

Managing climate risks for financial actors: from theory to practice

Paris,
April 2017

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I4CE has published a series of three Climate Briefs on the management of climate-related risks by financial actors. These special edition technical notes present the key stakes around this issue by focusing on three questions:

- Why should financial actors align their portfolios with a 2°C pathway to manage transition risks?
- How could financial actors manage their exposure to climate risks?
- How should financial actors deal with climate-related issues in their portfolios today?

This summary for decision-makers of these three Climate Brief presents an overview of the topics covered and the main conclusions. The three briefs are available on the I4CE website at <http://www.i4ce.org/download/three-notes-on-the-management-of-climate-related-risks-by-financial-actors/>

Introduction: what are transition risks for financial actors?

On one hand, since the industrial revolution, the accumulation of an unprecedented level of greenhouse gases in the atmosphere has been leading to global warming with multiple consequences on economies and companies around the world. On the other hand, to limit global warming below 2°C and thus limiting its economic consequences, policies that aim at triggering a low-carbon economic transition are gradually being put into place. These two trends are opposed, yet connected, as decreasing emissions will reduce potential physical impacts, but lead to structural changes in the economy that will have impacts for all economic actors. The decreasing financial performance of certain actors will translate into credit risk, counterparty risk, liquidity risk, operational risk and market risk for financial actors. These risks might materialise within the next decade, or even earlier, especially in case of a sudden market feeling that might cause a sharp depreciation of certain financial assets.

Climate-related risks can be divided into three categories, as categorised by Mark Carney¹:

- **Physical climate-related risks:** these are the uncertain financial impacts that result from the effects of climate change on economic actors and on asset portfolios;
- **Transition risks:** these are the uncertain financial impacts (positive and negative) that result from the effects of setting up a low-carbon economic model on economic actors. Transition risks are characterised by a “radical” uncertainty on the nature of the low-carbon pathway (i.e. the pathway for reducing greenhouse gas emissions, which restructures the economy) and a more “usual” uncertainty on the methods for implementing this pathway in economic and social terms;
- **Liability risks:** these are the uncertain financial impacts resulting from litigation stemming from either contributing to climate change, or from the failure to take into account physical or transitional climatic risks.

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¹ Mark Carney is currently Governor of the Bank of England, Chairman of the Financial Stability Board (FSB) and First Vice-Chair of the European Systemic Risk Board. At the time of his seminal speech “Breaking the tragedy of the horizon” given in September 29, 2015 at Lloyd’s in London, Mark Carney stated that climate-related issues represent a risk to the financial system’s stability and proposed a categorisation of climate-related risks as presented above. Speech available at this link: <http://www.bankofengland.co.uk/publications/Pages/speeches/2015/844.aspx>

The analysis presented in these three Climate Briefs focuses on transition risks. The management of physical climate-related risks by financial actors is equally important, but requires another strategy to be followed and a different analysis to be carried out. The management of physical climate risks by financial actors will be addressed in a separate project by I4CE.

Climate Brief n°44. Why should financial actors align their portfolios with a 2°C pathway to manage transition risks?

What does aligning a portfolio with a low-carbon pathway mean?

To limit global warming and its economic consequences, there is a limited “budget” for carbon that can be released into the atmosphere between now and the end of the century. A “low-carbon pathway” therefore refers to the pathway of an economy that is implementing efforts to sufficiently restructure its activities to significantly reduce greenhouse gas emissions. Among low-carbon pathways, the “2°C pathway” allows the achievement climate policy objectives, or a decarbonisation of the economy at a level that limits global warming below +2°C compared with the pre-industrial era.

In the context of a low-carbon pathway, each activity will see its carbon intensity progressively decrease, at a level and pace depending on its specificities and the technological breakthroughs occurring in its sector. An economic actor (who is the “counterparty” to a financial actor) is aligned with a low-carbon trajectory (respectively 2°C pathway) if the decrease in greenhouse gas emissions associated with its activity follows the rate – specific to the activities being

carried out – that corresponds to a low-carbon pathway (respectively a 2°C pathway). An aligned company is not necessarily one that today draws a significant proportion of revenues from very low carbon intensity activities.

Aligning a portfolio with a low-carbon pathway therefore means choosing – within a sector or category of financial assets – those counterparties who are progressively beginning to implement the required decarbonisation efforts on their business sectors. Aligning a portfolio with a low-carbon pathway (and a fortiori with a 2°C pathway) is a gradual process that will only be possible to fully put into place once a sufficient volume of financial assets begins to be aligned with such a pathway.

In what way does aligning a portfolio with a low-carbon pathway constitute a management strategy for transition risks?

The alignment of a portfolio with a low-carbon pathway can limit transition risks, arising from the nature of the low-carbon pathway and the methods for implementing it. Encouraging exposure to those counterparties who adopt a progressive and flexible strategy for aligning their activities reduces exposure to assets that do not follow a sector-based decarbonisation pathway. Provided that the strategy of the counterparty remains flexible, its alignment does not penalise the asset’s future performance no matter the different possible decarbonisation pathways and scenarios of implementation. Since the alignment of the counterparty can be done for each activity, the alignment strategy of the financial actors does not drastically change the portfolio’s sectoral exposure compared with the benchmark.

However, this will not fully reduce exposure to transition risks (e.g. when the counterparty makes the necessary strategic choices which reduce its flexibility when faced with alternative scenarios and pathways).

FIGURE 1: TYPOLOGY OF TRANSITION AND PHYSICAL CLIMATE-RELATED RISKS

TRANSITION RISKS		PHYSICAL RISKS
Policy and legal <ul style="list-style-type: none"> • Increased pricing of GHG emissions • Enhanced emissions-reporting obligations • Mandates on and regulation of existing products and services • Exposure to litigation 	Markets <ul style="list-style-type: none"> • Changing customer behavior • Uncertainty in market signals • Increased cost of raw materials 	Acute <ul style="list-style-type: none"> • Increase severity of extreme weather events such as cyclones and floods <i>(causing damages on facilities, reduction or disruption in production capacity...)</i>
Technology <ul style="list-style-type: none"> • Substitution of existing products and services with lower emissions options • Unsuccessful investment in new technologies • Upfront costs to transition to lower emissions technology 	Reputation <ul style="list-style-type: none"> • Shift in consumer preferences • Stigmatization of sector • Increased stakeholder concern or negative stakeholder feedback 	Chronic <ul style="list-style-type: none"> • Changes in precipitation patterns and extreme variability in weather patterns • Rising mean temperatures • Rising sea levels <i>(causing damages on facilities, increased operating costs, impacts to workforce management and planning...)</i>

Source: I4CE, adapted from TCFD. (2016). Recommendations of the Task Force on Climate-related Financial Disclosure.

Several reasons for prioritising the low-carbon alignment of portfolios to manage transition risks

- The usual strategies for risk management in finance (i.e. “risk transfer” through hedging and insurance, or “diversification”) will not be enough to cover the greater part of the exposure to transition risks. A low-carbon alignment strategy for the portfolio may limit more effectively the exposure to transition risks through “avoidance” (i.e. avoiding the assets most exposed to transition risks) or “engagement” (i.e. pushing the counterparty to reduce its exposure);
- The credibility of a long-term decarbonisation of the economy as opposed to a business-as-usual pathway is reinforced by a number of increasingly strong trends (climate-related policy; financial; market);
- There is a rising momentum of the inclusion of the low-carbon alignment of portfolios in statutory or regulatory requirements.

Climate Brief n°45. How could financial actors manage their exposure to climate risks?

Financial actors should integrate a forward-looking climate assessment into their procedures and models

In order to manage climate-related issues in their portfolios, financial actors will need in the long run to incorporate a forward-looking analysis for alignment of their portfolios with a 2°C pathway into their risk management and investment decision-making processes. Such analysis would need to be based on scenarios that represent different pathways for decarbonisation of the economy, and more specifically a 2°C pathway, broken down into quantitative variables of financial impact of the risks and opportunity for low-carbon transition.

A number of constraints currently limit their ability to conduct such an assessment

However, certain constraints currently restrict the possibility for financial institutions to carry out such analysis for all of their outstanding investment and financing amounts: the lack of forward-looking information on companies and other counterparties; certain current features of financial models; the lack of breakdown of climate-related scenarios into financial impact variables; the information systems of financial players which need to be adapted; and the lack of training on climate-related issues for their personnel.

However, financial actors should begin today to implement initial actions

Nonetheless, financial players can start as of today to progressively roll out a certain number of preliminary actions:

- encouraging their counterparties to issue forward-looking information on their own alignment with a 2°C pathway, for example by following initial TCFD guidelines;

- adopting an internal stance on scenarios on which analyses are to be based, in particular “2°C” scenarios, and thinking about the objectives to be set for each business sector;
- adapting information systems so as to be able to collect, store and aggregate new indicators and information on the climate-related issues of counterparties;
- adapting the financial models used;
- training all employees on the impacts of climate-related issues for the financial sector;
- collecting and analysing the climate-related indicators already available, as detailed in Climate Brief no. 46;
- putting in place a governance system that will encourage climate-related issues to be taken into consideration by each internal business division.

Climate Brief n°46. How should financial actors deal with climate-related issues in their portfolios today?

Certain constraints, differentiated according to business lines, currently limit the ability of financial institutions to carry out on their portfolios a quantified forward-looking analysis based on scenarios. Nonetheless, these institutions as of today should – and can – begin to put in place the basis for management and reporting strategies to support alignment with a 2°C pathway. Various organisations – such as NGOs, extra-financial rating agencies, consulting firms and specialised service providers – are developing ‘Climate’ indicators, intended to enable financial actors to assess and address climate-related transition issues. Using one type or combination of such indicators is an initial step that will facilitate the integration into their processes of quantitative indicators of impact of the low-carbon transition on financial performance.

“Climate” indicators can be grouped into five main categories: carbon footprint indicators; “ESG” type qualitative indicators; “green share / brown share” indicators; “physical” carbon footprint indicators; and indicators of alignment with a low-carbon or 2°C pathway. Each type of indicator presents advantages and drawbacks and their relevance depends on the business lines and on the specific objectives of the financial institution.

Climate Brief 46 presents the most promising avenues of analysis for different financial business lines depending on their specificities. Broadly speaking, financial players should begin as of now to analyse their climate-related issues in a forward-looking manner based on semi-quantitative indicators. Two types of currently available indicators seem particularly relevant to us:

- indicators of alignment with a 2°C pathway: these macro-indicators aggregate both quantitative indicators based on historical data when available, and qualitative forward-looking indicators. On one hand, they can measure,

for example the current exposure to the introduction of a carbon price. On the other hand, they can give a forward-looking analysis of a company's 'resilience' in a low-carbon economy given its ability to adapt itself to a regulatory and market environment in transition;

- indicators of "green shares" and "brown shares": these indicators inform financial actors of a company's current distribution of revenues between "green" activities that will be favoured and "brown" activities that will be penalised by the low-carbon transition. These indicators, once aggregated in terms of outstanding amounts, enable a financial institution to measure its exposure to companies that are heavily exposed to transition risks – as well as those that stand to benefit from the transition. These indicators, however do not alone make it possible to measure the extent of the potential losses or gains, but may be progressively refined into shades of "green" and "brown".

In the Same Series

- Hubert, Romain, Morgane Nicol and Ian Cochran. "Why should financial actors align their portfolios with a 2°C pathway to manage climate risks?" Climate Brief n°44, I4CE - Institute for Climate Economics, 2017. <http://www.i4ce.org/download/three-notes-on-the-management-of-climate-related-risks-by-financial-actors/>
- Nicol, Morgane, and Ian Cochran. "How could financial institutions manage their exposure to climate risks?" Climate Brief n°45, I4CE - Institute for Climate Economics, 2017. <http://www.i4ce.org/download/three-notes-on-the-management-of-climate-related-risks-by-financial-actors/>
- Nicol, Morgane, and Ian Cochran. "How should financial actors deal with climate-related issues in their portfolios today?" Climate Brief n°46, I4CE - Institute for Climate Economics, 2017. <http://www.i4ce.org/download/three-notes-on-the-management-of-climate-related-risks-by-financial-actors/>

Our most recent publications

- Deheza, Mariana, Vivian Depoues, Morgane Nicol, Hadrien Hainaut, Cécile Bordier, Lara Dahan, Clothilde Tronquet, Emilie Alberola, and Benoît Leguet. "COP22 in Marrakech: a push for accelerated action by 2018." I4CE - Institute for Climate Economics, December 2016. <http://www.i4ce.org/download/cop22-in-marrakech-a-push-for-accelerated-action-by-2018/>
- Hainaut, Hadrien, and Ian Cochran. "Landscape of Climate Finance in France, 2016 Edition." I4CE - Institute for Climate Economics, December 2016. <http://www.i4ce.org/download/panorama-financements-climat-edition-2016/>
- Nicol, Morgane, and Ian Cochran. "What do TCFD's recommendations bring to the public debate on climate risks?" I4CE - Institute for Climate Economics, February 2017. <http://www.i4ce.org/15852-2/>
- Shishlov, Igor, Till Bajohr, Mariana Deheza, and Ian Cochran. "Using Green Credit Lines to Foster Environmental Lending: Opportunities and Challenges." I4CE - Institute for Climate Economics, forthcoming.
- Shishlov, Igor, Romain Morel, and Ian Cochran. "Beyond Transparency: Unlocking the Full Potential of Green Bonds." I4CE - Institute for Climate Economics, June 2016. <http://www.i4ce.org/download/beyond-transparency-unlocking-the-full-potential-of-green-bonds-2/>
- Nicol, Morgane, and Ian Cochran. "What do TCFD's recommendations bring to the public debate on climate risks?" I4CE - Institute for Climate Economics, February 2017. <http://www.i4ce.org/15852-2/>