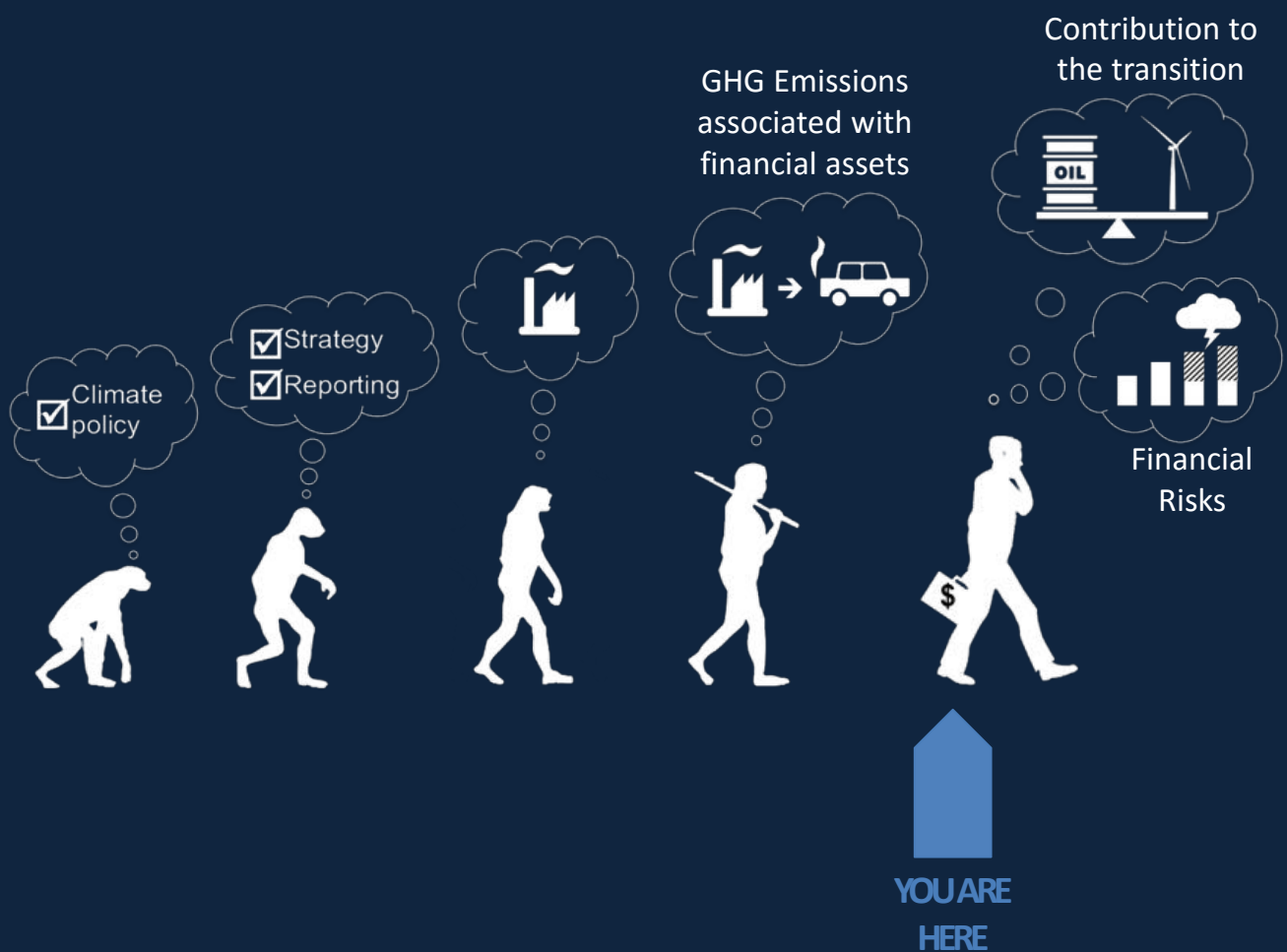




DECREE IMPLEMENTING ARTICLE 173-VI OF THE FRENCH LAW FOR THE ENERGY TRANSITION CHALLENGES AND FIRST RECOMMENDATIONS



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Summary

In July 2015, France strengthened mandatory climate disclosure requirements for listed companies and introduced the first mandatory requirements for institutional investors as part of Article 173 of the *Law for the Energy Transition and Green Growth*. The French Treasury is currently designing the implementation decree for the Article. This note constitutes a first analysis of the law's implications for institutional investors and a perspective on related options for the implementation decree.

Given both the innovative nature of the Article and the evolving landscape of climate accounting methods, several key disclosure elements face significant implementation questions. We identify four key elements of the law's disclosure requirements facing technical and interpretation challenges: investment policies, the exposure to climate-related risks, the GHG emissions associated with financial assets, and the alignment of portfolios with the energy and ecological transition. With the exception of disclosure on investment policies, each of the key elements could be interpreted to require qualitative or quantitative disclosures with varying levels of technical rigor. For each element, the note provides a technical background and describes challenges and options for implementation. The following conclusions are drawn:

Investment policies

- This dimension is relatively easy to integrate based on the experience of SRI investment and other existing practices.
- An ambitious disclosure requirement should explain not only climate-related Environmental, Social, and Governance (ESG) policies but also the practical consequences of these policies on the composition of portfolios. Special attention should be placed on the description of the integration of those criteria into strategic asset allocation and for illiquid assets.
- To maximize impact, investors should disclose information on all relevant asset classes, including those not traditionally associated with ESG analysis, but important from a climate impact perspective (private equity, real estate, infrastructure, etc.).

Exposure to climate-related financial risks

- The evaluation of investor exposure to financial risks associated with climate change is primarily a function of the time horizon used by the investor. The materiality of carbon risks could increase rapidly if ambitious and credible climate policies were suddenly adopted (especially in the aftermath of COP21).
- The application decree for Art. 173(VI) should clarify important points surrounding the assessment of climate-related risks, including types of climate-related risks that investors (and companies) are required to disclose (physical and/or carbon risks), whether quantitative analysis is expected, and potentially the appropriate methods or time horizon.
- Portfolio-level models available today likely meet the requirements of Art. 173, as they allow for an analysis at strategic asset allocation level, but lack the ability to support intrasector stock-picking.

GHG emissions of financial assets

- The transposition of the concept of “carbon footprint” from industrial facilities and companies to financial assets and portfolios is recent, with many technical questions yet unresolved.
- The evaluation of “financed” GHG emissions has been motivated by communication and pedagogy. It does not correspond to a precise management objective, and is not commonly used to inform investment decision-making.
- Simple metrics (Scope 1 and 2) are relevant for some sectors (electricity production, air transport, building materials) and complementary to other metrics (e.g. to measure exposure to risk). For other sectors, the development and corporate disclosure of Scope 3 metrics (such as in Art. 173(IV)) is highly desirable to enable investors to make sense of the disclosed information.
- Current data is mostly limited to listed equities and corporate bonds. To cover entire financial portfolios, data providers will likely be required to extend methods to other relevant, and in many cases more impactful, asset classes such as infrastructure and real estate alternatives and private equity.

Contribution to the energy and ecology transition

- Compared to the other disclosures, energy and ecological transition alignment is less likely to be adequately covered by qualitative assessment only due to the lack of a common language and shared understanding.
- Metrics to test alignment of investor portfolios with the National Low Carbon Strategy are currently unavailable due partly to the lack of such metrics in the Strategy.
- Many types of portfolio performance metrics are available, most expressed as a ratio of a measure of “greenness” (carbon footprint, \$ invested in green activities) to company or portfolio size, where company-level measures are averaged at portfolio level. Each has strengths and weaknesses.
- Indicative targets using such metrics can be set at multiple levels (entire portfolio to sector/geography specific) and can be either absolute or relative to current performance.
 - Targets at portfolio level have the maximum flexibility but risk capital being allocated to only the most investable technologies and asset classes.
 - To truly assess alignment with the energy transition, absolute targets must be benchmarked to feasible decarbonization scenarios
 - Relative targets are easily communicable and understandable but are difficult to compare to feasible transition scenarios and can reward laggards and discourage early movers.
- Near-term options that do not fully assess alignment (such as green/brown ratios for key sectors and technologies) could represent a stepping stone toward full portfolio assessments in the future.

In addition to these technical challenges and options, it is also important for the government to consider the implementation costs for investors and the associated commercial stakes for data providers and asset managers. The impact of Art. 173 will be felt beyond France and will contribute to international demand for climate-related non-financial data of companies. Standards are currently lacking for the assessment and reporting of investor carbon risk and portfolio carbon footprinting, and the boutique data providers dominating the market use a variety of specialized methods. To minimize implementation costs across investors and asset managers, it is important to coordinate the implementation of the law with global standardization initiatives.

In addition to the government, the implementation decree will be of strategic importance to several other types of stakeholders. The Article represents a unique opportunity for France to support the development of climate data consistent with public policy objectives and to support the emergence of an international standard in the context of the French Presidency of COP21. However, achieving the underlying policy objectives of the Article (e.g. energy and ecological transition, financial stability, optimal allocation of capital) will also depend on an accompanying set of measures. These include raising awareness, providing information tools, and developing coherent fiscal incentives.

The 2° Investing Initiative recommends the French government to:

- Complete the decree with technical guidelines balancing forward-leaning rigor with practical considerations;
- Provide for accompanying measures and incentives;
- Create a permanent observatory to evaluate and improve implementation.

In our view, this law is a significant step forward for France and the global development on this topic. The 2° Investing Initiative supports the adoption of similar disclosure requirements at EU and international levels. Recommendations for international stakeholders (governments, investors, asset managers, data providers, and index providers) are provided at the end of this note.

The 2° Investing Initiative technical briefings and regular updates will follow this briefing note. Please contact us if you would like more information on Art. 173, follow-up measures, and possible implications.

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This briefing note only reflects the opinions of its authors (the 2° Investing Initiative research team). It does not reflect the opinions of the members of the 2°ii association, its board members nor its donors. Nb: The French Ministry of the Environment is a member and board member of 2°ii.

1. Introduction

Context: French Energy Transition Law and Article 173

On July 22, 2015, the French National Assembly adopted the Energy Transition Law, broad legislation aimed at reducing French greenhouse gas (GHG) emissions, capping fossil fuel and nuclear production, and increasing renewable energy usage. In addition to these broad goals, the law contained an article—Article 173—aimed at increasing disclosure of climate change-related risks by listed companies and financial institutions (including institutional investors) as well as the alignment of institutional investors' portfolios with French and international climate policy (see translation in Section 2). The French Treasury will soon promulgate an application decree on the Article's implementation.

The disclosure requirement for institutional investors, the focus of Article 173 (VI), is the focus of this technical briefing. While the disclosure of climate-related risks by listed companies and banks are important and impactful topics, a rich history of financial regulation and both mandatory and voluntary non-financial reporting programs can support the implementation of sound policy. Non-financial disclosure by institutional investors is, on the other hand, a relatively new topic, and the specific disclosures sought by the Law are innovative and thus potentially more difficult to implement.

How Art. 173 was adopted

The adoption of climate-related disclosure requirements for institutional investors in France can be seen as the product of a strategic process involving all of the key actors in the financial ecosystem. Its roots can be traced back to first experiments on measuring the carbon footprint of investments ('financed emissions'), beginning in 2005 in the UK and Switzerland. A French bank in partnership with a consultancy pilot-tested the labelling of financial products in 2007-2008.¹ Since then, a growing number of advocacy and research campaigns contributed to connecting the dots between the financial sector and climate change objectives.

In 2011-2012, the Carbon Tracker Initiative (CTI) introduced the financial sector to the potential financial risks associated with fossil fuels and an associated 'carbon bubble';² This focused investor attention on the financial consequences of investing in fossil fuel companies responsible for a substantial share of global GHG emissions.³ The US fossil fuel divestment movement, led by 350.org, subsequently echoed this message in combination with a moral argument against enabling fossil fuel production.

Investor pledges launched in 2014, namely the Montreal Carbon Pledge and the Portfolio Decarbonization Coalition, demonstrate that large investors are prepared to disclose the carbon footprint of their investments for reasons related to both perceived risk and a desire to contribute to climate mitigation and the energy transition. In passing Article 173, the French government is converting these voluntary initiatives into mandatory disclosure requirements for both investors and listed companies. As host of the COP21 summit in December 2015, France is in a unique position to show leadership on this topic.

Link with other initiatives

The new disclosure requirements adopted in France are part of a global awareness raising movement on the impact of climate change. The divestment movement, which started in the United States, calls upon investors to pledge to divest from all fossil fuels.⁴ Success to date has been largely focused on US endowments, with European investor' divestment commitments largely limited to the coal sector. In June 2015, the Norwegian Sovereign Wealth Fund committed to divesting from the coal sector.⁵ Beyond divestment, an increasing objective is to reallocate capital to green assets—a coalition of foundations recently launched a "Divest-Invest" initiative. Independently, the Asset Owner Disclosure Project (AODP),⁶ an independent not-for-profit global organization, publishes an annual "Global Climate 500" report, a ranking of 500 major institutional investors on their management of climate risks and opportunities. These initiatives have fed the reflection in France. In turn, the French law will reinforce the credibility of these organizations.

¹ Stanislas Dupré, now director of the 2° Investing Initiative, was then manager of Utopies, the consulting firm that developed the first methodology.

² "Unburnable Carbon – Are the world's financial markets carrying a carbon bubble?" (CTI, 2011)

³ "The climate responsibilities of industrial carbon producers" (Frumhoff P. C., Heede R., Oreskes N., 2015)

⁴ Divest campaigns usually focus on the top 200 companies in terms of fossil fuel reserves (<http://gofossilfree.org/>).

⁵ www.theguardian.com/environment/2015/jun/05/norways-pension-fund-to-divest-8bn-from-coal-a-new-analysis-shows

⁶ <http://aodproject.net/>

Theories of change

A loose coalition of members of parliament (MPs), socially responsible investment (SRI) asset managers, asset owners and supporters within the ministries initiated and supported Art. 173. These different players have different theories on how those disclosure requirements could change the behavior of institutional investors:

Theory of change	Assumption	Caveats
Epiphany & repricing	Investors currently misprice climate policy risks due to incomplete risk assessment frameworks. Obliging companies and investors to disclose their risk exposure will make them review their assumptions and will eventually lead to a reallocation of investments from high carbon to low carbon assets.	Given the 3-5 year investment horizon of most investors and the limited probability of disruptive climate policies in the short-term, the full integration of carbon risks is likely to lead to marginal portfolio reallocation effects.
Carrot & stick	Disclosure allows NGOs, beneficiaries, and governments to compare funds and asset owners, encouraging policy incentives (e.g. tax breaks, mandatory financing shares), labelling schemes, rankings, and possibly naming and shaming campaigns). To enhance their reputation, attract 'climate-aware' customers, and benefit from tax incentives, investors will reallocate their investments.	Value-driven investors ready to integrate climate criteria in their investment strategy only represent a niche market. The political consensus necessary for the introduction of public incentives is currently lacking and may not materialize in many countries.

The final objective of both theories may be the same—the reallocation of investments from high-carbon to low-carbon assets. Implications in terms of how to implement the law however may differ.

- For the '*Epiphany & repricing*' theory, the priority for France is to coordinate with other financial regulators exploring the climate risk avenue (e.g. Bank of England, Financial Stability Board, etc.) to develop expertise on the evaluation of financial risks associated with the transition to a low-carbon economy. The French government is already playing an active role at G20 level on this topic.
- In the '*Carrot & stick*' theory, the priority is to improve transparency and knowledge on the impact of financial decisions on the real economy, eventually allowing for adjusted fiscal incentives through either voluntary (e.g. standardized low carbon financial products) or mandatory (e.g. regulated green portfolio shares) avenues. The French government is exploring this avenue through several means. For instance, it plans to introduce an "Energy Transition Label" for investment funds at the end of the year.⁷ The economic think tank of the Prime Minister's office is currently preparing a report on the potential for greening tax incentives.⁸

Content of this briefing note

After citing the relevant extracts of Art. 173 (2), this note will summarize several key elements of interpretation that will need to be resolved during implementation (3). The core of the document is dedicated to an analysis of the technical (4) and practical (5) challenges associated with the new disclosure requirements. The note concludes on preliminary recommendations (6) for French and international stakeholders.

⁷ A private label developed by the state-owned company Novethic already exist.

⁸ Report prepared by 2^oii and France Stratégie/CGSP, to be published in the fall of 2015

2. Final content of Article 173 (ex-48) of the Energy Transition Law⁹

The following is an excerpt of the most relevant portions of Article 173, translated to English. Note that all requirements apply from the fiscal year ending on December 31, 2016.

Key:

Normal text= clarifying and contextual text added by the authors

Bold= direct translation

Red= Highlighted by the authors of this paper and discussed in Section 3

III. Listed companies shall disclose, in the annual report subject to the vote of the shareholders: **“the financial risks related to the effects of climate change and the measures adopted by the company to reduce them, by implementing a low-carbon strategy in every component of its activities.”**

IV. The annual report shall include, in addition to the reporting on social and environmental consequences of the company’s activity (already mandatory in France) **“the consequences on climate change of the company’s activities and of the use of goods and services it produces.”**¹⁰

V.

A. Banks and credit institutions shall disclose, in the mandatory annual risk report, **“the risk of excessive leverage and the risks evidenced in the frame of the stress tests that are regularly implemented”**. This provision is not specific to climate risks.

B. **“The government shall submit a report to Parliament on the implementation of a scenario of regular stress-tests reflecting the risks associated with climate change, at the latest on December 31, 2016.”**

VI. Institutional investors (i.e. institutions regulated by French insurance law, mutual funds, French “Institutions de prévoyance”, public institutions, public pension funds, investment companies with variable share capital¹¹) shall **“mention in their annual report, and make available to their beneficiaries, information on how their investment decision-making process takes social, environmental and governance criteria into consideration, and the means implemented to contribute to the energy and ecological transition. They shall specify the nature of those criteria and the way they are implemented, following a presentation to be stipulated in a decree. They shall indicate how they exert the voting rights attached to the financial instruments resulting from those choices.**

The decree provided for in the previous paragraph specifies the information that needs to be disclosed for each objective, depending on whether the entity exceeds thresholds defined in that same decree or not. The information relative to the consideration of environmental objectives includes: **the exposure to climate-related risks, including the GHG emissions associated with assets owned, and the contribution to the international goal of limiting global warming and to the achievement of the objectives of the energy and ecological transition. That contribution will be assessed in particular with regards to indicative targets defined according to the nature of their activities and investments, in a way that is consistent with the national low-carbon strategy provided by the Environmental Code. When appropriate, the entities mentioned in this paragraph shall explain the reasons why their contribution is below the targets set for the closed financial year.”**

⁹ 2° Investing Initiative will not be held liable for any errors or omissions in the translation. The original text in French is available on the website of the National Assembly <http://www.assemblee-nationale.fr/14/ta/ta0575.asp>, (seen August 4, 2015).

¹⁰ This could be interpreted as Corporate Value Chain reporting (scope 3, following the definition of the GHG protocol).

¹¹ In French: SICAV, “Société d’investissement à capital variable”.

3. Key elements for the interpretation of the law

As highlighted in the text in the previous section, the decree requires institutional investors to disclose four types of information (summarized in Table X). The next section will review the technical challenges associated with each of those points:

1. **Investment policies.** A qualitative description of the integration of climate issues in investment decisions
2. **Climate-related Financial Risk.** Information on the exposure of investors to financial risks linked to climate change, potentially qualitative or quantitative.
3. **Associated GHG emissions.** A measure of the carbon footprint associated with assets.
4. **Contribution to the Energy Transition (ET).** Information (potentially either qualitative or quantitative, though some quantitative information is probably required) enabling stakeholders to assess the contribution of investor portfolios to national and international climate goals.

Type of information	Law text	Qualitative or Quantitative?	Description and context
Investment policies	“information on how their investment decision-making process takes social, environmental and governance criteria into consideration”	Qualitative	A description of the integration of climate (and other ESG) issues into investment decisions
Financial risk exposure	“the exposure to climate-related risks”	Unclear	Exposure to financial risks associated with climate change, either physical or carbon asset risk
Associated GHG emissions	“including the GHG emissions associated with assets owned”	Quantitative	Carbon footprint of the investor’s portfolio or a relevant portion of the portfolio
Contribution to the energy transition (ET)	“the contribution to the international goal of limiting global warming and to the achievement of the objectives of the energy and ecological transition. That contribution will be assessed in particular with regards to indicative targets defined according to the nature of their activities and investments, in a way that is consistent with the national low-carbon strategy”	Unclear, likely quantitative	Degree to which investor’s portfolio is aligned with both international (i.e. a 2°C warming target) and French climate change policies

Each disclosure requirement is subject to interpretation, as will be elaborated in further sections. Further, it is important to consider how the requirements relate to one another. For instance, the wording on associated GHG emissions suggests that carbon footprint of an investor’s portfolio is an important contributor to the management of climate-related risks. However, for a company or investor, physical risks associated with climate change are not a function of GHG emissions¹², and even for policy and market risks this indicator serve as an input, among others, into risk models¹³. Further, the same section could be read to imply that carbon footprint is a relevant measure for the contribution of the portfolio toward French and international climate goals. Here too, though, the link is unclear as there is no available methodology to translate national or international climate goals into levels of carbon intensity¹⁴ for financial assets and the present version of the national low-carbon strategy does not provide concrete targets¹⁵. These issues will be explored in more detail in the following sections.

¹² Some GHG intensive assets may be more exposed to physical risks. For example, water intensive thermal power generation may be more subject to risks associated with water scarcity. These risks however are not directly linked to GHG emissions.

¹³ [Climate strategies and metrics](#) (UNEP-FI/GHG Protocol/2°ii, 2015), [Financial risk and the transition to a low-carbon economy: towards a stress-testing framework](#), Working Paper, (UNEP/2°ii/CDC Climat Recherche, 2015).

¹⁴ cf. [Developing 2° compatible investment criteria](#) (New Climate/GermanWatch/2°ii for June 2015 G7 summit) and the [Sectorial Decarbonization Approach](#) (CDP/WRI/WWF) project.

¹⁵ Source: Working draft of the Stratégie National Bas Carbone, consulted on June 7, 2015.

4. Technical challenges and opportunities

4.1 Overview of key technical challenges

The decree will have to reflect different levels of availability of methods and data.

The implementation of each key element of Article 173(VI) identified above requires methods that are not standard practice today and may require data that is not publicly available (cf. Table). Some methodologies are currently being developed with new standards expected in the short-term (elements 2, 3 and 4). This situation is a challenge for the drafting of the application decree in the political context of COP21. Some of the new disclosure requirements may require innovation rather than the generalization of existing practices. This is less true of GHG emissions, where standards and a minimum foundation of common practices can be identified.

Disclosure element	Current practices	Availability of methods	Availability of data
1. Investment policies	Yes, already applied to broader ESG criteria	No standard but converging practices	-
2. Financial Risk...	<i>Assets:</i> Large body of alternative discounted cash flow and net margin models for equities, published by equity research analysts; growing body of research on bonds <i>Portfolio:</i> research stage at portfolio level	Well-developed asset impairment tests ¹⁶ Mercer method for strategic asset allocation. ¹⁷	There is some data for the energy sector (e.g. high-costs projects ¹⁸); Mercer method based on assumptions by activity and sector.
3. ...associated GHG emissions	Commitments by over 60 investors to apply carbon footprinting to equity portfolios, some application in the market to bonds, private equity, and infrastructure funds.	Various methods with advantages and limitations. Limitations currently constrain their use to awareness-raising (as opposed to target setting); standard expected in 2016. ¹⁹	Comprehensive coverage of equity and corporate bonds; recently expanded to cover private equity. Case-by-case coverage of infrastructure
4. Contribution to the energy transition	Research stage, not applied by investors to date	First methodological bricks; ²⁰ first portfolio method for equities expected in October 2015 and for bonds in Q1 2016. ²¹	Only on equity and corporate bonds

The decree will have to set the level of precision of each disclosure requirement.

For each of the four disclosure requirements highlighted above, there is an important range between the qualitative description of processes and a quantitative measurement. Generally speaking, quantitative disclosure requirements are more ambitious and more meaningful in informing the theories of change defined above. The following sections will explore each requirement in further detail with a discussion of the possible content of the disclosure requirements depending on the level of ambition adopted by French authorities.

¹⁶ [Financial risk and the transition to a low-carbon economy: towards a stress-testing framework](#), Working Paper, (UNEP/2°ii/CDC Climat Recherche, 2015).

¹⁷ [Investing in a time of climate change](#), Mercer 2015.

¹⁸ Carbon Tracker Initiative: *Company/projects analysis in Carbon cost curves* (series of report published on oil, coal, and gas).

¹⁹ [Portfolio Carbon Initiative](#) project (GHG Protocol, UNEP-FI, 2°Investing Initiative).

²⁰ [Climate strategies and metrics](#) (UNEP-FI/GHG Protocol/2°ii, 2015).

²¹ As part of the European research consortium SEI Metrics on the one hand, of the development of a Euronext low-carbon index on the other hand.

4.2 Investment policies

Background and Challenges

Reporting on ESG criteria in investment decision-making is already well-developed. External certifications mechanisms such as the Novethic²² labels that cover environmental, social, and governance issues. The French government is further working on the creation of an “Energy and ecological transition” Label. The criteria for those labels may be used as reference for reporting on investment policies.

Based on a review of existing practices, four technical challenges can be identified:

1. **Coverage by asset class.** The existing reporting frameworks focus primarily on investment decisions for equity and to a lesser extent bond portfolios, largely ignoring other asset classes. At the same time, private equity, real estate, and infrastructure alternatives are likely to play an equally if not more important role in financing the transition to a low-carbon economy.²³ We do not see fundamental technical barriers to expanding an analysis of investment decisions to these asset classes. Key questions in this context then are both the integration of climate criteria across all relevant asset classes and strategic asset allocation decisions.
2. **Investment criteria vs. investment decisions.** Formal criteria do not necessarily have a significant influence on actual decisions made regarding the composition of portfolios or decisions made by firms. Transparency on the actual changes in investment decisions, highlighted in Art. 173, is a recurring question in the context of labeling SRI investments.
3. **Impact on the real economy.** Existing practices and assessment methods are relatively disconnected from the notion of impact on the real economy, understood as a *decrease* of GHG emissions and / or increase in the deployment of low carbon and zero carbon technologies. Despite the apparent importance of the issue, there is little research dedicated to the topic.²⁴ Another challenge relates to defining the benchmark with regard to impact (e.g. what impact should an investment have), requiring a public policy with an explicit objective.²⁵ New investment practices, sometimes referred to as “impact investing”, place impact at the center of the analysis. These practices also frequently reference impact with a view towards the ecological and the energy transition.
4. **Links to financial risks.** In terms of financial risk, in most cases ESG criteria are merely taken into consideration as a filter to exclude some securities. The fundamental risk management practices remain unchanged (e.g. discounted cash flow models at company level, credit ratings, strategic asset allocation, sector allocation).²⁶ Assessment of companies and organizations with regard to their practices and performance on environmental, social and governance (“ESG”) issues is usually not considered as part of the risk analysis, but is rather integrated as an overlay.

Options available to the French government

To tackle these challenges, the decree should provide for precise, quantitative disclosure requirements that detail the practical implications of investment policies rather than just the policies themselves. The following graph shows illustrative quotes demonstrating what investors could disclose if the decree sticks to descriptive elements (left), if the decree imposes the disclosure of specific information on the impact of ESG criteria on investment policies (right), and if a middle ground approach is adopted (center).

²² cf. <http://www.novethic.com/socially-reponsible-investment/french-european-sri/sri-market.html> and <http://www.novethic.com/socially-reponsible-investment/environmental-funds/sri-market.html>

²³ See for example <http://www.oecd-ilibrary.org/docserver/download/5k3xr8k6jb0n.pdf?expires=1440185744&id=id&accname=guest&checksum=7ACF57BAD3BE7801CA08E60252E7F83A> for a discussion of the importance of green infrastructure investment by institutional investors

²⁴ Fiscalité de l'épargne et orientation des investissements (France Stratégie/2^oii, to be released in 2015)

²⁵ [Label ISR et financement de la transition énergétique: analyse et recommandations](#) (2^oii, 2014)

²⁶ [Financial risk and the transition to a low-carbon economy: towards a stress-testing framework](#), Working Paper, (UNEP/2^oii/CDC Climat Recherche, 2015).



From qualitative descriptions to quantitative disclosure Illustrations for investment policies (1)



"Since 2014, ESG criteria are a full component of our investment policies"

"ESG criteria are integrated in equity portfolio management: coal mining companies (>50%) are excluded and a best in class multi-criteria scoring approach is applied to inform portfolio allocation.

"ESG criteria are integrated in equity portfolio management. Using MSCI data (cf. Appendix 1), coal mining companies (representing 0.2% of our investment universe) are excluded. Based on Vigeo multi-criteria scoring (cf. Appendix 2), the portfolio is re-weighted (impact of 10% on the allocation), maintaining sector neutrality (GICS 2 level). ESG criteria are not included for other asset classes and strategic asset allocation.

Conclusion on investment policies

- This dimension is relatively easy to integrate based on the experience of SRI investment and other existing practices.
- An ambitious disclosure requirement should explain the practical consequences of ESG criteria on the composition of portfolios. Special attention should be placed on the description of the integration of those criteria into strategic asset allocation and for illiquid assets.
- To maximize impact, investors should disclose information on all relevant asset classes, including those not traditionally associated with ESG analysis, but important from a climate impact perspective (private equity, real estate, infrastructure, etc.).

4.3 Exposure to financial risks associated with climate change and the transition to a low-carbon economy.

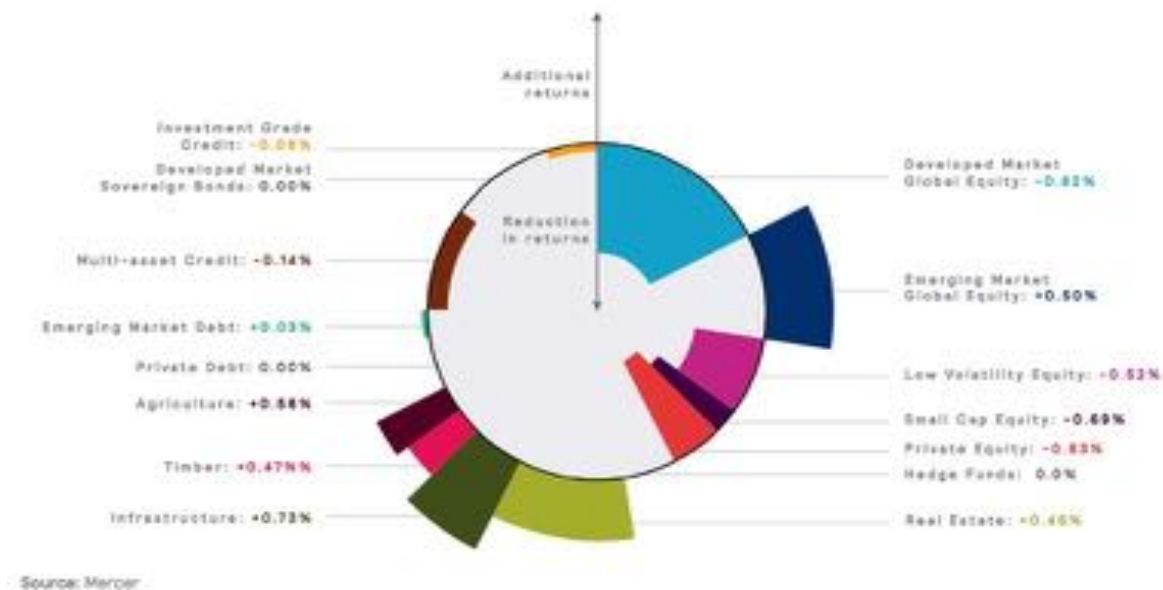
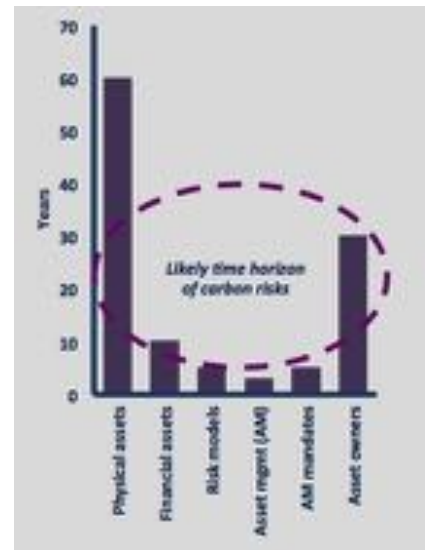
Background and Challenges

'Climate risks' is the over-arching term for three distinct types of risks, each of which articulate themselves in distinct ways and are likely to be associated with very different drivers and assessment frameworks:²⁷

- *Carbon risks (aka carbon asset risks, transition risks):* Policy and technoeconomic risks linked to the transition to a low-carbon economy (e.g. changes in relative costs due to technology innovation, carbon tax, etc.);
- *Physical climate risks:* Physical risks related to climate change (e.g. drought, wildfire, etc.);
- *Legal climate risks:* Litigation on liability of companies or individuals associated with climate change.

Based on our consultations, French authorities appear to view the disclosure of climate-related financial risks, in particular carbon risks, as the key element of the law, and investors are expected to integrate associated risk assessment frameworks in their investment decisions. This then could result in a change in capital allocation by the "Epiphany and repricing" theory of change. However, two notable factors inhibit the transmission of company or physical asset level risks to financial institutions:

- *Time horizon:* Investors are only marginally exposed to long-term risks, given a short-term debt maturity (Fig. right showing stylized estimate time horizons). Portfolio management amplifies this 'tragedy of time horizons' through high portfolio turnover (generally 6 months to 2 years for long-term investors)²⁸ and short-term risk models.
- *Portfolio diversification* creates compensation mechanisms, where positive returns offset negative returns (Fig. below).



Impact of climate change scenario on the Median Annual Return Impact over 10 years

²⁷ See [Landscaping carbon risk for financial intermediaries](#) (2nd ed, 2014), [Carbon Asset Risk: a discussion framework](#) (WRI/UNEP-FI 2015), and Bank of England (2015) [The impact of climate change on the UK insurance sector](#).

²⁸ http://www.ircinstitute.org/pdf/IRRCMercerInvestmentHorizonsReport_Feb2010.pdf

Source: Mercer, 2015

There are two implicit assumptions regarding carbon risks that would imply the need for regulatory oversight:

- *Materiality*: Carbon risks are sufficiently material at portfolio or asset level to deserve the attention of investors or regulators. This assumption likely depends on the time horizon associated with the risk assessment and the underlying scenario analysis (e.g. 2°C roadmap versus 6°C roadmap, assessment of risks at asset and portfolio level). A long-term perspective suggests current evidence does make this risk assessment meaningful.
- *Market efficiency*: Financial analysis does not *correctly* price those risks already. This assumption relies on a number of secondary assumptions about the ability of traditional risk models to capture this specific type of risk.²⁹ The analysis suggests it is unlikely current risk and valuation models are fully transparent with regard to these risks, although the extent of actual *mispricing* is unclear.

In terms of methods, financial risk assessment is in almost all cases a quantitative exercise, and in general there are four categories of risk assessment frameworks applicable to carbon risk:³⁰ Methods for assessing the physical and potentially legal risks of climate change are clearly additional issues requiring further methods.

Approach and examples	Logic	Indicator and scope
1. Differentiated hypotheses on return by asset class via proprietary models or expert views (Mercer, OTC Conseil/ADEME ³¹)	Estimation of the impact of different scenarios (2°C, 3°C, 4°C) on historical returns by sector (equity), country (sovereigns), or asset class	Under- or over-performance by type of asset in % relative to the business as usual hypothesis. Used for strategic asset allocation, as security-level analysis is not possible.
2. Alternative <i>Discounted Cash Flows</i> ³² (HSBC, McKinsey, Moody's, S&P)	Introduction of a rupture scenario (policy, competition) in assessment of companies' margins	"Alternative" valuation or credit rating based on a 2°C scenario for each security
3. Analysis of technology diversification bias (Carbon Tracker Initiative, 2°ii)	Based on the principle of diversification applied to a transition economy (cf. 3.4)	Measures of technology biases relative to a market or 2°C portfolio (equity or bonds) or at company level (e.g. Carbon cost curves).
4. Impact analysis between variables (oil prices, electricity prices, CO2 prices, etc.) and portfolio value.	Stress-test based on multiple transition scenarios	Risk metrics (maximal losses, etc.) as a function of different scenarios, theoretically applicable to a portfolio of equity/debt, or a bank's balance sheet . ³³

Options available to the French government

As outlined above, there are both different categories of carbon risk and different associated methods to measure it. Thus, the application decree should clarify several points, including the types of climate-related risks that investors (and companies) are required to disclose on (physical and/or carbon risks), whether quantitative analysis is expected vs. qualitative description, and potentially the methods to use or the appropriate time horizon if quantitative analysis is suggested.

With respect to carbon risks, the question of quantitative vs. qualitative analysis is a critical choice. If the disclosure requirement is limited to a qualitative description of how risks impact investment policies, there is a risk that issuers will stick to minimal statements, and experience from other jurisdictions shows that qualitative climate risk disclosure requirement may result in disappointing results. In 2010 in the United States, the Security and Exchange Commission (SEC) introduced non-mandatory reporting on climate risks. In 2011, a study concluded that oil and gas companies are "*generally failing to adequately*

²⁹ Notable features that potentially make carbon risk difficult to model are the lack of historical data; the potential non-normal distribution of the risk; the non-shock, secular nature of the risk; and the time horizon of the assessment.

³⁰ [Financial risk and the transition to a low-carbon economy: towards a stress-testing framework](#), Working Paper, (UNEP/2°ii/CDC Climat Recherche, 2015).

³¹ See in particular [L'intégration du risque climatique dans l'analyse financière](#), (OTC Conseil/ADEME 2011)

³² A publicly available international assessment framework is proposed for development by 2017, as part of the [ET Risks and Opportunities project](#), a consortium formed by 2°ii, S&P Capital IQ, Kepler-Cheuvreux, Oxford University Smith School, the Carbon Tracker Initiative, CDC Climat Recherche, and the CO-Firm (financing decision pending, project start in 2016).

³³ Internal stress-tests are being developed by at least two major international banks.

disclose them consistent with SEC rules and growing investor expectations.”³⁴ This lack of transparency has led to several shareholder resolutions to oil & gas majors over the past several years. If non-financial companies have historically failed to disclose properly, there is no reason that investors should perform better if the decree does not define mandatory requirements precisely, potentially including information on appropriate methods or time horizons. The choice of method is particularly important, as current methods are limited to either sector-based assumptions disconnected from individual securities (Approaches 1 and 4) or security-level approaches that are difficult to aggregate to portfolio level and thus have limited insights for diversification or strategic asset allocation (Approach 2).



Assessment of the disclosure of major oil and gas companies by type of risk and opportunity years
Source: CERES, 2012

The following figure shows examples of what investors could disclose, depending on the level of ambition of the decree.

³⁴ [Sustainable Extraction? An Analysis of SEC Disclosure by Major Oil & Gas Companies on Climate Risk and Deepwater Drilling Risk](#) (Coburn, J. & Salmon R., CERES, 2012).



From qualitative descriptions to quantitative disclosure Illustrations for financial risks (2)



“We analysed our exposure to climate risks and the analysis did not reveal any material risk”.

“We have analysed our global portfolio using Mercer TRIP model: the impact of a 2°C scenario materialization in the next 10 years is estimated to have a -0.5% impact on the annual returns ”

“We have analysed our global portfolio using Mercer TRIP model: the impact of a 2°C scenario materialization in the next 10 years: the results for each asset class and sector are presented in the chart below. For the most exposed categories, representing 10% of our portfolio, we performed a security-by-security analysis based on alternative assumption on future cash flows. The analysis is based on the XYZ 2°C scenario. The table below presents the value at risk for the top holdings. This analysis did not lead to any change in our portfolio allocation due to the low probability of materialization of such a scenario in the next 5 years.

Conclusion on the exposure to financial risks:

- The evaluation of investor exposure to financial risks associated with climate change is primarily a function of the time horizon used by the investor. The materiality of carbon risks could increase rapidly if ambitious and credible climate policies were suddenly adopted (especially in the aftermath of COP21).
- The application decree for Art. 173(VI) should clarify important points surrounding the assessment of climate-related risks, including types of climate-related risks that investors (and companies) are required to disclose on (physical and/or carbon risks), whether quantitative analysis is expected, and potentially the appropriate methods or time horizon.
- Portfolio-level models available today likely meet the requirements of Art. 173, as they allow for an analysis at strategic asset allocation level, but lack the ability to support intrasector stock-picking.

4.4 GHG emissions associated with assets held

Background and Challenges

Reporting on the GHG emissions associated with assets owned by investors was introduced ten years ago³⁵. Their application has picked up in particular since 2014, notably due to voluntary investor commitments³⁶. Both asset managers and civil society promoted carbon reporting as a tool to prevent greenwashing issues thanks to quantifiable and objective metrics. These strengths alone make carbon footprinting an integral part of a mandatory reporting regime for large investors. At the same time, carbon footprinting faces technical challenges, similar to those related to investment policies:

1. Uncertainties on objectives. Studies show that the contribution to the financing of the energy transition and the management of climate risks are two different issues that likely require, at least in part, different metrics.³⁷ Using GHG emissions data for either objective requires a clear articulation of the underlying reasoning. Currently, as shown by the table on the articulation of the four disclosure requirements (p. 7), Art. 173 interprets the carbon footprint to be a risk factor.

2. Materiality of GHG emissions data. There are growing questions around the materiality of GHG emissions data for informing the financial risk and energy transition challenge at the heart of Art. 173:

- *Coverage of data:* There are two kinds of GHG emissions: direct e.g. production process (Scope 1) or energy consumption (Scope 2), or indirect e.g. the supply chain and sold products (scope 3). Due to incomplete reporting, most asset managers only rely on direct emissions, which can be misleading.³⁸ In response, some asset managers are attempting to develop more ambitious methods.³⁹
- *Time horizon of data:* Companies report on GHG emissions associated with the previous year. At the same time, future, 'locked-in' GHG emissions data is likely to be significantly more material both from a risk and energy transition perspective. This is true in particular for sectors with long-term assets (e.g. power plants, oil plays, cement factories, etc.). Forward-looking reporting is possible, but is currently only applied to a limited degree (e.g. assessment of 'embedded' GHG emissions of fossil fuel reserves).

3. Economic impact. The impact of GHG emissions assessment / reporting on investment decisions and their associated impact in the real economy is unclear.⁴⁰ If an investor sells a security, another one buys that security. There is no automatic financing flow *linked to investments associated with that asset*, in particular for financial transactions in secondary markets.⁴¹ This is especially true of liquid assets, whereas investments in private equity are likely to have a more visible impact. There is no method to model the impacts of strategic asset allocation and choices made at portfolio level on the real economy. Engagement practices (voting rights of shareholders) and public positioning and signaling (e.g. investor pledges) represent tangible links between investors' choices and investment decisions made by companies, but they are hard to observe and measure.

4. Links to financial risks. There is growing evidence that carbon intensity is not a meaningful proxy for carbon risk.⁴² Based on a large panel of reports and analysts' recommendations, a forthcoming report from Grizzly RI / 2^oii highlights the weak correlation (approximately 0.2) between the assessment of the carbon risk exposure of companies and their carbon intensity.⁴³ The results seem consistent across

³⁵ [From Financed Emissions to Long Term Investing Metrics](#) (2^oii, 2013), Guide sectoriel ADEME/ORSE/ABC pour le secteur financier (2014)

³⁶ Notably the UN PRI [Montreal Pledge](#) and UNEP FI/CDP [Portfolio Decarbonization Coalition](#)

³⁷ [Climate strategies and metrics](#) (UNEP-FI/GHG Protocol/2^oii, 2015), [Carbon Asset Risk Discussion Framework](#) (UNEP-FI/WRI 2015)²

³⁸ The overwhelming majority of GHG emissions in the energy and automobile sectors for example relate to indirect (Scope 3) emissions.

³⁹ Cf. Env'Impact method, tested by Pictet and Inrate, or the CIA method developed by Carbone 4 and Mirova (to be released, 2015)

⁴⁰ Fiscalité de l'épargne et orientation des investissements (France Stratégie/2^oii, to be released, 2015).

⁴¹ Even in primary markets there are challenges, as transactions may not be linked to investment or involve 'refinancing' of existing assets.

⁴² See [Carbon Asset Risk: a discussion framework](#) (WRI/UNEP-FI 2015), and Exane / BNP Paribas "Carbon '15" (2015)

⁴³ Forthcoming study Grizzly RI / 2^oii "Carbon intensity and carbon risk" (Sep. 2015),

sectors. The improvement and expansion of Scope 3 reporting may improve the situation, but will not make carbon intensity the single relevant metric – as shown by the automotive sector.⁴⁴

5. Coverage by asset class. GHG intensity data is mostly available for “large caps” in Europe and the United States, and these are not necessarily the most material assets from a climate perspective.⁴⁵ Covering the full universe, as seems to be required by Art. 173 and already experimented in France,⁴⁶ would imply using rough sector-level estimates or a rapid extension of the coverage offered by carbon data providers for company specific estimates. In any case, coverage based on reported data from all issuers seems out of reach in the near future.

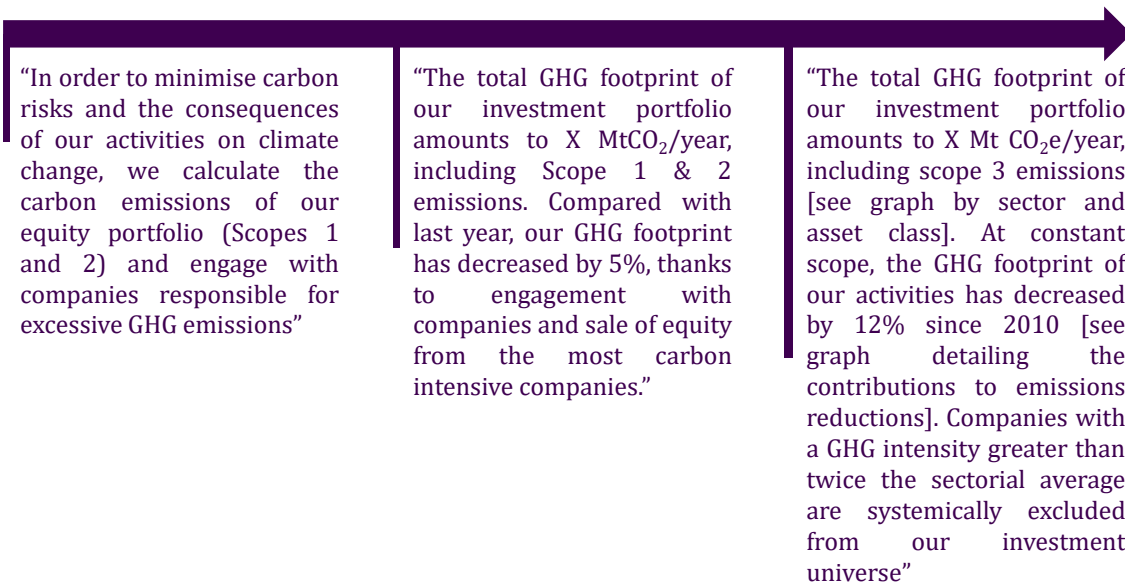
6. Potentially misleading information. The caveats described here enable some actors (asset managers, data providers, index providers) to exaggerate the benefits associated with their products, both in terms of environmental impact and benefits for risk management. This can already be seen insofar as portfolio level emissions reductions are central in the communication strategy around financial risk.⁴⁷ Art. 173 might *de facto* be reduced to the disclosure of the carbon footprint if quantitative indicators are not explored vis-à-vis the other reporting dimensions outlined in this report (e.g. next section). This would reinforce the communication trend that tends to make carbon footprint the single climate metric for asset managers. Increased attention on the three other categories of disclosure requirements provided for in Art. 173 and analyzed in this briefing note should prevent the singular focus on GHG emissions and preserve a balance.

Options available to the French government

Despite their challenges, mandatory GHG emissions reporting can form an integral piece of a comprehensive reporting framework. The following graph illustrates the kind of information institutional investors could disclose, depending on the level of precision stipulated in the decree.



From qualitative descriptions to quantitative disclosure Illustrations for associated GHG emissions (3)



⁴⁴ In the European car industry, the most carbon intensive manufacturers (measured by fuel efficiency of the fleet) sell the most expensive products (sports car, sedans). Their ability to pass on potential carbon taxes on the final sale price may make them more resilient to carbon risks associated with these taxes than manufacturers of smaller and less carbon-intensive cars.

⁴⁵ Carbon Asset Risk: a discussion framework (WRI/UNEP-FI 2015), [Investing in a time of climate change](#) (Mercer 2015).

⁴⁶ [Experiment led by the Caisse d'Epargne Group](#), from 2007 to 2009 on all distributed savings products, and [awareness-raising campaign](#) developed in 2010 by Friends of the Earth and Utopies.

⁴⁷ See *Climate Change Investment Solutions: A Guide for Asset Owners* (IIGCC, 2015). Another example is the Montreal Carbon Pledge, which consists in disclosing the carbon footprint on equity portfolios on a yearly basis, signed by over 60 investors. See: <http://montrealpledge.org/>.

Conclusion on GHG emissions

- The transposition of the concept of “carbon footprint” from industrial facilities and companies to financial assets and portfolios is recent, with many technical questions yet unresolved.
- Simple metrics (Scope 1 and 2) are relevant for some sectors (electricity production, air transport, building materials) and complementary to other metrics (e.g. to measure exposure to risk). The development and corporate disclosure of Scope 3 metrics (such as in Art. 173(IV)) is highly desirable to enable investors to make sense of the disclosed information.
- Current data is mostly limited to listed equities and corporate bonds. To cover entire financial portfolios, data providers will likely be required to extend methods to other relevant, and in many cases more impactful, asset classes such as infrastructure and real estate alternatives and private equity.

4.5 Contribution to the ecological and energy transition

Background and Challenges

Unlike the previous three disclosure elements, the notion of the contribution of a portfolio of financial assets to the energy transition is a rather recent one, only partially tested on portfolios, though applied conceptually to the French public bank since 2012 (see box).⁴⁸ Despite its recent nature, the concept is fundamental to assessing the financial sector's contribution to realizing the low-carbon economy, arguably a central point of Art. 173 itself. Art. 173 represents an important opportunity to build on existing approaches, and develop a framework that connects finance and the real economy.

The contribution to the energy and ecological transition and the mandate of the French public investment bank (BPI)

The notion of impact on the real economy is a mandatory requirement for the Banque Publique d'Investissement (BPI), provided for in Art. 5 of its mandate, cited below. The application decree of Art. 173 should be consistent with the approach chosen for BPI in its future reports.

Mandate of BPI – Article 5⁴⁹ (extract)

The Annual Report of the BPI, presented to Parliament, provides:

*“a statistical evaluation of the geography, economic sector, and **the contribution of financed companies to the energy and ecological transition**. The report identifies the evolutions of public and private financing of companies and their consequences on the strategic orientations of the Banque Publique d'Investissement; it furthers identifies the priority sectors of intervention and the supports mechanisms considered on a several-years horizon.”*

This said, important challenges remain. First and foremost, ideally such an assessment would measure the real impact of asset allocation strategies on the behavior of actors in the real economy, as the wording of the law suggests a logic of “impact” or “contribution”. However, in the absence of such models, this approach cannot be implemented in the short-term (i.e. by 2016).⁵⁰ Instead, a simplified approach of assessing the alignment of a portfolio's exposure to key climate-relevant sectors and technologies can be pursued and is discussed in further detail below.

Options available to the French government

As with the other elements, a fundamend decision in the implementation of this disclosure element will be the choice between a more qualitative or quantitative approach. However, compared to disclosure of investment policies and arguably climate risks, a qualitative description of the energy and ecological transition alignment is substantially less meaningful given the lack of historical context for its qualitative assessment. In other words, the long history of investment mandates and financial risk management enables a common language and shared understanding using common terms that is simply unavailable for assessing scenario alignment.

Given that a quantitative approach including such “indicative targets” is desirable and potentially required, several considerations become important:

- Can targets be established using the National Low-Carbon Strategy?
- What type of metrics are most meaningful and feasible for investors?
- At what level portfolio level should targets be established?
- How can such targets be communicated?

The following sections discuss options for each of these considerations in turn.

⁴⁸ Connecting the dots between climate goals, portfolio allocation and financial regulation (2^oii, 2012), [From Financed Emissions to Long Term Investing Metrics](#) (2^oii, 2013), The Clean Trillion (Fulton/CERES 2013), [Climate strategies and metrics](#) (UNEP-FI/GHG Protocol/2^oii, 2014), [Developing 2° compatible investment criteria](#) (New Climate/GermanWatch/2^oii for the June 2015 G7 Summit).

⁴⁹ LOI n° 2012-1559 du 31 décembre 2012 relative à la création de la Banque publique d'investissement. Our translation, for information purposes only. The original text is available [on the Legifrance website](#).

⁵⁰ Fiscalité de l'épargne et orientation des investissements (France Stratégie/2^oii, to be released in 2015)

Can targets be established using the National Low-Carbon Strategy?

Art. 173 provides that the government shall establish: “indicative targets set by institutional investors taking into account the nature of their activities and investments, in a way that is consistent with the national low-carbon strategy”. Presently, the French national low-carbon strategy includes some operational objectives, including GHG emissions reductions, technology deployment, limitation of demand, etc. in key industries (e.g. transportation & fuel, buildings, agriculture & food, forestry, heavy industry, electricity production) at national level.

In theory these sector-level goals could be used to set portfolio level indicative targets, but research is still lacking that makes this transcription. The work is technically feasible as a first blueprint in a reasonable timeframe (less than 6 months, depending on resources allocated). The framework would then have to be linked to a permanent committee to update and refine targets on a yearly basis and track progress.

What type of metrics are most meaningful and feasible for investors?

Portfolio targets can be defined using a variety of metrics with a variety of units, each having separate strengths and weaknesses. In general most portfolio performance metrics can be expressed as a ratio of some measure of “climate friendliness” or “greenness” in the numerator over some measure of company or portfolio size (where units of company size are averaged at portfolio level). We consider these in succession:

First, options in the numerator include:

- Carbon intensities (e.g. 3 tCO₂ / XX)
- Technology or activity measures, i.e. “green/brown metrics” (e.g. % renewable electricity/ XX)
- Third-party “Green” taxonomies (e.g. % “green”/XX) at portfolio level

Carbon intensities and technology/activity “green/brown” metrics are often used together, and their relative strengths and weaknesses are clear: carbon intensities directly measure emissions, though with slightly greater uncertainties than direct measures of technology exposure (e.g. % renewables) since carbon intensity is generally calculated by applying emission factors to technology exposure. Availability of each varies, with both measures easily available in some sectors (electricity, automobile, etc.), but only carbon intensity in others (e.g. cement).

A different approach defines a list of assets considered as favorable to the financing of the energy transition (“green”), and a ceiling for activities considered as negative (“brown”) and sets targets for each. An advantage to such an approach is the need for only financial data at company level (e.g. sales segmentation) rather than non-financial data like GHG emissions. In theory such shares could be used to assess the alignment of a portfolio with the energy transition. The biggest drawback of such an approach is that no systematic method exists to connect any definition of ‘green’ or ‘brown’ with a scenario shown to feasibly transition to the low-carbon economy⁵¹. In the near term, one option may be to set arbitrary targets, using today’s status as a starting point (cf. below). If this near-term option is used, a number of difficulties should be addressed in the application decree:

- A. The definition or taxonomy of green and brown activities is unclear, and different commercial providers have different approaches (see Table below for commercially available options).
- B. The link with the objectives of financing for the energy transition is either based on a qualitative analysis or not considered.
- C. The aggregation of different activities into a single “green share” or “brown share” is completely disconnected from true impact, as different ‘green’ activities across companies may be high-impact or low-impact (the budget of Airbus to develop solar planes, a breakthrough innovation with huge potential on GHG emissions is \$20m,⁵² about the same as building 20 km of railroad in France). Furthermore, some activities correspond to liquid products (bonds for train infrastructure), whereas the supply of products is very limited for others – such as carbon sequestration. The mobilization of

⁵¹ In the frame of the development of the Euronext Low-Carbon Index, a working group coordinated by Mirova and BNPP AM will suggest a method to determine the breakdown between the “green share” and the “brown share” of a European equity portfolio.

⁵² “L’avion électrique E-Fan d’Airbus traverse la Manche” (Les Echos, 2015)

investors requires the financing of a diversified portfolio of technologies, not the creation of a bubble on the most 'investable' technologies.

The table below provide an overview of the existing offer of green and brown metrics:

Classification	Main features	Technical comments
CBI	Classification developed for green bonds involving a taxonomy of 2°C compatible assets / investments.	Used to track bond markets
MSCI	"Green" classification applicable to listed equity, corporate bonds, and sovereign bonds.	8,000 securities covered every year
FTSE	Exposure of listed companies to 60 energy transition activity segments. ⁵³	9,200 securities analyzed every year
Eurostat⁵⁴	List of activities linked with the protection of the environment and the management of natural resources. No explicit climate goal and potentially limited materiality.	List designed for national statistics, not for asset management. Issuers are not evaluated with that classification today. Used exclusively in Europe.
SIC / ISIC	International equivalent of the Eurostat system, highlighting sectors linked to the environment. No explicit climate goal and thus potentially limited materiality.	International classification developed for national statistics. Used by Thompson Reuters to analyze the segmentation of companies' activities.
NAICS	American equivalent of the Eurostat system, highlighting sectors linked to the environment. No explicit climate goal and thus potentially limited materiality.	North American classification developed for national statistics. Used by Inrate to analyze the segmentation of companies' activities.
ICB, GICS, TRBC, Bloomberg, SASB	Sector classification system including green and brown sectors	Codes used by index providers to sort companies (one single code per equity).

In the denominator there are again several options:

- Value of assets (e.g. capitalization for shares)
- Turnover (at companies level)
- Other financial data at company level: investments, etc.
- Sector-specific physical unit (MW capacity or MWh production for electricity, petroleum barrels, tons cement, etc.).

The general rule is that the higher the indicator moves away from the "physical reality," the more uncertainty grows, in particular due to price effects. It is therefore preferable when feasible (information available at the issuer level and consistent with the scenarios) to take a physical unit. This is feasible for a number of sectors (electricity, oil, automobile, aviation, etc.), but in other cases, only a breakdown of sales by macro-category is available. Within financial data, the value of the asset (e.g. % of capitalization in equity portfolios) is a good measure of the "footprint" of an investor⁵⁵ but may not be the best indicator for alignment, notably due to its high variability: the oil industry, for example, went from 11% to 7% of the MSCI World following the oil price fall, while the oil intensity of any given portfolio did not change (number of actions barrels produced, reservations, etc.).

⁵³ See the detailed approach [here](#).

⁵⁴ See the [guide](#) published by the French Sustainable Development Ministry. The system is envisioned for the Ecology and Energy Transition Label.

⁵⁵ For instance, the share of capitalization informs the share of a company's emissions than an investor is "responsible for".

At what level portfolio level should targets be established?

An important question for implementation is which portion of the overall institutional investor portfolio should be included in the assessment of contribution to the transition. Targets could be established either for the entire portfolio, at asset class level, or for specific climate-relevant portions of the portfolio (sector, geography, etc.):

Level	Example
General Portfolio	5% green share in the institutional portfolios (2020)
Asset Class	Green 5% share in the equity portfolio (2020)
Sector	30% renewable in "electric utilities" shares (2020)
Sector and geography	30% renewable for European production shares "electric utilities" (2020)
Technology and Geography	30% of European production for renewable portfolio companies (2020)

There are important advantages and disadvantage to implementing the requirements at these different levels. On the one hand, it can be argued that setting the target at the overall portfolio level creates maximum flexibility for investors, allowing the choice of low-carbon investment across asset classes, technologies, sectors, etc. However, such flexibility may result in most investors “crowding in” to the most investable assets, potentially leading to large flows moving to investable assets like equities with relatively little impact on potentially more impactful illiquid assets⁵⁶. If the policy intent of the law is to encourage investors to reallocate funds toward assets facing current funding gaps, more specific requirements may be needed. Of course the more specific requirements get (i.e. the lower end of the scale shown in the table), the more policy makers can be accused of “picking winners” and “central planning”. It is thus important to balance the policy intent of overcoming investment gaps with some level of flexibility at technology, geography, and sector levels.

What methods can be used to set targets for these metrics in line with the energy transition?

In addition to selecting metrics, implementing the law requires setting indicative targets for the level at which any metric would be aligned with the energy transition. For example, an investor could measure the carbon footprint of their portfolio as X kg CO_{2e}/\$ invested, but this metric alone does not inform alignment. There are two main options here, either setting targets bottom-up at sector or asset class level or comparing portfolio exposure to top-down macroeconomic scenarios of the energy transition.

Option 1: Bottom-up approach

In this approach targets for the chosen metric could be selected at sector or sector/geography level using either an arbitrary (e.g. 20% renewables in power sector portfolio by 2020) target generally aligned with national policy goals or a relative target (e.g. 3% improvement in carbon footprint of portfolio per year⁵⁷). The advantages to this approach are the general ease of target development and ease of application as well as a high degree of communicability with investors and external stakeholders. On the other hand, a big disadvantage to either of these approaches is the inability to know whether the target is in line with a feasible energy transition scenario or whether sector-level targets are internally consistent with one another (for instance, whether utility scale and building scale renewables goals would be consistent with overall feasible supply of renewable technology). Further, a relative goal can discourage early action—

⁵⁶ See further discussion in [Climate strategies and metrics](#) (UNEP-FI/GHG Protocol/2^oii, 2014). In general achieving real economy “impact” through portfolio construction activities is more likely to occur in illiquid assets such as private equity, infrastructure alternatives, and real assets.

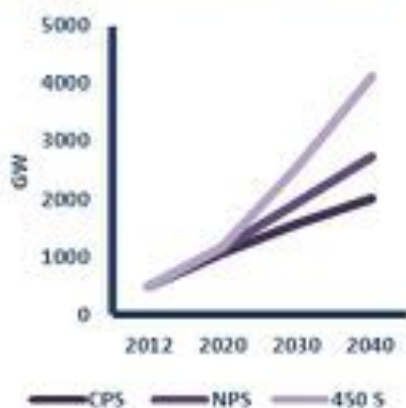
⁵⁷ A 3% improvement per year could be used, for instance, to follow the general averaged approach of the 3% solution, one of the [Science-based target setting approaches](#) at company level.

those investors with a relatively low current ‘green’ share have an easier time meeting the target than those who have already partially decarbonized their portfolios.

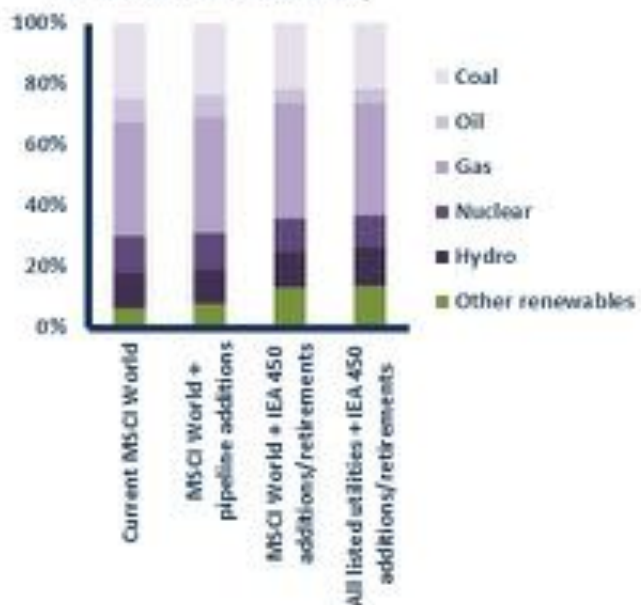
Option 2: Top-down approach based on existing scenarios

An alternative approach could utilize existing energy transition “roadmaps”. A near-term assessment of alignment with the energy transition can be made by comparing the exposure of a portfolio (by energy technology, type of production, level of emissions by sector) with climate roadmaps that trace a path to the low-carbon economy (e.g. those published by the International Energy Agency (IEA) and / or national agencies).⁵⁸ This approach has been tested on equity portfolios in 2014⁵⁹ and will be the basis of a publicly available methodology in September 2015.⁶⁰ It is also in line with the Sectoral Decarbonization Approach, a company-level assessment developed for corporate target setting⁶¹. The charts below provide examples of portfolio assessments against 2°C target for selected energy technologies (calculation by 2°ii based on Global Data, Wardsauto, CTI/ETA and Bloomberg).

NON-HYDRO RENEWABLE ELECTRIC CAPACITY BY SCENARIO (SOURCE: IEA 2014)



FUEL MIX OF INDICES VERSUS 2°C BENCHMARK (SOURCE: 2°ii, BASED ON IEA 2014 AND GLOBALDATA)



Although the feasibility of the approach has been shown, its current incarnation exhibits some important limitations:

- **Availability only for key technologies.** Climate scenarios (e.g. IEA Energy Technology Perspectives, World Energy Outlook) only set targets (production, investments, carbon intensity) for about a dozen technologies and activities. These indicators are defined at activity level, which does not necessarily match industry classification systems (e.g. GICS, ICB, etc.) used by investors. Investors would need to analyze the technology/activity exposure of companies and could only cover about one-third to one-fourth of the listed equity universe (however this third represents 70-80% of global GHG emissions).

⁵⁸ [2°C Investing, a conceptual framework](#) (2°ii, 2015)

⁵⁹ [Optimal diversification and the energy transition](#) (2°ii in partnership with Allianz, HSBC & MorningStar, 2014)

⁶⁰ As part of the European [Sustainable Energy Investment Metrics](#) project, a research consortium (Cired, CDP, WWF, Climate Bonds Initiative, Kepler, Frankfurt School of Finance & Management, University of Zurich) coordinated by the 2° Investing Initiative will publish a methodological framework in September 2015, to be tested and improved until 2018.

⁶¹ See [Science-based target setting approaches](#). It is important to note that corporate science-based target approaches were developed to apply to one company at a time and thus are not directly applicable to financial portfolios.

- **Difficulty to isolate the specific contribution of an asset class.** Climate scenarios describe the breakdown of technologies at a regional or global scale. To translate that into asset classes, the relative roles of both economic actors (listed and non-listed companies, governments) and the roles of financing channels (equity, debt, self-financing) have to be assessed. While a technical challenge, simple averaging models can be used to ‘translate’ economic indicators into indicators by asset class.
- **The question of ‘picking winners’.** By default, a climate scenario associated with a specific GHG emissions pathways reflects one vision of the future, similar to the argument against ‘picking winners’ in innovation and industrial policies. Any single scenario is not necessarily aligned with all stakeholder and policy goals. Two options to deal with this issue are conceivable: using several scenarios and letting investors choose or creating a system of equivalence (e.g. exposure to low carbon technologies A and B can be deemed equivalent since they deliver similar emission reductions).

The following graphic displays three levels of ambition for the disclosure of “contribution to the ecological and energy transition,” while keeping in mind that many more types of iterations of metric, target, etc. exist.



Conclusions on the contribution to the energy transition:

- Compared to the other disclosures, energy and ecological transition alignment is less likely to be adequately covered by qualitative assessment only due to the lack of a common language and shared understanding.
- Metrics to test alignment of investor portfolios with the National Low Carbon Strategy are currently unavailable due partly to the lack of such metrics in the Strategy.
- Many types of portfolio performance metrics are available, most expressed as a ratio of a measure of “greenness” (carbon footprint, \$ invested in green activities) to company or portfolio size, where company-level measures are averaged at portfolio level. Each has strengths and weaknesses.
- Indicative targets using such metrics can be set at multiple levels (entire portfolio to sector/geography specific) and can be either absolute or relative to current performance.
 - Targets at portfolio level have the maximum flexibility but risk capital being allocated to only the most investable technologies and asset classes.
 - To truly assess alignment with the energy transition, absolute targets must be benchmarked to feasible decarbonization scenarios
 - Relative targets are easily communicable and understandable but are difficult to compare to feasible transition scenarios and can reward laggards and discourage early movers.
- Near-term options that do not fully assess alignment (such as green/brown ratios for key sectors and technologies) could represent a stepping stone toward full portfolio assessments in the future.

5. Challenges and opportunities related to the costs of implementation and the competition between data providers

5.1 The law will create demand

The implementation of the law is likely to significantly increase the demand for climate-related 'non-financial' data. To date, the supply of data is insufficient with regards to the objectives of law (assuming the decree is aligned with the high level of ambition of the lawmaker and actually implemented). However, the law can enhance innovation and gradually allow for a big step forward. By providing for regular updates to preserve this level of ambition, France will not only become the first market for this data, but the law will also contribute to shaping the supply of data at the global level.

5.2 Developing new business models

Our assessment of the current market shows that climate-related ESG⁶² data providers on equity and bond issuers have the best chance to innovate and adapt to meet the requirements of Art. 173.

- To our knowledge, very few ESG data providers offer coverage that fully meets the needs of an institutional investor, including systematic coverage of bonds issued by non-listed entities, though coverage is increasing rapidly.
- Such firms primarily rely on voluntary reporting of issuers, centralized and harmonized by platforms such as CDP and/or Bloomberg. There are important implications for implementation:
 - **Data refresh:** New data is generally only available on an annual basis;
 - **Nondisclosure:** Absence of motivation of issuers to disclose⁶³ (excluding French companies bound to disclose);
 - **Coverage:** Default coverage is generally limited to large listed companies, with bespoke analyses available for alternatives;
 - **Data quality:** Voluntary disclosures have data quality issues, which data providers deal with in different ways⁶⁴.
- Credit ratings agencies (S&P, Moody's, and Fitch) are to date the only organizations covering the full fixed income universe with financial analysts and access to issuers' management. They could technically develop the methods linked with regulatory requirements. To date however, such agencies are not significantly involved in the non-financial data business as it is outside their core business.
- Asset managers could directly do the research, and indeed are driven by investor mandates. Costs of implementation, however, are likely to be higher than implementation by ESG data providers given the lack of economies of scale.

⁶² ESG = Environmental, Social, and Governance data, of which climate-related data is a subset

⁶³ The share of assets owned by French institutional investors and issued by foreign companies is significant. For example, for equity, 22.4% of shares owned are from companies located outside the Eurozone. Within the 77.6% owned within the Eurozone, the share of foreign companies is not precisely known to the authors but can be estimated to at least an additional 20%, based on studies with a different perimeter (see p. 28 for the geographical breakdown of assets owned by French investors, all asset classes together). Source: [Les Echos, Banque de France](#).

⁶⁴ See [Climate strategies and metrics](#) (UNEP-FI/GHG Protocol/2°ii, 2014)

5.3 Competition between providers

Given the challenges described above, the application decree will have to be carefully phrased to avoid distorting competition between data providers. The following provides a brief overview of the implications:

Investment policies. Challenges here are limited as this dimension does not directly reference data providers. Novethic is in a situation to provide a framework for analysis (on the basis of its Green and SRI labels). Novethic is a public actor, though its evaluation is a paying service; thus a public and free assessment framework is possible consistent with the Novethic criteria.

Financial risks. One interpretation of the disclosure requirements would consist of the publication of a risk analysis based exclusively on strategic and sectorial asset allocation (as opposed to security level). In this case, the law will directly create a demand for portfolio-level services such as the Mercer model (c.f. Section 4.1). On the other hand, if the law imposes a more discrete evaluation process, requiring an evaluation of the most exposed assets, several providers are in place to provide with the alternative discounted cash flow models currently being explored in the market. Three options (non-mutually exclusive) can be considered at this stage, all likely associated with some competitive implications:

1. Credit rating agencies, which have the necessary infrastructure, create dedicated services.
2. Non-financial data providers expand their offering to more formal risk assessment (with a new competence in financial analysis)
3. New actors emerge, thanks to alliances between financial analysts and non-financial data providers.

The possibility to generate economies of scale is higher if the same providers perform the collection of GHG data, the contribution to the energy transition, and the risk analysis.

GHG emissions and the contribution to the energy transition. The situation is more complex because of technical challenges and the business model of supply (4.4). In the absence of a standardized approach, every data provider relies on their own method. For Scope 1 and 2 emissions (direct and linked to energy supply), methods are very similar, even if results sometimes diverge. A series of carbon footprinting workshops on sample portfolios, organized by the Institutional Investor Group on Climate Change demonstrate that, using the same over-arching framework (e.g. assumptions around the time of assessment, currency, etc.), results from the largest ESG data providers differ marginally. For more advanced methods (e.g. scope 3, avoided emissions), methods are very specific to the data provider and often very experimental. The general principles of the methodologies are usually publicly available, but not the details (emissions factor, criteria for classification, etc.).

For GHG emissions and the contribution to the energy transition, GHG Protocol, UNEP Financial Initiative, and the 2° Investing Initiative are exploring the development of a standard for accounting and reporting by 2016.⁶⁵ The content will be based on a state of the art of existing methods, a consultation of investors, and the research developed by European consortium *SEI Metrics*.

⁶⁵ [Portfolio Carbon Initiative](#) (GHG Protocol, UNEP-FI, 2° Investing Initiative).

5.4 Challenges related to standardization and costs of implementation

The case for standardization. The standardization of metrics and reporting practices is a desirable outcome, associated with two main benefits:

1. **Allow for a comparison of investors** on content –not only on their reporting practices—in order to facilitate the development of ratings, discrimination between financial products, and the introduction of public policy incentives (see table below).
2. **Decrease the costs of implementation.** Investors adapt their practices to the available supply. The capacity to innovate lies mostly with data providers. If we assume an “open” decree leaving each investor the possibility to choose an approach, and in the absence of a standard, there will be as many approaches as data providers. This will lead to several consequences:
 - *Implementation costs:* Asset managers will have to evaluate each method requested by clients and buy the corresponding data, leading to higher implementation costs.
 - *Challenges around consolidation:* Investors have to consolidate the metrics of each of their funds (when asset management is delegated) using different methods. They will have to pay once to understand which approach to use, and another time to have fund managers aligned.

This suggests the decree should be implemented together with a standardization process. At the same time, the challenges suggest the French standard needs to be consistent with expected international standards.

Standardization initiatives. Three on-going standardization initiatives are relevant here:

- The *Portfolio Carbon Initiative* (GHG Protocol, UNEP-FI, 2°ii) aims at creating a standard of reporting for investor on their GHG emissions and their contribution to the energy transition. A preliminary document will be published in September 2015. Technical guidelines are envisioned for 2016. Coordinating this work and the preparation of the decree is a possibility.
- *Climate Bond Initiative* is developing a green classification⁶⁶ and a certifying program for ‘non-corporate’ assets that can be linked to infrastructure funds and bonds issuance where proceeds are earmarked to specific physical assets.
- A consortium led by the 2° Investing Initiative is planning to develop a freely available general assessment framework for 2016-2017 for the evaluation of carbon risks of equity and corporate bonds.⁶⁷

Conclusion:

- The impact of Art. 173 goes beyond France and will contribute to international demand for climate-related non-financial data of companies.
- Standards are currently lacking for the assessment and reporting of investor carbon risk and portfolio carbon footprinting.
- The current market for climate-related data is dominated by boutique ESG providers specializing in non-financial analysis
- Given this context, implementation specificity could cause distortions in the current market for ESG data. Coordinating the French initiative with global standardization initiatives (GHG Protocol, UNEP-FI) and international best practices may provide important benefits such as minimizing compliance costs.

⁶⁶ <https://www.climatebonds.net/standards/taxonomy2>

⁶⁷ Project [ET Risks and Opportunities](#), see note 40.

6 Implications and recommendations

6.1 Recommendations to the French government

The following outlines the main high-level recommendations derived from the analysis above.

1. Articulate the decree with technical guidelines with flexibility to evolve over time.

The metrics associated with disclosure requirements will evolve significantly in the years to come. A flexible implementation decree that is regularly updated decrees promotes fast initial implementation while taking into account the reality of the current market and encouraging future innovation.

In order to increase flexibility, we recommend articulating the decree with guidelines and more precise and normative technical documentation, updated periodically to reflect best practices and evolving standards.

2. Create a permanent observatory

The supervisory authorities in France are not currently equipped (skills, teams, resources) to support and monitor the implementation of this dimension of the law. In addition due to the prioritization of more issues (fraud, misselling, etc.) more material to their mandate, they have a track record of not monitoring and not sanctioning on ESG disclosure.

A permanent observatory should be established in order to:

- Observe the practices, analyze results, and consult stakeholders (investors, asset managers, data providers, etc.)
- Suggest updates of the application decree and any accompanying measures;
- Support the capacity building of investors in applying the decree
- Ensure coordination and consistency with other international initiatives.

Several organizations are already active in these fields. We would recommend exploring a collaboration between the government, the regulator and these stakeholders to support implementation.

3. Share knowledge with other countries

Cooperation with other countries is a key factor of success in many ways: France is clearly a pilot test for the development of mandatory and voluntary reporting schemes. Other governments can both learn from the difficulties and factors of success and directly build on the framework developed (notably in terms of methodology and data). An action to promote Art. 173 in other countries, especially in the EU and the United States, would therefore maximize the impact of the French initiative.

At the same, the implementation of the French framework will face difficulties if the accounting and reporting practices developed elsewhere are not consistent. We therefore recommend technical collaboration with international initiatives of standardization on the topic (e.g. *Portfolio Carbon Initiative*).

4. Provide accompanying measures and incentives

The experiment of non-financial disclosure requirements at company level shows the necessity of providing accompanying measures and incentives so that a disclosure requirement becomes an incentive to improve. In other words the “what gets measured gets managed” story is largely flawed when it comes to addressing ESG issues that are not directly material to the bottom line of a company or investor.

We recommend to debate, plan, and budget these measures as early as 2016 to make sure that the publication of the decree is accompanied by a consistent and ambitious signal from public authorities.

Together with the French government, 2°ii already started to explore the integration of climate criteria in the tax incentive system on investment products. The publication will be released in 2015.

Detailed recommendations will be published in the coming months by the 2° Investing Initiative.

6.2 Implications for international stakeholders

1. Data providers

Data providers are significant stakeholders in the implementation of Art. 173. The implementation of the requirements will depend on their ability to innovate and adapt their services. They will be faced with a growing demand for climate-related data. The new market created by the French law is likely to drive innovation in metrics globally and *de facto* set the international standard.

In order to be in line with regulatory requirements, data providers should participate in the standardization process, while continuing to innovate on and improve data collection and treatment techniques. We expect that the current willingness of many investors to favor low-quality low-cost climate data will decline significantly over time. Data providers further need to expand their coverage of the investment universe, especially for bonds. They will have to generate economies of scale and upgrade their infrastructure, while keeping research costs relatively low. Otherwise, they might be confronted with new competition from credit rating agencies or other actors with the capacity to cover the full investment universe of institutional investors.

2. Index providers

Index providers are not directly affected by disclosure requirements applicable to investors. However, the increasing demand for transparency on carbon footprints, climate risks, and the contribution to the energy transition will change the expectations of investors. More specifically, the implementation guidelines are supposed to set 2°C allocation targets for investors. To allow practical assessment of portfolio against these targets, investor will need '2°C benchmark indices'. In July 2015, 2° Investing Initiative has launched a working group on the design of "2° indices".

3. Asset managers

Preparing for the requirements of Art. 173 is essential for asset managers to secure continued access to the French market. Overall, French institutional investors account for roughly €2 trillion in assets under management⁶⁸.

Whether they have a presence in the French market or not, asset managers should anticipate a growing demand for transparency on the exposure to climate risks and on the climate impact of their investments, from investors who joined the pledges on the disclosure of their carbon footprint⁶⁹.

4. Asset owners

For institutional investors, a wide array of strategies is available to manage the consequences of climate change and climate policies: engagement with companies, divestment from the most exposed industries, review of sectorial and energy technology diversification, etc.⁷⁰

Even if they are outside the scope of the French law due to the size threshold, investors should be prepared to disclose the four elements. They might be subject to new regulation inspired by the French example or as a result of pressure from civil society organizations and beneficiaries (notably for pension funds).

5. Governments

Building on the momentum created by the French initiative, other countries could introduce similar mandatory or voluntary disclosure requirements. Incentives for investors joining climate-related initiatives such as the Montreal Carbon Pledge could also be introduced, in order to support the climate-friendly elements in the industry. Despite the benefits of a comprehensive disclosure requirement, the four dimensions of Art. 173 do not necessarily come as a package. Governments may have different interpretations of their articulation, set different priorities, and include requirements in other public policies. For example, the disclosure of financial risks could be a part of a set of measures dedicated to improving the stability and resilience of the financial system. Disclosure of the carbon footprint could be included in regulation improving the transparency of both financial and non-financial companies on the environmental consequences of their activities (e.g. *EU Directive on Non-Financial Disclosure*). These can then be linked to broader public policy incentives for the financial sector. They may also be meaningful in the context of setting and managing the achievement of low-carbon policy targets.

⁶⁸ Source: AF2I Survey 2015, cited by [Les Echos](#)

⁶⁹ See the investor platform for climate actions on <http://investorsonclimatechange.org/>

⁷⁰ [Climate strategies and metrics](#) (UNEP-FI/GHG Protocol/2°ii, 2015)



The 2° Investing Initiative [2°ii] is a multi-stakeholder think tank working to align the financial sector with 2°C climate goals. Our research seeks to:

- Align investment processes of financial institutions with 2°C climate scenarios;
- Develop the metrics and tools to measure the climate performance of financial institutions;
- Mobilize regulatory and policy incentives to shift capital to financing the transition to a low-carbon economy.

The association, founded in 2012, is based in Paris and New York, with projects in the US, Europe, and China. Our work is global, both in terms of geography and engaging key actors. We bring together financial institutions, companies, policy makers, research institutes, experts, and NGOs. Representatives from all of the key stakeholder groups are also sponsors of our research.

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