

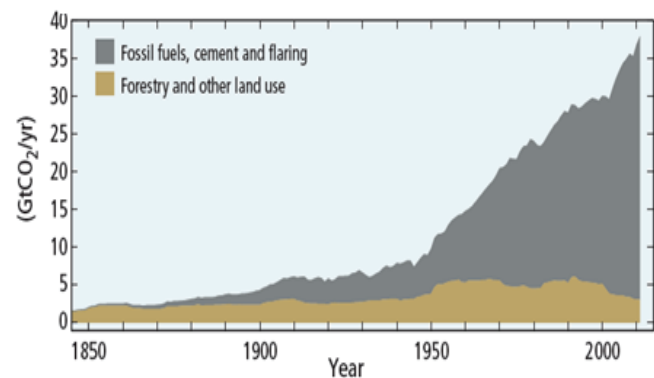
The financial sector facing the transition to a low-carbon climate-resilient economy

- The significant economic growth and the profound structural changes that occurred since the end of the 19th century have proceeded hand-in-hand with an unprecedented rise in temperatures as well as broader changes to global climate. At COP21 in Paris, the common realization that continuous global warming could lead to irreversible damage to the planet led the international community to confirm and enhance the long-term objective on combating climate change established in 2010: to hold the increase in global average temperature to well below 2°C, and to pursue efforts to limit the temperature increase to 1.5°C¹.
- Reaching this goal represents a significant economic challenge, requiring adequate climate policies (cap and trade, carbon tax). The financial sector has a particular role, as it will finance the energy transition. A redirection of investments coupled with some additional capital will indeed be necessary to successfully transform our economies. In that respect, creating the appropriate conditions for transition-favorable investments to take place is essential.
- A climate-consistent capital allocation matters for the adequate management of the risks (and opportunities) climate change represents for the financial sector. Information on the financial implications of climate change as well as a business-oriented appropriation of climate issues by the financial sector are key factors for risk management.
- Recent policy initiatives have been launched with this perspective by several jurisdictions as well as international organizations. France has been at the forefront by introducing over the years a consistent policy package that promotes a better integration of sustainability throughout the economy, including the financial sector. A milestone of these efforts has been the adoption of the Energy Transition for Green Growth Act, which defines a long term strategy including a carbon path and encourage the financial sector to get to grips with this topic through its article 173.

Source: IPCC.

Note: Global anthropogenic CO₂ emissions from forestry and other land use (beige) as well as from burning of fossil fuel, cement production and flaring (gray). Quantitative information of CH₄ and N₂O emission time series from 1850 to 1970 is limited.

Global anthropogenic CO₂ emissions



(1) Paris Agreement, Article 2, December 2015.

Following a dramatic growth in greenhouse gas emissions over the last century and its worrying impact on global warming, the Paris Agreement established a long-term objective in combating climate change: to hold the increase in global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C. The necessary reduction of emissions will require fundamental changes in the global economy to combine a strong growth path with a sustained reduction in emissions and built-in resiliency to the potential adverse consequences of climate change.

A transformation of this kind entails significant dedicated investments over the coming years. Currently, however, investments around the world and their financing are still biased towards high-carbon and insufficiently resilient to the

consequences of climate change while those dedicated to the transition remain insufficient. While some steps were made in the run-up to COP21¹, the respective role of public and private financing, and how to enhance in practice their combined efficiency, still need to be better understood.

Taking stock of the double imperative to mobilize capital for the transition and achieve a climate-consistent capital reallocation, this document seeks to sketch out the economic and financial challenges of climate change as well as possible policy framework that can address these issues. In the financial sector as in many other parts of the economy, aligning financial institutions with a 2°C objective is probably the single most important challenge. Finally, this paper presents recent policy initiatives that illustrate what can be done from a financial sector perspective.

1. Climate finance and the path towards a 2°C world

1.1 The economics of energy transition points toward the need of immediate action

A few years ago, the measurement of the opportunity cost of action was at the center of an important controversy. Stern (2006)² advocated immediate action that would be less costly than inaction. By contrast, emphasising the costs for present generations brought about by excessively voluntary action, while the benefits accrue to supposedly better-off future generations who will be better equipped technologically to address climate change, Nordhaus (2006)³ supported gradual action⁴.

This controversy now appears to be largely outdated if not irrelevant. Firstly, the debate has been clarified as to the nature of different views on the time horizon, the nature of the risks and the role of uncertainty (see, for example, Gollier, 2006⁵). Secondly, while the assessment of the macroeconomic impacts of climate change is still far from perfect, such uncertainty does not justify inaction (Pindyck, 2013⁶; Gollier, 2014⁷). Finally, some technologies contributing to the transition to a low-carbon economy appear to exist (NCE, 2014⁸; Acemoglu *et al.*, 2015⁹), and their relative cost is no longer systematically unfavourable. Overall, the analysis suggest that action can and should be undertaken now.

1.2 Towards a 2°C world: more investments or different investments?¹⁰

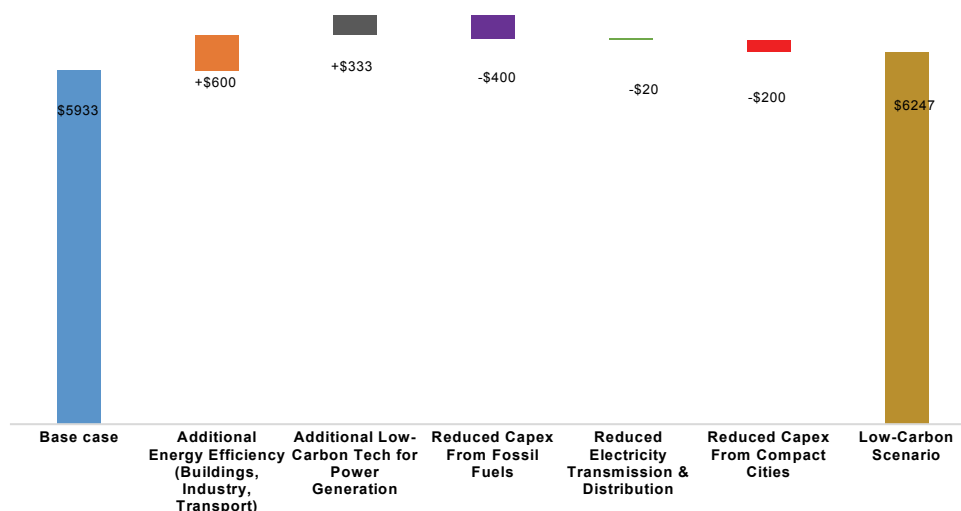
Assessing the amount of financing required to achieve the objective of limiting warming to less than 1.5°C or 2°C compared to the pre-industrial era remains difficult and is plagued by substantial uncertainty. Most assessment of transition-linked challenges shows that the necessary investments are important but also points towards the need for a redirection of investments. In such case, the development of a low-carbon economy will only marginally require additional capital.

For example, given the projected growth of population and the development of new cities, necessary investments in infrastructure, land and energy management amount to USD 6 trillion/year from 2015 to 2030 (NCE, 2014)¹¹ in the case of no transition. A 5% increase (representing USD 300 bn/year – see chart 1) would be enough to "decarbonize" and adapt these investments to make them 2°C-compatible.

The increase of costs related to energy efficiency or the deployment of low carbon technologies is compensated by a decrease in investments related to fossil fuels. For example CTI (2015)¹² estimates that around USD 2.2 trillion of capex need to not be approved over the next decade in fossil-fuel production capacity, mostly associated with new projects, in order to avoid around 156 GtCO₂ of emissions over the next 20 years and be compatible with a 450-ppm scenario¹³.

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- (1) As an example of actions on climate change undertaken by investors, several coalitions have been founded, such as Montreal Carbon Pledge, Portfolio Decarbonization Coalition, Long Term Infrastructure Investors Association.
 - (2) Stern, N. (2006), "Review on the Economics of Climate Change: The Stern Review", *Cambridge University Press*.
 - (3) Nordhaus, W. (2006), "The 'Stern Review' on the Economics of Climate Change", *NBER Working Paper* No. 12741.
 - (4) Célestin-Urbain, J. (2008), "The long-term economic consequences of climate change", *Trésor-Economics* No.30, february.
 - (5) Gollier, C. (2006), "An Evaluation of Stern's Report on the Economics of Climate Change", *IDEI Working Papers* 464, Institut d'Economie Industrielle (IDEI), Toulouse.
 - (6) Pindyck, R. (2013), "Climate Change Policy: What Do the Models Tell Us?", *Journal of Economic Literature*, 51(3).
 - (7) Gollier, C. (2014), "Uncertainties in global changes: An excuse to do nothing?", Keynote presentation at the GLOBAL-IQ final meeting, Brussels, 17 June (mimeo).
 - (8) New Climate Economy (2014), "Better Growth, Better Climate", *The New Climate Economy Report 2014*, The Global Commission on the Economy and Climate.
 - (9) Acemoglu, D., U. Akcigit, D. Hanley and W. Kerr (2015), "Transition to Clean Technology", *Journal of Political Economy*, 124, no. 1: 52-104.
 - (10) The remainder of this paper focuses on the financing of the energy transition in OECD economies.
 - (11) Including taking into account the increase in the population and the proportion of the middle classes in the world population. This increase in the proportion (and therefore the volume) of the middle classes in the world leads to an increase in the need for infrastructure, energy, etc.
 - (12) Carbon Tracker Initiative (2015), *The \$2 trillion stranded assets danger zone: How fossil fuel firms risk destroying investor returns*.

Chart 1: Global Investment Requirements from 2015 to 203 - USD trillion, constant 2010 dollars



Source: NCE (2014).

Base case: continuation of current trend, including that only policies already implemented continue into the future. The low-carbon scenario is consistent with a 2°C path.

2. Financing the transition

2.1 Adequate climate policies are key for a capital allocation consistent with a 2°C world

Adequate climate policies are a prerequisite for the transition to investments that are consistent with a 2°C pathway. Public interventions, in the form of a standard, cap-and-trade scheme, tax or subsidy is essential to the overall management of the transition to a low-carbon economy and the way this is financed (see Box 1). This policy provides the private sector with clear and credible orientations.

The pricing of carbon, as well as the phasing out of subsidies to fossil fuel oriented technologies, are key factors in that respect.

Furthermore clarity, predictability and sustainability of governments' policies regarding the reduction of greenhouse gas emissions are critical prerequisites for investments needed for the transition. Supporting policies must be carefully adjusted calibrated to ensure their efficiency¹⁴.

Box 1: Carbon pricing tools in France

The European CO₂ emissions trading scheme (EU-ETS) and, at national level, the Climate Energy Contribution are the main public policy instruments to achieve the GHG emissions reduction goals set by the Energy Transition Act (-40% by 2030 and -75% by 2050).

The EU-ETS launched in 2005 is the cornerstone of the European Union's strategy for cost-effective reduction of emissions of carbon dioxide (CO₂) and other greenhouse gases. The EU-ETS works on the cap and trade principle. A cap, or limit, is set on the total amount of greenhouse gases that can be emitted by the factories, power plants and other installations in one year. The cap is reduced over time so that the total emissions fall. In 2020, it is expected that emissions from sectors covered by the EU-ETS will be 21% lower than in 2005 (and 43% lower in 2030). In 2013, the EU-ETS entered its third multi-year trading phase which will run until 2020.

Since December 2013, France has introduced a measure to put a price on CO₂ emissions from fuels and fossil fuels: the Climate Energy Contribution, a domestic consumption tax on energy products, based on their CO₂ content. It incentivizes emission reductions in sectors not covered by the EU-ETS (transport, housing). France, which in its 2014 budget adopted a price per ton of CO₂ of 7€, raised it to 14.5 €/tCO₂ in 2015 and 22€/tCO₂ in 2016. It will increase to 30.5€/tCO₂ in 2017. Article 1 of the Energy Transition Act defines a pathway of 56€/tCO₂ in 2020 and 100€/tCO₂ in 2030. This pathway is consistent with the CO₂ shadow-price applied by the government for infrastructure project evaluations (Quinet, 2013). It improves the predictability of the evolution of carbon pricing in France, thus providing a strong incentive for investors and more broadly for companies to put a shadow price on carbon consistent with this forecast increase. This measure has the potential to change investment decisions in the short term and accelerate the reorientation of investment flows.

(13) IEA 450 Scenario sets out an energy pathway consistent with the goal of limiting the global increase in temperature to 2°C. In this scenario, the concentration of greenhouse gases in the atmosphere stabilizes after 2100 at around 450 ppm (parts per million).

(14) For example in the case of the Spanish solar PV, a sudden burst of investment in solar PV due to government subsidies to promote clean energy led to rising policy costs and ultimately resulted in the government taking measures to dramatically reduce the subsidies.

2.2 The direct mobilization of private capital towards the transition

Currently, climate finance focuses mostly on the direct financing of infrastructure, innovations or projects aimed at lower-carbon and more energy-efficient economies. However, financing these investments comes up against two specific difficulties:

1. **They are often long-term investments**, i.e. investments that typically imply a break-even horizon of 10-15 years or more. For that reason, there may be a number of difficulties with their financing (see Boissinot and Waysand, 2012¹⁵).
2. **These investments often have to be made against a background of (real or perceived) high risks and major uncertainty**. These risks may arise for a number of reasons: wrong underlying technology choices, changing legal and regulatory environments etc. These effects are exacerbated by the fact that, the further away the breakeven horizon of the investment is

the harder it is to evaluate the risks associated with it and the higher the minimum required return on investment will be.

Several key factors are therefore necessary in order to better attract the financing capacity of diverse financial entities:

- An efficient investment framework, including a robust contractual framework and regulatory stability;
- Policy interventions targeting the financing of low-carbon investments and further adjusting their relative risk-return profile;
- possibly, the need to accompany the development of dedicated financial instruments through ensuring that an adequate framework can robustly support such developments.

Finally, financial innovation may play a useful role. "Green bonds" (see box 2) have been a prime example of rapidly expanding instruments that could mobilize capital toward financing low-carbon investments.

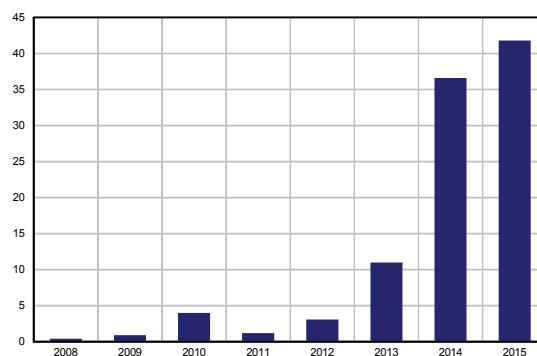
Box 2: Green Bonds^a

Created in 2008 (see chart 2), Green Bonds are financial instruments aimed at raising money on the bond market for activities with a demonstrated positive impact on the environment. The only difference between them and a "traditional" bond is that investors are given information about the "greenness" of the underlying assets with a framework designed to provide assurance on this.

France has been very active in the rise of the green bond market. French market players were very present in the past years at almost every stage of the green bonds chain: issuers, underwriters and second-opinion providers. On the issuer side, according to Climate Bond Initiative and Bloomberg, France amounts for 21% of the global outstanding green bonds issued, being the second market behind the United States of America (27% of outstanding green bonds). Engie issued the largest green bond to date at €2.5 billion in 2014. Public issuers directly involved in investment projects (local governments, public institutions such as AFD or CDC) play a key role in this market segment as the green bond logic fully makes sense for them. The French government is also active with the forthcoming issuance of the first-ever sovereign green bond in 2017. These issuances have been catalyzed by the active and – for some of them – very early role of some underwriters in the development of the green bond market. In addition, the presence of extra-financial rating agencies helped some of these institutions to develop their green bonds.

The development of green financing instruments can be supported by strengthening market standards which currently rely on the Green Bond Principles (ICMA, 2015^b). The standardization of the rules on project eligibility and monitoring the use of proceeds are of particular interest.

Chart 2: Global issuance of Green Bond



Source: Climate Bond Initiative.

- a. Other "green" financial innovations include the development of dedicated infrastructure funds, venture capital dedicated to "green techs", "green securitization", etc.
- b. International Capital Market Association (2016), "Green Bond Principles: Voluntary Process Guidelines for Issuing Green Bonds".

3. Another complementary perspective for capital reallocation : managing climate-related risks

3.1 Physical and transition risks

This climate-consistent capital allocation hinges on and is strengthened by the adequate management of the risks and opportunities climate change represents for the financial sector. These risks are multifaceted and may impact the financial sector through two main channels:

- "physical risks" may arise from climate- and weather-

related events;

- "transition risks" resulting from the process of adjustment towards a low-carbon economy¹⁶.

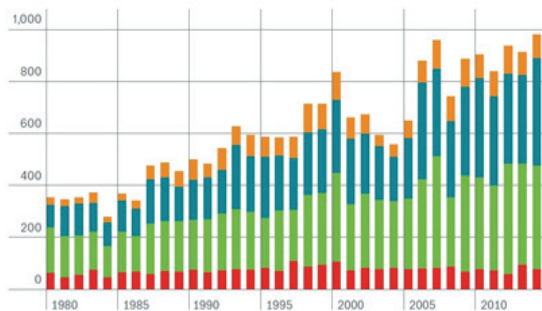
Extreme climate/ weather events related to climate change or the impact of climate change on natural resources can have a direct impact on the real economy: this is what we call "physical risks". They

(15) Boissinot, J. and C. Waysand (2012), « Le financement des investissements de long terme : quel rôle pour les pouvoirs publics ? », *Revue d'économie financière*, n° 108.

(16) "Liability risks" are one particular form of both. The physical consequences of climate change and/or the adjustment process towards a low-carbon economy could entail rising liability risks from individual or groups seeking to recover losses from entities which have failed to take into account those two factors.

cause major operational disruptions in the corporate sector and/or damages to exposed households, threaten their capacity to service debt and in turn impact the financial sector. Natural disasters causing losses have become significantly more frequent (see chart 3). However the level of confidence of scientists in the occurrence of extreme meteorological events in the future varies significantly depending on the type of event and regions of the world. For instance the ability to assess future hurricane activity in the tropics is very limited (IPCC, 2012).

Chart 3: Number of natural disasters (1980-2014)

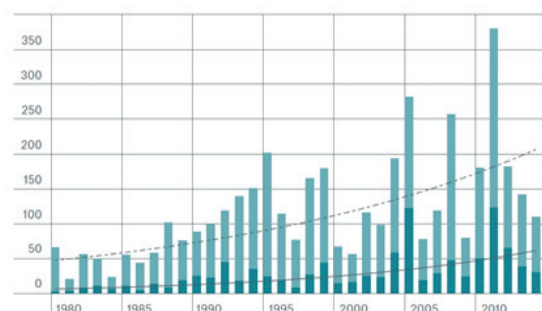


Interpretation: Red: Geophysical events (earthquake, tsunami, volcanic activity); light green: meteorological events (tropical storm, extratropical storm, convective storm, local storm); dark green: hydrological events (flood, mass movement); orange: climatological events (extreme temperatures, drought, wildfire).

Source: Munich Re Topics Geo 2014.

Natural disasters have also become more damaging to the real economy. The extent of uninsured economic losses caused by natural catastrophes is creeping up to unprecedented heights, with a trend outstripping that for insured losses (see graph 4). IPCC studies (IPCC, 2012¹⁷) show that damages caused by natural disasters related to weather and climate are variable depending on the region and from one year to another. Economic losses are larger in absolute value in developed countries, but mortality and economic losses relative to GDP are higher in developing countries. **However, for the time being, these studies show that the increased wealth and exposure of people and goods is the main cause of higher economic losses caused by climate disasters.**

Chart 4: Losses caused by natural catastrophes 1980-2014 (total and insured - in US\$ bn)



Interpretation: eDark blue: insured losses; light blue: overall losses; solid line: trend in insured losses; dashed line: trend in overall losses. Losses values are adjusted for inflation using the CPI index of each country.

Source: Munich Re Topics Geo 2014.

Transition risks appear when failing to take into account the adjustment of the economy during the transition (hence its effect on the pricing of investments). These risks can take several forms: a depreciation of the value of carbon-intensive assets or a lesser ability to repay debt:

1. Policy measures to curb emissions can lead to the rise of large stocks of unexploited carbon reserves and leave energy-sector companies saddled with "stranded assets" which should not be exploited in order to stay under 2°C.
2. These same measures could also entail rising operating costs for a corporate due to emission rights to emit GHG or the use of high-carbon products which price is to increase along with the transition, a rise in the carbon price could reduce its EBITDA¹⁸ (especially if they cannot pass the rise in prices to their clients) and thus threaten its ability to repay debt.

3.2 Knowing, analyzing and harnessing the risks associated with climate change

To harness the risks related to climate change, furthering the understanding of their economic and financial implications is key. The economic analysis of climate change consequences or the impact of climate policies has made some progress. One key step for micro- and macro-economic analysis is to better integrate the assessments of the IPCC reports and spread its knowledge throughout the financial sector.

Moreover, more information and of better quality on the climate risks faced by non-financial corporates (extended reporting on GHG emissions, impact of climate change on business lines etc.) will be necessary to properly assess the exposures of the financial system to climate-related risks. A clearer understanding of these risks would help to reduce them due to a more selective behavior and better risk management by financial institutions.

At the international level, the industry-led Task Force on Climate-related Financial Disclosures (TCFD), launched by the Financial Stability Board following the mandate given by the G20, is one key initiative to improve company disclosure on climate-related aspects. At the national level, significant efforts were spent on developing an extra-financial disclosure framework. Past initiatives notably include:

- The New Economic Regulation law (NRE) of 2001 introduced Corporate Social Responsibility (CSR) reporting for listed companies focused mainly on governance and social issues;
- The 2010 Grenelle II law expanded the reporting requirements to environmental issues, including the tracking and reporting of corporate GHG emissions. It also widened the scope of companies covered by these requirements;
- Article 173 of the French Energy Transition Act introduced complementary disclosure requirements on climate change for corporates (see below).

The knowledge and information accumulated from corporate disclosure as well as the assimilation of climate change science are key elements to refine

(17) IPCC (2012), "Managing the Risks of extreme events and disasters to advance climate change adaptation", special report of the IPCC.

(18) The EBITDA (Earnings before interest, taxes, depreciation, and amortization) is a proxy for a company's current operating profitability by ignoring interest payments, asset depreciation and amortization.

and expand the risk assessment capabilities of financial institutions. As mentioned above, financial risks arising from climate factors could threaten the stability of financial institutions and still lack sufficient incorporation into standard risk analysis (or only to a limited extent so far). To correct for these market and institutional failures, two dimensions are critical: on the one hand, raising the awareness of climate-related issues among financial institutions; on the other hand, deepening the understanding of climate risks in the financial sector as well as the development of methodologies/tools to analyze them and integrate them into financial decision-makings.

A more down-to-earth appropriation of climate issues will intrinsically vary from one institution to another and depend very much on its nature: banks, insurance companies, pension funds, asset managers or private equity firms will not have the same risks to assess with respect to their activity, nor will the implications for their operations be the same.

Some real progress in that area is already discernable among institutional investors and asset managers thanks to policy initiatives. Some institutional investors and asset managers are currently developing selective divestment strategies as well as low-carbon investment strategies (see Andersson, Bolton and Samama, 2014¹⁹). The latter enable investor to maintain an exposure to a market index (such as Eurostoxx 600) while limiting their exposure to companies that are most affected by climate-related risks. They are bound to significantly over-perform this market index as the policy signal becomes stronger. Furthermore some investors also developed an active shareholder engagement strategy (recurrent discussion with the management, launch of shareholders' resolution etc.) on climate-related issues as well.

For the banking sector, the key issue is to incorporate climate-related risks into the process of credit risk analysis. For example, retail banking needs to analyze better the consequences of how predictable energy price rises will affect the solvency of a household taking out a mortgage and the implications of those rises for the energy efficiency of the financed property (energy spending) or its location (transportation costs). **In that respect, financial regulators/supervisors took some actions to enhance banks' understanding and capabilities in the area of climate-related (more generally Environmental, Social and Governance a.k.a "ESG") risks.** For instance, following a voluntary Green Protocol from the banking sector and after a thorough dialogue, the Brazilian banking supervisor introduced requirements for all banks to have environmental and social risk management systems in place. It has also asked banks to monitor environmental losses as part of the Internal Review for Capital Adequacy (ICAAP). Following the recommendations of the Green Financial Task Force (2015),²⁰ Chinese authorities are considering the introduction of a specific responsibility of banks ("lender liability") regarding effective due diligences on borrowers' compliance with environmental regulations in China.

For the insurance sector, there are implications both for liabilities (underwriting risk) and assets (financial portfolio management). The latter is similar to the challenges faced by institutional investors. The underwriting of risks includes, for example, the pricing of insurance policies in the context of an increase in the frequency and impact of adverse weather developments or outright natural disaster. In practice, actions by public authorities have contributed to put these insurance issues under the spotlight. For instance, the Prudential Regulation Authority (PRA, the supervisory authority for the banking and insurance sector in the UK, which is part of the BoE) published a report²¹ on the implications of climate change for the insurance sector.

France has also been at the forefront with the implementation of policies affecting all economic actors, including the financial sector.

3.3 Article 173 of the French Energy Transition Act

Enacted in August 2015, the Energy Transition Act provides a medium and long-term French strategy for the transition towards a low carbon and sustainable economy. This legislative package is designed to give France the means to further contribute to tackling climate change while diversifying the energy mix and seizing green growth opportunities. It sets out the major goals of this new energy model and mobilizes the resources required to achieve them. It defines objectives in several areas: from the reduction of greenhouse gas emissions, to the development of renewable energy and smart grids, increased waste management, clean transport, better insulation of buildings and affordable access to energy for low-income households.

Among these various important subjects, **Article 173 stands out with its purpose to spur a better integration of climate-related issues** into the decision-making process of corporates, non-financial and financial alike, through four dedicated and interdependent provisions.

Overall, Article 173 is designed as a consistent package of measures affecting a wide range of entities regarding climate change issues. The provisions are interdependent. Provisions III° and IV° are designed to develop the information that is needed by financial institutions when gauging the risks and opportunities related to climate change and price them accordingly as fostered by provisions V° and VI°.

3.3.1 Provisions regarding corporate disclosure of climate related information

Provision III requires listed companies and/or large non-listed firms (non-financial and financial alike) to report on the financial risks in relation with the consequences of climate change as well as the measures taken to reduce them.

Provision IV extends existing carbon disclosure requirements on direct emissions (those that are generated by the manufacturing process) and indirect ones (those that are generated through energy consumption). Corporates have to

(19) Andersson, M., P. Bolton and F. Samama (2014), "Hedging Climate Risk", Columbia Business School Research Paper No. 14-44.

(20) Green Financial Task Force (2015), "Establishing China's Green Financial System, Final Report of the Green Finance Task Force", Research Bureau of the People's Bank of China and UNEP Inquiry into the Design of a Sustainable Financial System.

(21) Bank of England (2015), "The impact of climate change on the UK insurance sector - A Climate Change Adaptation Report by the Prudential Regulation Authority".

report on the "climate change implication of their activity". The secondary legislation (*décret d'application*) extends the reporting requirement to major indirect emission points (i.e. linked to the supply chain and the usage of a corporate's products), with a "comply-or-explain" approach.

The implementation of these two provisions will be closely connected to the transposition of the non-financial reporting directive as well as the corporate sustainability reporting framework that already prevails in France. They also closely relate to the work of the FSB's TCFD.

3.3.2 Provisions regarding the integration of climate related issues in the financial sector

Two provisions aim more specifically at promoting the integration of climate-related considerations into the capital allocation decision of financial institutions.

Provision V requires the Government to report by end 2016 on how to assess climate-related risks in the banking sector.

Finally, **Provision VI** extends an existing ESG reporting requirement – Article 224 of the 2010 Grenelle II Act, requiring asset managers to report on how they take into account ESG criteria in their investment processes and decisions - in two dimensions. First, it provides for a more detailed assessment of climate related considerations as part of the reporting on Environment. More specifically, the reporting encompasses an explanation of how climate related risks – both physical and transition risks – are taken into account and an assessment of the contribution of the asset allocation to the low carbon transition. It also extends the reporting requirements to institutional investors so that both asset managers and institutional investors are now required to report on how they take into account ESG criteria into their investment strategy (see Box 3).

Box 3: Secondary legislation of provision VI

General approach

The secondary legislation (*décret d'application*) which provides further details on the reporting modalities of provision VI has been enacted in December 2015. Since provision VI extends an existing requirement, this legislation replaces and extends the previous décret while retaining a similar structure based on four main blocks, each dedicated to:

1. Definition of the reporting institutions
2. Sketching out the general structure of the reporting
3. Providing illustrative details that could be reported on climate change matters
4. Defining reporting thresholds and other practical modalities regarding the publication of the reporting

The décret adopts a "comply-or-explain" approach: firms have to provide information or explain the reasons why they choose not to do so. **It does not actually impose any particular methodology or specific metrics to be reported by targeted entities:** no criteria is prescribed and entities should choose whatever methodology or metric they deem most relevant for their analysis of ESG criteria (notably climate change). However, they are expected to justify their choice and to provide a description of the assessment methodology. **By doing so, no particular approach is unilaterally imposed by public authorities,** as a way of fostering still-needed innovations and accelerating the development of best practices in the coming years.

Reporting outline

Regarding the general structure of the reporting, after a broad explanation of their global strategy vis-à-vis ESG factors, targeted entities are expected to provide, for each ESG criteria they take into account: a description of the criteria, the assessment methodology and the underlying information as well as, in a second step, some information on how these results affect the firm's investment policy and/or its engagement strategy.

About climate change

Among environmental ('E') criteria, climate change is devoted particular attention. As such, an illustrative and non-exhaustive list of criteria and assessment approaches is proposed. Institutions should report, among other things, on:

- the type of climate risks to consider when relevant (for instance, "physical" or "transition");
- the general characteristics of the methodology they use to analyze these risks (for instance, presentation of the model used to study windstorm patterns in Europe);
- additional details may be provided (e.g. potential financial losses caused by modeled windstorms on investees and/or through insurance claims).

Information of a more qualitative nature may also be reported.

When reporting on their contribution to the international/domestic climate objectives, entities should analyze the consistency of their portfolio with these objectives and/or emphasize their investments in assets that are considered to contribute to the low-carbon transition ("green assets") such as renewable energy infrastructure projects or private equity funds that support innovative greentech companies. Regarding the integration of their analysis of climate-related factors in their investment strategy, firms should communicate on the ways they analyze the consistency of their investment portfolio as well as on the indicative targets they set themselves.

Practical modalities of reporting

Through the use of thresholds (based on total assets on the balance-sheet or assets under management) **reporting requirements are adjusted for smaller firms** as only the description of the general approach to ESG issues is required. However those firms may want to report with more details.

Compliance will be monitored by the usual competent authorities and **the government will take stock** of the implementation and emerging practices (after two reporting cycles). This will allow the identification of best practices and difficulties and could inform an update of the legislation.

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