lasting value. Yet sustainable finance products, such as sustainable investing funds and green bonds, while growing fast, remain small. There is an urgent need to extend the breadth and depth of the sustainable finance markets, and to create the data and analytical structures that will underpin this. The winners will be those able to move fast and work across organisational boundaries to shape the new market, and help the economy in an almost unprecedented transformation. While physical climate risk management may be about downside protection, climate transition risk should be seen as a huge opportunity.

IMPERATIVE 3 Steer Top-down
Our first two imperatives rely on the commercial forces of risk and return to drive action within large financial services institutions. There is a danger that this process of reacting to the underlying economic data and projections through upward percolation alone will be too slow and too weak. Financial services needs to put in place a pro-active stance, led from the very top. Priorities should include investment to build internal capabilities, top-down parameters for capital allocation towards green activities and the creation of meaningful and measurable ways to engage with companies in the brown-to-green transition.
THIS LEAVES OPEN THE QUESTION OF POLICY IN FINANCIAL SERVICES

Beyond carbon taxing, there are a number of levers under debate. Regulators have started to experiment with climate-based stress testing and embedding this in supervisory processes. This, on the evidence so far, seems an effective way to ensure that the risks are better understood, promoting capability-building. Mandating more granular disclosures from financial institutions would be another positive step, as would establishing a common framework for measuring the carbon intensity of the balance sheet. There are more directive measures being considered, such as regulating banks to put differential capital weights against different corporates according to sustainability considerations. Such steps that affect core prudential capital requirements could have unintended effects. At a minimum they require significant further assessment.

The industry should accelerate progress to get as far ahead of the potential intervention as possible. While much of the financial services industry was found to require major government intervention after the financial crisis, the shift toward a green economy is an opportunity for the industry to take a leading role.

FIGURE 1 Three imperatives for financial services firms on climate change

ACT ON YOUR RISKS
What do you need to do to safeguard against the risks?

SEIZE THE OPPORTUNITIES
Where are the opportunities to make money and who will win?

STEER TOP-DOWN
What more can or should be done to take a proactive, positive stance?

BOARD OF DIRECTORS
INVESTORS
SUPERVISORS
REGULATORS

ACCOUNTABILITY TOWARDS

SOURCE: Oliver Wyman analysis
ACT ON YOUR RISKS
How should climate risk be reflected in decision making?

During the past year, in our work with financial institutions on climate change, we have observed a step-change. Momentum has picked up, with much of our focus going into calculating scenario-based losses on balance sheets.

While stress testing techniques are now well established across the industry, the application of these to understand the economic risks from climate change is particularly challenging, given the lack of historical data and the complexity of the risk drivers. What is already clear from our work in this space, is that the possible losses are significant and that these risks are only just beginning to be incorporated systematically into asset allocation and origination processes.

The economic risks relating to physical changes in the environment are increasingly apparent, as events such as forest fires, storms, and floods occur with increasing frequency. But the more important economic impacts in the near term may now relate to steps taken to accelerate the transition to a lower carbon economy. Earlier this year the World Economic Forum, with support from Marsh & McLennan, published the 2020 annual Global Risks report. For the first time in the survey’s 10-year outlook, the top five global risks were all environmental, with extreme weather events, human-made environmental damage and disasters, major biodiversity loss, and natural disasters all the likeliest risks in 2020. As public concern and policy makers’ focus on this topic mounts there is growing likelihood of a major shift in environment, or in consumer behavior, that could drive both deep structural changes in the economy and in asset valuations.

A wide range of transition scenarios is plausible, such as the accelerated phasing out of older technologies like the combustion engine, or mandated adoption of new technologies. We chose to look at the effects of the introduction

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**FIGURE 2**  Transition and physical risks interplay with each other

<table>
<thead>
<tr>
<th>MORE TRANSITION RISK</th>
<th>CORRECTIVE TRANSITION RESPONSE</th>
<th>CHANGE IN TEMPERATURE, °C</th>
<th>% FOSSIL FUEL IN ENERGY (2050)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAPID TRANSITION</td>
<td>Very strong</td>
<td></td>
<td>&lt;40%</td>
</tr>
<tr>
<td>TWO-DEGREE</td>
<td>Strong</td>
<td></td>
<td>&lt;50%</td>
</tr>
<tr>
<td>BUSINESS-AS-INTENDED</td>
<td>Substantial</td>
<td></td>
<td>&lt;75%</td>
</tr>
<tr>
<td>BUSINESS-AS-USUAL</td>
<td>Limited</td>
<td></td>
<td>80%</td>
</tr>
</tbody>
</table>

SOURCE: Oliver Wyman analysis
of a carbon tax, since this is one of the most commonly cited potential policy responses. Indeed, the World Bank has reported that 50 percent of Paris Agreement signatories are actively considering a carbon tax. We focused our analysis on two of the most affected sectors, power generation and oil & gas, with a tax level of about $50/tCO2 eq. Together, they account for ~40 percent of global greenhouse gas emissions. The results were striking: on average the probability of default increases two to three times in these sectors, with a highly differential impact across borrowers, both within and across sectors [see FIGURE 3].

This could result in $50 billion to $300 billion in losses on outstanding debt across both sectors. By extrapolating the figures to the broader economy, we estimate as much as $1 trillion could be at risk. These numbers, while large, are smaller than those produced by recession stress scenarios. As such, it is not clear that a more rigorous analysis of climate risk would necessarily drive the industry to hold more capital in aggregate. Instead, the greater likelihood is that climate risk will become an increasingly important consideration in asset selection, pricing, and portfolio management.

ACTING ON THE RISKS

The danger is that banks and other investors have been inadvertently building up exposure to material risks that have not been understood or priced into their credit decisions, and that could pose significant risk. As early movers start to measure and price these risks, those that are slower to react may be left holding the debt that others do not want.

To illustrate this point, we modelled the impact of our carbon tax scenario across three different hypothetical bank balance sheets [See FIGURE 4]. The first bank has a portfolio with very little exposure to the most carbon-intensive sectors, while the second bank is more substantially exposed to those sectors. Bank 3 has the same sector allocation as Bank 2, but its portfolio tilts toward higher climate-risk borrowers in each carbon-intensive sector.

We observe that expected credit losses increase for the second bank by 1.2 times but almost triple, up 2.7 times, for the third. The reason for this is that risk is skewed significantly within so-called “brown” sectors. For example, high-cost oil reserves are more likely to become stranded in a transition as they will be the first ones to be shut down in times of falling demand. While many leading firms are investing heavily in new technologies to shift their energy mix away from oil, reducing their risk, power companies and utilities with a high carbon-energy mix will find themselves in a difficult position, investing to green their operations while exposed to paying carbon tax.

The industry is only now beginning to awake to the challenge. As recently as 2018, an Oliver Wyman / Association of Credit Portfolio Managers (IAPCM) survey of 45 leading banks found that most respondents did not consider climate change risk in their credit rating process, and half had no mechanism at all to translate climate-risk considerations into loan pricing [see FIGURE 5]. Indeed, we have yet to find a single bank that has developed a way to embed the outcomes of climate-risk scenario analysis into a risk framework across the loan book. And very few have adapted and developed their underwriting and loan approval process to explicitly take into account transition related risks.

There is some urgency. It takes time to change the profile of a corporate loan portfolio. And as the financial system becomes increasingly focused on climate risks there is a growing danger that carbon-heavy borrowers will run into self-fulfilling liquidity crunches, as they find credit harder to access. Understanding the climate risks that their clients face will also help banks and other financial institutions engage constructively with their clients to adapt their businesses to mitigate the risks – and identify the opportunities – from transition.

A HOLISTIC APPROACH

Transition risk is only part of the puzzle, of course. The losses from more severe physical risk scenarios could be enormous. The
FIGURE 3  Carbon tax scenario analysis — the impact varies widely across borrowers

BREAKDOWN BY SUB-SECTOR

<table>
<thead>
<tr>
<th>Sub-sector</th>
<th>Range of impacts for individual debtors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil &amp; gas</td>
<td></td>
</tr>
<tr>
<td>Upstream</td>
<td></td>
</tr>
<tr>
<td>Midstream</td>
<td></td>
</tr>
<tr>
<td>Downstream</td>
<td></td>
</tr>
<tr>
<td>Power generation</td>
<td></td>
</tr>
<tr>
<td>Integrated</td>
<td></td>
</tr>
<tr>
<td>Regulated</td>
<td></td>
</tr>
<tr>
<td>Unregulated</td>
<td></td>
</tr>
</tbody>
</table>

MULTIPLE OF BASELINE PROBABILITY OF DEFAULT IN CARBON TAX SCENARIO

SOURCE: Oliver Wyman analysis

FIGURE 4  Portfolios skewed towards higher risk counterparties could face material losses under a carbon tax scenario

WHOLESALE PORTFOLIO – EXPOSURE BREAKDOWN
LOW VS. HIGH CARBON SECTORS

<table>
<thead>
<tr>
<th>Bank 1</th>
<th>Bank 2</th>
<th>Bank 3</th>
<th>Bank 1</th>
<th>Bank 2</th>
<th>Bank 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>100</td>
<td>100</td>
<td>14.3</td>
<td>14.3</td>
<td>14.3</td>
</tr>
<tr>
<td>70</td>
<td>40</td>
<td>40</td>
<td>0.3</td>
<td>0.5</td>
<td>3.0</td>
</tr>
<tr>
<td>15</td>
<td>27</td>
<td>28</td>
<td>14.0</td>
<td>13.8</td>
<td>11.3</td>
</tr>
</tbody>
</table>

CET1 RATIO – SCENARIO IMPACT

SOURCE: Oliver Wyman analysis
AS EARLY MOVERS START TO MEASURE AND PRICE IN THESE RISKS, THOSE THAT ARE SLOWER TO REACT MAY BE LEFT WINNING THE BUSINESS THAT OTHERS DO NOT WANT.
Grantham Research Institute on Climate Change estimates more than $2.5 trillion of the world’s financial assets could be affected [April 2016]. While the physical effects of climate risk are already being felt, some of the largest impacts to financial institutions will play out over a 30- to 50-year period, well beyond the decision-making timeframe of most institutions. That is not to say these can be ignored today. Asset valuations could move fast as markets start to price in future risks today.

Such physical risks are particularly important for insurers, where they hit both the asset and liability side of the balance sheet. P&C insurers are grappling with the reality of more extreme weather events driving higher payout rates. Assessing these risks is challenging as the historical data sets that are used to calibrate existing models cannot accurately reflect the forward-looking risks relating to climate change. There are also regulatory and reputational risks if certain segments become uninsurable. In California, for instance, insurers have been banned from dropping wildfire coverage. Life insurers face different challenges. On the asset side, through their holdings of corporate bonds and other investments such as commercial real estate and infrastructure loans, they are exposed to both physical and transition risks. The impact on liabilities for life insurers is unclear — increasing temperatures could result in increases in the incidents of tropical diseases on the one hand, but might also increase life expectancy in colder climates, particularly among the elderly. Thinking about transition risks and physical risks together raises the question of their interplay: more dramatic physical risk events increase the probability of more extreme policy interventions to accelerate transition.

Building more robust climate risk measurement and management frameworks will not be a matter of choice for many, as regulators start to mandate climate risk management. In Asia, the People's Bank of China, the Bank of Japan, the Reserve Bank of India and the Monetary Authority of Singapore have all signaled their intention to look at climate risk in their jurisdictions. In Europe, several regulators, including France’s ACPR, the Bank of England and the Dutch National Bank have already started to conduct climate risk stress tests for their domestic institutions, while the EBA will perform sensitivity analyses this year. A large number of Central Banks and Supervisors that are keen to manage climate risk have organized themselves in the Network for Greening the Financial System, where lessons learnt are shared and a joint agenda is being developed and pursued.

**FIGURE 5**  Few banks have embedded climate risk into their credit rating process

**HOW ARE CLIMATE-RELATED RISKS CAPTURED IN THE CREDIT RATING PROCESS?**

# OF RESPONDENTS

<table>
<thead>
<tr>
<th>Explicitly captured in credit rating</th>
<th>Indirectly captured</th>
<th>Qualitative adjustment</th>
<th>Not explicitly captured</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>5</td>
<td>5</td>
<td>17</td>
</tr>
</tbody>
</table>

1. Some institutions capture climate risk by adjusting the financials (e.g. additional CAPEX required for adaptation or transition)
2. As part of the rating process, analysts can override the rating if they are not comfortable with the environmental and social risks

SOURCE: Oliver Wyman/IACPM Survey (November 2018)
SEIZE THE OPPORTUNITIES
Where are the key growth areas in green finance?

Heightened public focus on environmental issues is contributing to a boom in sustainable finance. We estimate the sustainable finance ecosystem already represents $40 billion-plus in market revenues, encompassing environmental, social, and governance (ESG) investing, green financing, risk transfer markets, and the supporting data and analytics. These are some of the fastest growing areas in finance today and we estimate this could grow to a $100-150 billion revenue pool over the coming 5-10 years as firms jostle to create new products and services that extend the reach, impact and accessibility of sustainable finance markets.

Key to this will be new structures that can effectively channel environmentally motivated capital towards a broader range of green and transition financing opportunities. Some of the more interesting opportunities may lie across organisational boundaries – asset management, wholesale banking and wealth management divisions working together to mobilize capital. Many firms are creating new senior, cross-divisional roles to apply that lens and set the agenda at the top of the organisation.

SAVINGS AND INVESTING

The largest part of the revenue pool today is in savings and investments. ESG investing now represents one of the fastest-growing areas within fund management. Broadly defined, this space now accounts for 35 percent of assets under management (AUM) and has grown 30 to 40 percent in the past two years. By some estimates more than two-thirds of institutional new money this year is invested in some form of ESG fund structure.

Some of these funds are applying simple screening approaches that offer investors the chance to filter out companies that do not meet their criteria, by excluding tobacco companies for example. However, asset managers are increasingly looking to create more sophisticated approaches. For instance, so called “integrated” approaches that seek to embed ESG considerations into portfolio construction, while “impact driven” investing approaches look to engage investment companies to drive change. Deeper ESG funds represent more like

FIGURE 6 The sustainable finance markets represent a $100-150 billion revenue opportunity

SUSTAINABLE FINANCE ECOSYSTEM

<table>
<thead>
<tr>
<th>AREA</th>
<th>SUB-AREA</th>
<th>REVENUE POTENTIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAVINGS AND INVESTING</td>
<td>Impact Investing</td>
<td>$100-150 billion</td>
</tr>
<tr>
<td></td>
<td>Sustainable Investing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Integrated ESG Investing</td>
<td></td>
</tr>
<tr>
<td>FINANCING</td>
<td>Green Bonds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Green Lending</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transition Finance</td>
<td></td>
</tr>
<tr>
<td>CONTENT AND RISK TRANSFER</td>
<td>Data and Analytics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Advisory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Insurance and Risk Transfer</td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: Oliver Wyman analysis
~5 percent of AUM, but are some of the fastest growing areas.

It’s not all about active management. We are now seeing the emergence of more sophisticated screening approaches that leverage new data sources and algorithmic portfolio construction techniques. Such approaches have the potential to offer investors the means to direct their savings toward companies that reflect their own ethical preferences through simple and cost-effective product structures.

The investor base is also broadening. Initially, sovereign wealth funds and family offices led the growth in ESG investing; it is rapidly moving into the retail sector as the shift in customer sentiment on environmental issues comes to be reflected in saving and investment choices. The pace of this shift is remarkable. There are few other fields of commerce where public concern over the environment and sustainability has translated into such clear changes in consumption patterns. Consumption choices across industries tend to be driven by other factors, such as core functionality, brand, and price. Research by Lippincott, our brand consultancy, found that while many customers care deeply about the environment, only nine percent of customers are willing to pay a premium for products that offer better environmental sustainability.

In financial services, however, it is not clear that customers need to make such an economic sacrifice. Sustainable products, such as green bonds, tend to offer similar rates of return to the wider market. Indeed, some studies have suggested that ESG equity funds have achieved higher returns. Banks would be well-advised to follow the asset management industry by creating “carbon neutral” or green savings and deposit products, with associated brand identities.

**FINANCING**

As the demand for sustainable saving and investment products grows, so does the need for a broader range of suitable financing opportunities to put this money to work. In principle these should be plentiful as the financing required to drive to a lower carbon opportunity could be huge — a report by the New Climate Economy has estimated a financing need of $6 trillion a year. Yet the sustainable finance markets remain small.
Consider the green bond markets. They have been a major success story, achieving issuance of $250 billion in 2019, from a standing start 10 years ago. As the market has grown the set of issuers has expanded beyond sovereigns and development banks into the private sector. Yet the market remains small, representing less than five percent of global issuance, and skewed towards higher grade credits. Critically, the issuer base is particularly small in those areas where the largest change is required, such as in emerging markets and in sectors that have the most to do to transition to a lower carbon model.

Take the automotive sector, for example: the entire ecosystem of manufacturers and service providers is set to change profoundly with the rise of electric cars and car-sharing. This will present tremendous opportunities for financial firms — as new companies emerge (there were 138 start-ups in 2018 in this space, collectively worth $46 billion) and existing ones invest and divest to adapt. This could have a major impact helping reduce carbon emission since road transport accounts for around 20% of emissions. Despite this, there has been almost no specialist green financing in the auto sector.

The market is already working hard to tackle this, creating new product structures and adapting existing ones to better link the demand for sustainable and transition-linked investments to the financing and risk-management needs of the companies driving change. For instance:

- Transition bonds
- Impact-linked structured notes
- ESG-linked interest rate swaps
- Stripped green bonds
- Carbon permit trading and origination
- Insurance premia-linked financing

The growth of the existing green market has been supported by standards and taxonomies defining what is considered as eligible to be labelled as “green”, typically based on strict rules for how the funds will be used. Transition finance cannot fit neatly into this framework, so a more nuanced approach must be developed. This will mean looking beyond “use of funds” and moving towards a broader assessment of how well the issuer is aligned with the Paris Agreement. By definition, this kind of transition financing will involve providing capital to companies who are currently involved in brown activities — an idea that a number of active stakeholders are vocally against. Certainly, there is a danger of heightened “greenwash” and reputational risk for involved parties. Yet unless these issues are addressed and worked through the market will surely struggle to meet its potential.

FIGURE 8  Financing the vast bulk of borrowers that do not meet pure green financing criteria

<table>
<thead>
<tr>
<th>GREEN-LABELLED FINANCING</th>
<th>TRANSITION FINANCING</th>
<th>TRADITIONAL FINANCING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values based assessment</td>
<td>Target outcomes based assessment</td>
<td>Credit based assessment</td>
</tr>
<tr>
<td>Activity based assessment</td>
<td>Outcome linked economics</td>
<td></td>
</tr>
<tr>
<td>Wider universe of issuers and deeper market for investors</td>
<td>Access to wider funding pools Disciplines and incentives to help drive change</td>
<td></td>
</tr>
<tr>
<td>More impact in driving transition</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: Oliver Wyman analysis
THOSE FIRMS ABLE TO LEAD THE CHARGE IN SHAPING THE MARKET WITH NEW PRODUCTS AND STRUCTURES WILL BE WELL PLACED TO CAPTURE THE GROWING FEE POOL
The development of the analytics and data that will be required to support this growing market is an area of intense activity today. A raft of new firms have emerged offering a wide range of services – from AI-driven geospatial mapping databases to human-driven subjective research ratings – while the major data providers, index providers and exchanges have been developing their own offerings. There is a battle to establish the reference data sets, but also to own the analytical processes of company assessment and portfolio selection. Some financial institutions will prefer to rely on third-party indices and external ratings, but a growing number are seeking to develop their own analytical approaches and embed these into asset selection and portfolio management.

As this market develops, opportunities will arise for new approaches to risk transfer and hedging. For instance, as extreme weather events have become more common, climate risks have become larger and more complex to price. In response, innovative insurers – both established and niche specialist players – have begun to offer parametric insurance policies. By offering fixed payouts against climatic trigger events, these players have captured what was once considered “uninsurable” business while helping corporations and individuals increase their climate resilience. Similarly, as carbon intensity becomes an increasingly important consideration, firms may look for hedging and risk transfer instruments linked to the carbon price.
STEER
TOP-DOWN
What should be done to take a proactive stance?

We have argued that financial institutions face compelling reasons to act in their own commercial interest. Yet, there is a danger that if such action is limited to following the commercial incentives in place today, society more broadly will not move with enough urgency to avert the economic and social fallout of unchecked climate change. This may be the biggest risk financial institutions face over the longer term. Framed this way, leaders have a wider responsibility to society to take a stronger stance, using their position to proactively help drive the transition to a lower carbon economy.

In doing so, financial institutions can draw inspiration from ambitious and creative approaches taken by companies such as Unilever, IKEA, or Danone. Many executives say they want to take action, but argue that they are limited in what they can do – either because customers won’t bear the costs or because investors want to optimize for short-term returns. Exploring the realities of those constraints can be a useful lens to apply. The question for management is not what will their stakeholders require them to do, but what will their stakeholders allow them to do?

STEERING THE BALANCE SHEET

The most powerful action that financial firms can take is to steer capital away from the most polluting companies, and toward the environmental leaders. After all, at its core the financial system is about allocating capital and

FIGURE 10 Many of the leaders in green finance are also lending heavily to the highest greenhouse gas emitting sectors

REVENUES FROM GREEN BOND ISSUANCE/TOTAL DCM REVENUES (%)
managing risk. Most financial firms do indeed already have processes in place to exclude companies that breach various environmental policies as part of their wider corporate social responsibility (CSR) efforts. And many banks have announced ambitious-sounding plans to proactively direct billions of dollars of finance toward the green economy. There’s little evidence, however, that they are making tough choices on their loan book. Indeed, many of the leaders in green finance are also leaders in lending to greenhouse gas emitting sectors (see FIGURE 10).

This reflects, in part, commercial reality. The sectors with the highest greenhouse gas emissions are worth an estimated $80 billion in revenues per annum to wholesale banks globally, around 25% of their large corporate client revenues. In an environment of low interest rates and sagging profitability, banks feel they cannot afford to turn their back on major client groups. Such a move would also be inconsistent with their role as relationship managers. If banks can engage constructively with the biggest polluters and help fund their transition to a more sustainable model, the positive impact could be immense.

The challenge for banks is in making the engagement meaningful. This will require a way to assess companies’ progress in delivering against transition goals. This, in turn, will require new data and new ways of analyzing existing data. It will also require some teeth — what happens when commitments are not met? Can a policy of engagement with a particular company by the lending or investment banking division be justified when the asset and wealth management division is excluding that company from its ESG funds? Can a financial institution demonstrate they are financing companies within a given sector who are more advanced in terms of transitioning their business to a lower-carbon model?

**INVESTOR SCRUTINITY**

Increased investor scrutiny of financial services companies, supported by richer disclosures and more robust ESG ratings, could be a powerful catalyst. Environmental ratings for financial firms are today driven primarily by standard corporate considerations, such as the carbon footprint of their operations, rather than taking into account their role in allocating capital. ESG ratings of banks currently show no correlation with the level of lending to the high greenhouse gas-emitting sectors (see FIGURE 11). In other words, ESG ratings, like the banks that issue green bonds, could somewhat justifiably be accused of greenwash.

More rigorous assessments of banks’ own climate readiness is starting to emerge, such as research firm Autonomous’ evaluation of bank “Paris-readiness.” But these opinions are not yet foremost in the minds of investors in bank securities. This situation is likely to change, however, as the issue rises up the agenda and disclosure improves. For management teams looking to be proactive, a more robust external rating would act to drive change through the organization and set the bar high for the industry. Failure to secure a positive rating — or to show progress in reducing the carbon intensity of the balance sheet — would then be potentially a source of reputation risk.
If the industry doesn’t move fast enough, there is the risk that policymakers will intervene more strongly. Financial services firms enjoy a privileged position at the heart of the economy, protected by deep protective moats of regulation and benefiting from various forms of explicit and implicit government support. One consequence of this is that policymakers can adjust the regulatory framework governing financial services companies in pursuit of social and economic goals.

Such interventions cannot be made lightly. We believe that climate change is a material source of risk and that it is right for central banks to ensure that these are properly reflected within risk management frameworks. It is also entirely appropriate for individual institutions to adjust internal capital charging frameworks, or “shadow” carbon pricing, to promote green or transition finance, if they choose. It is less clear, however, that regulatory capital requirements should be used to create further incentives to promote green finance. Prudential regulation, has a critical role to play in safeguarding the solvency and stability of the financial system, so any changes to capital adequacy rules must be very carefully assessed.

Experience has shown, however, that there are many other ways financial firms can have new responsibilities and obligations thrust upon them by policymakers. For instance, banks have become the front line in the battle against anti-money laundering. And many financial services firms now have an obligation to assess not just the commercial attractiveness of customers and financial products, but also the suitability of financial products to particular customers’ needs.

Indeed, we are already observing regulators in some jurisdictions actively incorporating climate considerations through a range of other levers. For example, the Prudential Regulation Authority has incorporated sustainability into its senior managers regime. In addition, the European Banking Authority has published a roadmap for incorporating climate and other ESG factors into their regulatory framework by 2025. Banks will need to demonstrate that they have a coherent and consistent response, built...
One key weapon at policymakers’ disposal in this regard is to increase requirements for disclosure on the profile of the balance sheet. The Task Force on Climate-related Financial Disclosures ("TCFD") has been a catalyst for increasing transparency and disclosure standards since its launch in 2016 and is continuing to raise the bar. However, by its own admission, the level of financial disclosure is insufficient for investors. To move faster, policymakers could adopt TCFD’s recommendations as requirements, transcribed into law at a national level.

As climate change rises up the agenda, it is not inconceivable that policymakers will ask financial institutions to do more to ensure that they are reflecting the concerns of their stakeholders. In the same way that savers and depositors rely on regulators to ensure that their banks and money managers are acting prudently and with integrity, they might expect regulators to ensure that their money is being used in a way that reflects their values with respect to the environment and climate change. Even if there proves to be no policy intervention, firms are well advised to take a proactive stance on climate change themselves. The last crises has left a dent in financial services firms’ reputations and public trust is not high. Firms do not want to be off-guard again. The present shift in sentiment could all-too-easily crystallize around a single event, highlighting any failure to meet stakeholder expectations. However real or unreal this risk might be, it is not fear of failure that should motivate change but the desire to lead. We believe financial services firms should see this as an opportunity to stand up and earn renewed reputation, to hold fresh influence with the younger generation in particular.
The path of climate change and the policy response to it is highly uncertain, yet its importance is clear. Management teams and boards must act to ensure that the risks are understood and properly reflected in decision making, and that the opportunities are addressed. Beyond this they must take a clear stance on what proactive measures will be taken and how this will be communicated.

The implementation of fundamental changes now will mean that the financial services industry can assume a leading role in the response to climate change going forward.