September 2016

Montréal Carbon Pledge

accelerating investor climate disclosure

In partnership with

In December, at COP21 in Paris, we witnessed the first concrete global agreement on climate change. What set these climate talks apart was the significant role investors and institutional capital played throughout the summit. We believe that investor action is essential in order for climate strategies to move forward, which is why we launched the Montréal Carbon Pledge in 2014, a commitment by investors to translate climate talk into walk. The first step to managing the long-term investment risks associated with climate change and carbon regulation is to measure them and this initiative sets a clear path forward for emissions reductions.

Fiona Reynolds, Managing director of the PRI

Our 2015 «Montréal Pledge» report covers over 400Bn€ across our largest asset classes, namely equities, corporate debt and sovereign fixed income. This report provides us with a snapshot of historic emissions in these portfolios, which we have disclosed publicly. Benchmarking this footprint data amongst peers enables us to compare not only carbon intensity but also strategic approaches and narratives. AXA will continue to publish this data as well as strive to collect and analyze more dynamic information such as sector-specific climate change mitigation strategies. This will be in line with future recommendation of the FSB TCFD, which we are proud to co-chair, and enable us to contribute to the French «Energy Transition» regulatory disclosures.

Christian Thimann, AXA Group Head of Strategy, Sustainability and Public Affairs, FSB TCFD's Vice Chair

Novethic research center has screened and analysed the climate disclosures of the 120 Montréal Pledge signatories who have committed to measure and disclose their portfolio carbon footprints between September 2014 and May 2015.

Key findings

- **The Montréal Carbon Pledge: a convincing and successful initiative.** In less than two years, the Montréal Carbon Pledge has mobilized 120 investors from around the world to take action on climate change.
- **From signing to disclosing.** Whilst it is still mainly supported by large players in the responsible investment industry, implementation of the Montréal Carbon Pledge is underway and 80% of signatories already disclose their carbon footprints.
- **Large asset owners with varied profiles have adhered to the Montréal Pledge.** European asset managers have also entered the fray, emboldened by government measures in France especially.
- **Strong contribution of reporting to the methodological debate.** The diversity of reporting methodologies in use reflects the current state of the art. Diversity of the indicators, varying scopes and ill-defined methodologies make comparisons difficult and demonstrate the need to harmonise disclosure methodologies. Identifying common trends in the measurement and analysis of risk and performance is a first step towards this objective.
- **Barriers to measurement.** The information available on carbon footprinting of underlying assets is still lacking in quality, especially on non-equity assets, indicating the need for more disclosure from the issuers' side.
- **Climate change mitigation targets.** In addition to the publication of their carbon footprint, 16% of pledge signatories have already set up emissions reduction targets with the objective of aligning with a 2°C scenario.
- **Characteristics of disclosure: an overview.** This research identifies a dozen "best practice players," with varied practices with regards to measuring carbon footprints, benchmarking and analysis intertwined with a range of pro-active approaches. It reveals two simultaneous evolutions in investor practices, in carbon analysis on the one hand, and from emissions measurement to proactive actions for reducing footprint on the other hand.
- **Investor disclosure practices are evolving rapidly:** Investor practices in addressing climate risk and opportunity are evolving fast, with carbon footprinting part of this evolution. In future, investor focus will likely shift to transition risk and how this can be incorporated within investment decisions, with practices evolving again further.

Montréal Carbon Pledge **Commitments**

"By signing the Montréal Carbon Pledge, investors commit to measure the carbon footprint of their investment portfolios and disclose this on an annual basis.

The Pledge was launched on 25 September 2014 at PRI in Person in Montréal, and is supported by the Principles for Responsible Investment (PRI) and the United Nations Environment Programme Finance Initiative (UNEP FI).

Overseen by the PRI, it has attracted commitment from over 120 investors with over US$10 trillion in assets under management, as of the United Nations Climate Change Conference (COP21) in December 2015 in Paris. Support for the Montréal Carbon Pledge comes from investors across Europe, the USA, Canada, Australia, Japan, Singapore and South Africa.

The Montréal Carbon Pledge allows investors (asset owners and investment managers) to formalise their commitment to the goals of the Portfolio Decarbonization Coalition, which mobilises investors to measure, disclose and reduce their portfolio carbon footprints. Over US$100 billion has been committed to this as of COP21."

Investor Climate Disclosure: a change of course

Investors' commitment to act on climate change has hastened due to a growing awareness of the economic and financial impacts of climate change, the risk of the most carbon-intensive assets becoming stranded, and divestment campaigns targeting financial players. These movements have nourished innovative disclosure practices, which the Montréal Carbon Pledge revealed. With the establishment in 2015 of the industry-driven Financial Stability Board Task Force on Climate-related Financial Disclosures, we anticipate that better financial reporting on transition risk will become available from companies. This will in turn enable investors to integrate climate risk and opportunity more meaningfully into investment decisions, and to improve their own disclosure to clients and beneficiaries. Alignment of all actors in the investment chain – ranging from asset owners to investment consultants and credit rating agencies - will be important to this next evolution.

Chronology

September 2015	UN Summit on Climate Change (NYC)
	The Global Statement on Climate Change is signed by 348 investors
	The Montréal Carbon Pledge is launched by ten investors
December 2015	The COP21 is held in Paris, ending with the Paris Agreement
	The Task Force On Climate-Related Financial Disclosures is launched by the FSB
June 2016	About one hundred Montréal Carbon Pledge signatories disclose their carbon footprints

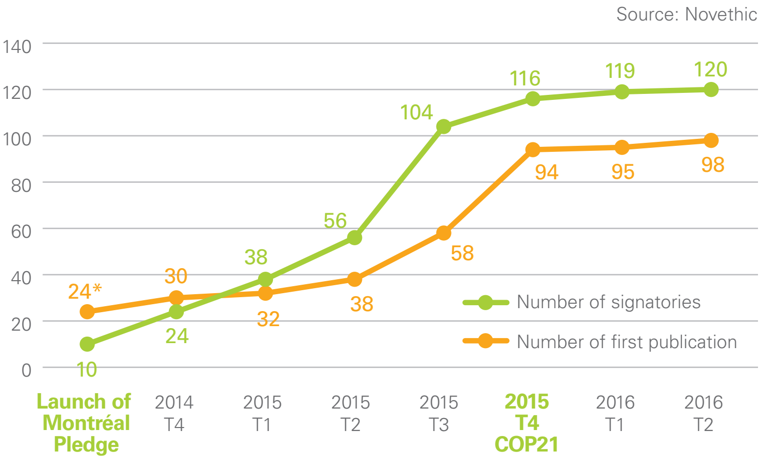
The Montréal Carbon Pledge was launched in September 2014 in Canada at the annual conference of the Principles for Responsible Investment (PRI) signatories. It is led by the PRI and supported by the UNEP FI. The Pledge asks investors to measure and disclose their carbon footprint and indicate the methodology used. Impetus from the Montréal Carbon Pledge and other initiatives has helped persuade a growing number of investors to make climate commitments in the concrete form of shareholder engagement, portfolio decarbonisation, divestment from fossil fuels, and/or green investments. Novethic identified more than 1000 investors totalling over €32 trillion in assets by June 2016. Some 140 investors have signed the Paris Pledge for Action which allows non-Party stakeholders of the COP to welcome the Paris Agreement on climate change and commit to keep global warming below 2°C.

Montréal Carbon Pledge and footprint measurement

An initiative originally linked to COP21, the Pledge demonstrates that investors are interested in having a common framework for carbon footprint disclosure and for exchanges on methodologies. As of 1st of June 2016[1], 120 international investors with a total of €8.8 trillion (US$10 trillion) in assets had signed the Montréal Carbon Pledge. They represent only a relatively small proportion of the PRI signatory base (8% of signatories and 16% of assets), and most of them are in Europe. In many cases, these are major investors who are further implementing their existing ESG policies.

(1) Global statistics of this research paper have been taken as of May the 15th, 2016.

Commitment to the Montréal Pledge: strong growth in 2015



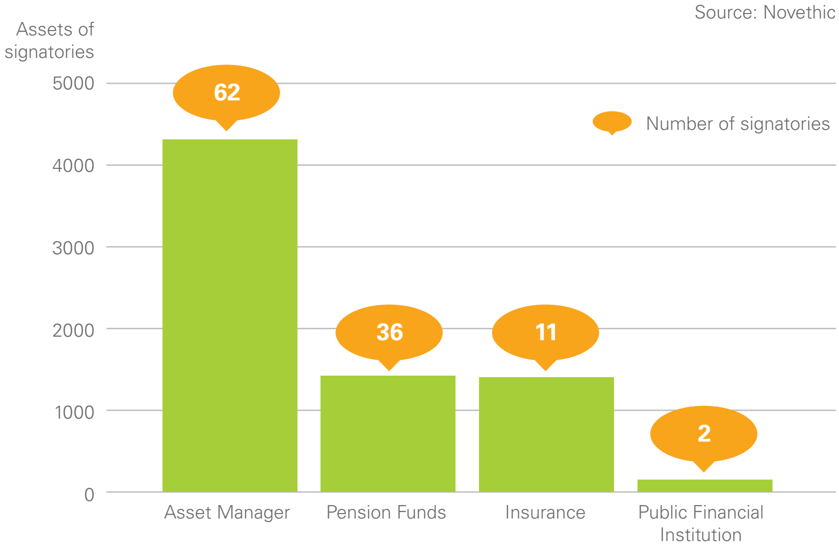
**24 investors anticipated the initiative and already disclosed their carbon footprint before 2014 September*

A diverse and international group of signatories

An initiative dominated by Asset Managers

Montréal Pledge signatories: large assets in each category

Source: Novethic



Accounting for slightly more than half the signatories, asset managers are the largest group in number (62) and have the largest volume of holdings (€4.2 trillion of AuM). Ten or so are major European players who manage over €100 billion in assets. They include the UK's Aviva Investors, HSBC Global AM and Old Mutual, France's Amundi, BNP Paribas IP and La Banque Postale AM, Germany's Union Investment AM, and Nordea AM in Scandinavia. DIAM Co. Ltd. in Japan and ZKB in Switzerland, are also in this category. Most of the other asset managers are more modest in size, and ten or so are responsible investment «pure players».

Eleven insurance companies account for about 20% of the assets held by Montréal Carbon Pledge signatories (€127 billion on average). The top three are French – AXA, CNP Assurances, and BNP Paribas Cardiff – with a total of €1.2 trillion in assets. The others are Scandinavian except for one Canadian and one Dutch. The 36 pension funds are generally smaller players who make up 30% of the signatories, but hold only 19% of the assets. There are three exceptions, with a total of about €800 billion of AuM: ABP and PFZW, in the Netherlands, and CalPERS, which is the only North American signatory with holdings in excess of €100 billion. Others signatories are financial public institutions (2), universities (2), congregations (3), foundations (3) and one media company. They represent 10% of signatories and 2% of assets.

As a long-term investor, we know climate change creates risks and opportunities across asset classes. We conducted the carbon footprint of our public equity portfolio and discovered 80 of the 10,000+ companies we invest in generate half of the carbon footprint. This is a start, but it measures just one element of climate risk. On the way to limiting emissions in line with the Paris Agreement goal of 2 degrees, we look forward to investor-oriented tools advancing rapidly to apply across asset classes and make the financial links clearer.

Anne Simpson,
CalPERS Investment Director,
Global Governance

Calculating and reducing the footprint of our portfolio are important steps in our journey towards managing climate change risk in our portfolio. The Montréal Pledge has been instrumental for the expansion of the number of investors calculating the footprint of their portfolio. Hopefully, this will help to raise the bar for companies and investors to manage and report about climate change risk.

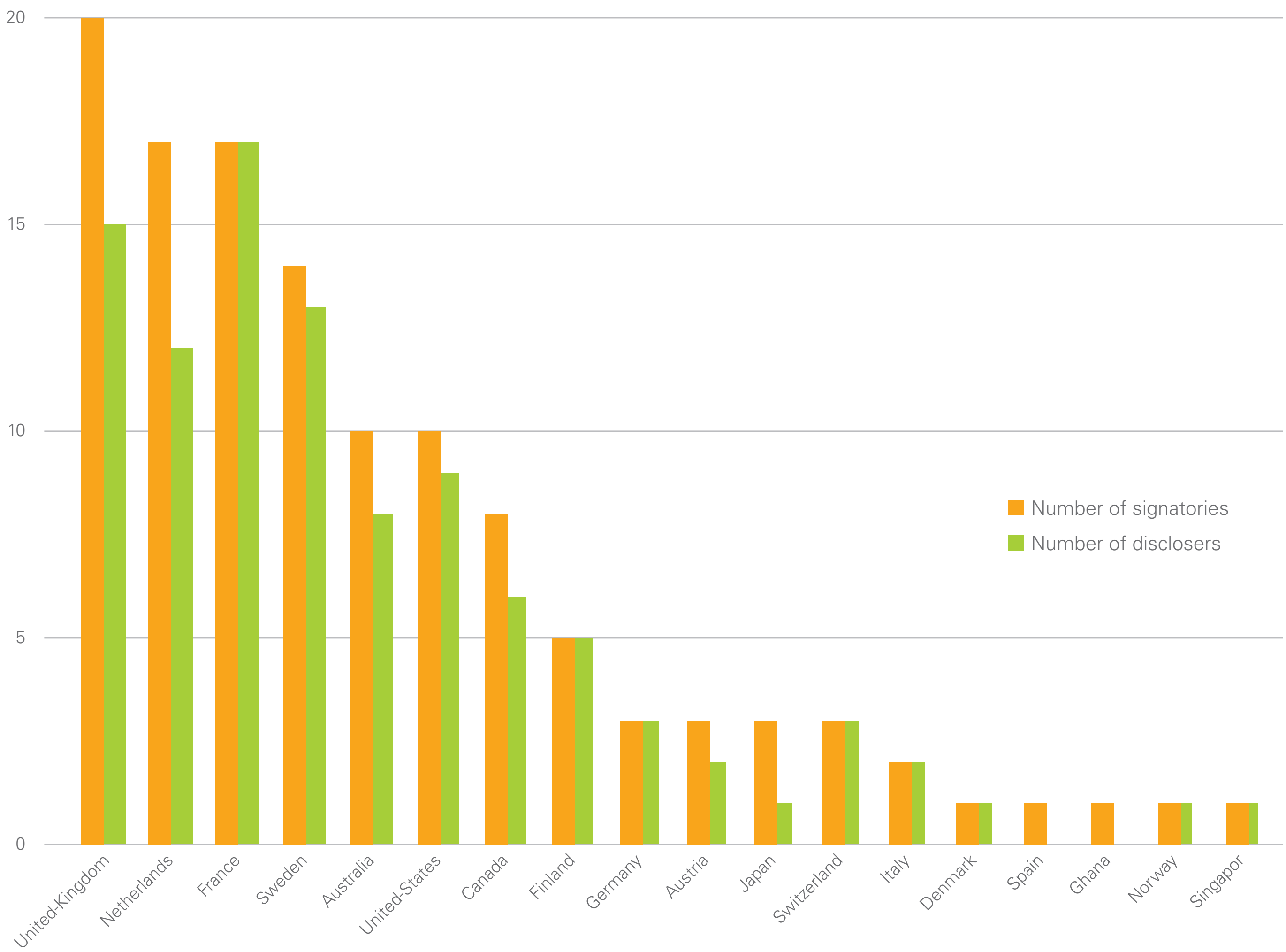
Marcel Jeucken,
PGGM Investment
Management's Managing
Director Responsible Investment

The largest signatories have already disclosed their carbon footprints

On the 1st of June 2016, more than 80% of the signatories have disclosed data on their carbon footprint, starting with those that have the largest assets under management. Thus, 92% of large asset owners (insurance companies, pension funds, public institutions) have disclosed their carbon footprint. The participation rate is lower for asset managers. Only 76% have reported their footprint, though they include the largest firms, as 91% of AuM are covered by carbon disclosures. The two universities that have signed the Montréal Carbon Pledge have also disclosed their carbon footprint.

More than 80% of Montréal Carbon Pledge signatories have disclosed their carbon footprint

Disclosure rate varies depending on the country



France and Sweden are the two countries where all or virtually all the signatories have disclosed their carbon footprint. In both cases, climate issues are being dealt with at government level. However, in the United-Kingdom and the Netherlands, there are still some signatories who have not fulfilled their reporting commitment.

Still diverse, but already well-developed reporting

An analysis of the one hundred or so portfolio carbon footprint disclosures provides an initial overview of the methodologies used by these investors around the world and an opportunity to gauge their limits.

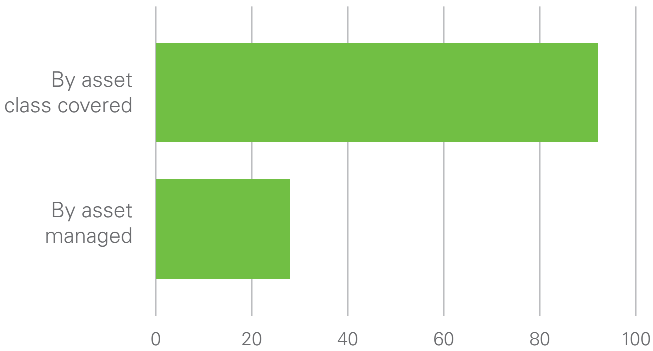
● Carbon footprints: perimeter and data sources

Reporting coverage generally limited to equities

The Montréal Carbon Pledge recommended signatories start footprinting with their equities portfolios. Over 90% of the disclosures indicate the scope of asset classes. In 96% of cases, disclosers include the carbon footprint of their portfolio of listed equities and, in 80% of cases, they choose to limit their disclosure to this asset class, for which information is easier to obtain. Nevertheless, fourteen signatories, including heavyweights such as AXA, BNP Cardif and APG, together representing about €1.4 trillion in assets (roughly 20% of the total for the disclosers), provide information for a large scope. Eight of them (APG AM, Batirente, Elo Mutual Pension Insurance, Folksam, Impax AM, OP Financial Group, SNS Bank and Varma Mutual Pension Insurance) include their real estate portfolios; ten (ASN Bank, AXA, BNP Paribas Cardif, Candriam, Elo, Environment Agency Pension Fund (EAPF), Op Financial Group, SNS Bank, Varma and Zürcher Kantonalbank) include their holdings in bonds, or at least corporate bonds. Some also include other asset classes in their scope, such as project financing, private equity and infrastructures.

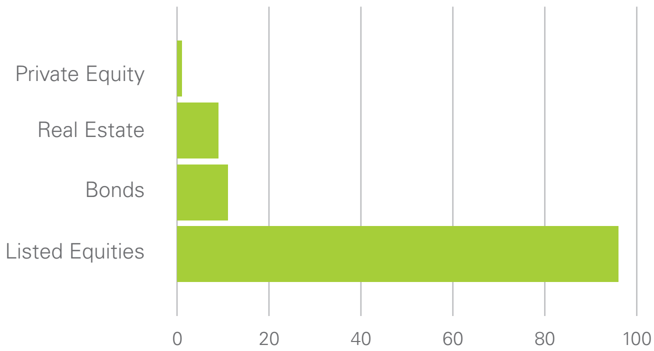
% with clear information on the coverage of CO_2 footprints

Source: Novethic



Asset class covered

Source: Novethic



Only 28 signatories (of whom 40% are pension funds and 40% asset managers) clearly specify the portion of their investments covered by their disclosure. The proportion is, on average, 35%, yet this figure conceals some large differences. Some asset managers have measured the carbon footprint of only a small portion of their assets, while the University of California, the insurer AXA, and the Swedish buffer AP-7 disclose footprints that cover over 75% of their portfolios.

Footprints based on information from specialised data providers

Three quarters of the signatories disclosing their carbon footprint say they have used externally provided data. The most frequently cited providers are Trucost (38 disclosures), South Pole (16), and MSCI (15). These organisations assist investors in collecting data and during the reporting process. In addition, some asset owners like CalPERS in the United States say they use several external data sources to improve coverage or the quality of the analysis. When investors are faced with a lack of emissions data for companies in their portfolios, service providers provide them with estimates based on the companies' business sector and respective turnovers.

Focus on scopes 1 and 2

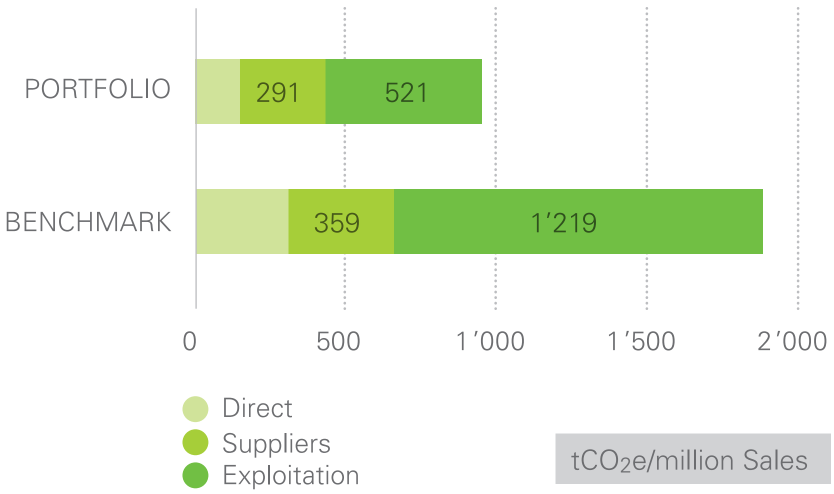
Slightly more than half of the disclosures clearly specify the scope of issuers' CO_2 emissions being measured by the carbon footprint. Four out of five investors limit their measurements to scopes 1 and 2, for which data are easiest to obtain directly from companies. Only about ten Montréal Carbon Pledge signatories try to integrate all or some of scope 3 emissions into their assessments, most of the time through estimates.

Reporting integrating scope 3

There is only one asset owner among them, the pension fund NEST in Switzerland. It has a strong commitment to responsible investment and has applied the EnvImpact methodology of Inrate (Switzerland) to its equity investments (about €500 million, or one third of its assets). Asset managers who go beyond scopes 1 and 2, such as Aviva Investors and HSBC Global AM, include the emissions generated by logistics and by suppliers in the carbon footprint of their investment funds. Others, like ASN Bank in the Netherlands, use the Ecofys methodology to factor in avoided emissions. In France, Mirova uses the Carbon Impact Analysis methodology developed by Carbone4 to combine emissions produced and avoided for Scopes 1, 2, and 3.

Excerpt from the carbon footprint analysis of the equity portfolio of NEST: intensity of greenhouse gases according to the life cycle phase

Source: Nest, Carbon Footprint Report, 30th of november 2015



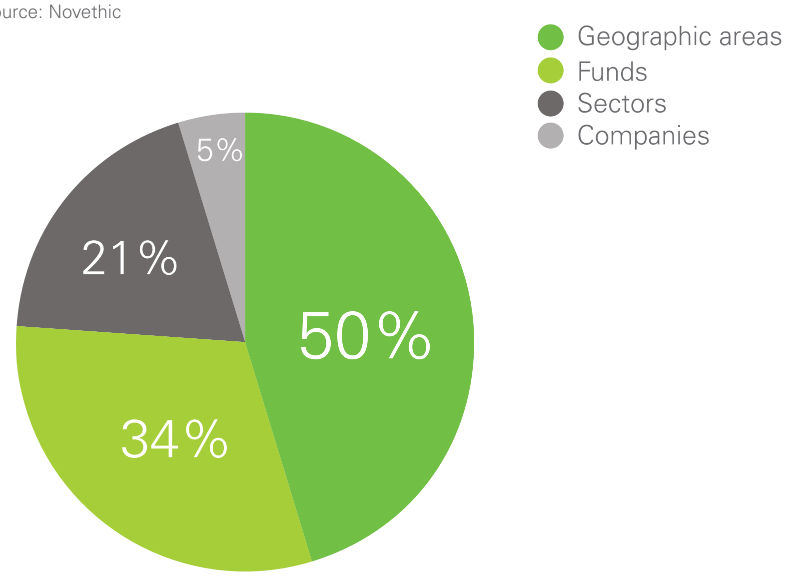
The carbon footprint analysis reported by the Montréal Carbon Pledge signatories show that the initiative has stimulated methodological innovation, particularly in Europe. Yet, besides the diversity and sometimes very innovative methodologies applied, almost all the analysis provides a snapshot of estimates related to current emissions stemming from investors' portfolios. They do not contextualize the portfolio footprints with respect to the 2°C global warming target. However, there are some exceptions: Mirova measures the carbon footprint of its "Mirova Consolidé" portfolio in relation to a 2°C scenario running to 2050; ASN Bank and SNS Bank (Netherlands) state they are, respectively, 45% and 22% along the way to carbon neutrality.

Carbon footprint breakdown

The majority of investors disclose a carbon footprint aggregating all of the assets measured. However, 38 investors (40% asset owners and 60% asset managers) go further and detail the footprint of their portfolio: 50% do so according to geographical area; 34% according to investment fund; 21% according to business sector; and 5% according to company footprint. Nine investors combine several types of breakdowns, allowing the largest emission sources to be more precisely identified.

Carbon footprint broken down by:

Source: Novethic

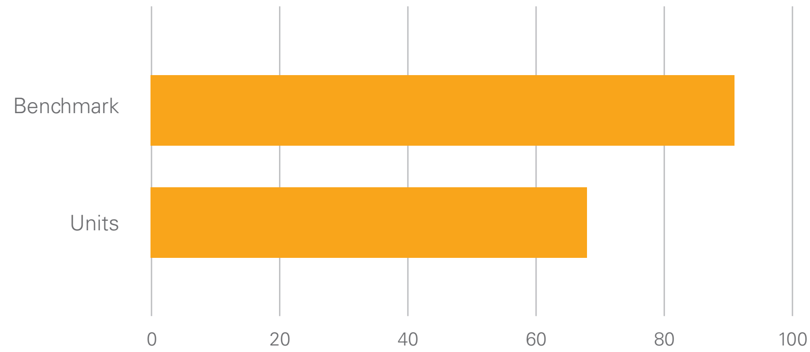


Diverse measurement indicators

Since no carbon footprint standards have been set, each signatory has defined its own indicators. In more than 90% of cases, they define a measurement unit, and about 70% compare their footprint with a benchmark. However, comparisons over time are not yet very common.

Most footprints are measured against benchmarks

Source: Nest, Carbon Footprint Report, 30th of november 2015



No standardised indicators

Several tools are available ranging from the measurement of absolute emissions to indicators per millions of turnover, millions invested or operational production units. Some go even further and attempt to measure emissions avoided through green investments. Consequently, the interpretation of the portfolio's carbon footprint will differ according to the measurement unit chosen. The comparison between two car models illustrates those differences:

Diverse measurement unit possibilies

Manufacturer	**Small**	**BIG**
Model (both gasoline)	**Smart FORFOUR 2**	**Land Cruiser Serie 150**
Consumption in 1/100km	4.3	11.0
Emissions in gCO_2/km	97	248
Tare weight inkg	975	2 100
Sale price in € excl. tax	10 000	50 000
Emissions in tCO_2/€M of annual sales	2 910	1 488
Emissions in tCO_2/year/€M invested	5 820	1 984
Emissions in gCO_2/km/passenger	69	177

Source: Sycomore AM

Investors tend to prefer measuring emissions by millions invested. This is the case for 46 of the 90 investors who have adopted measurement units. More than two thirds are asset owners, with a majority in Europe and particularly in Sweden and France. Next come the measurement of emissions relative to the company's turnover (41 investors), and absolute emissions (tCO_2e) (40 investors)[2]. One third of the group opts for a combination of indicators. Other indicators can be used, such as emissions relative to the firm's market value. Finally, four investors; ASN Bank, Impax AM, Mirova and SNS Bank, also measure emissions avoided through green investments.

(2) These data add together the investors who express their footprint with only one unit and those who express it with several.

Extract from AP1's carbon footprint disclosure: footprint expressed in absolute value; in relation to market value, and in relation to the company's turnover

	Absolute carbon footprint (tCO_2e)		Carbon dioxide intensity in relation to market value (tCO_2e/SEKm)		Carbon dioxide intensity in relation to turnover (tCO_2e/SEKm)	
	Absolute	Relative*	Absolute	Relative*	Absolute	Relative*
Sweden	82 039	– 89%	2,4	– 89%	4,3	– 84%
Developed countries	582 900	– 50%	9,5	– 50%	16,8	– 42%
Emerging markets	423 617	– 32%	33,9	– 32%	46,9	– 21%
Total	1 088 556	– 54%	10,1	– 54%	21,2	– 46%

* The "Relative" columns show the extent of the portfolios' carbon footprint in relation to that of the benchmark portfolios. Negative figures mean that the Fund's portfolio has such a lower footprint than that of the benchmark portfolios.

Extract of the AP2 sustainable development and governance report, June 2014 - July 2015: an example of multiple measurement units

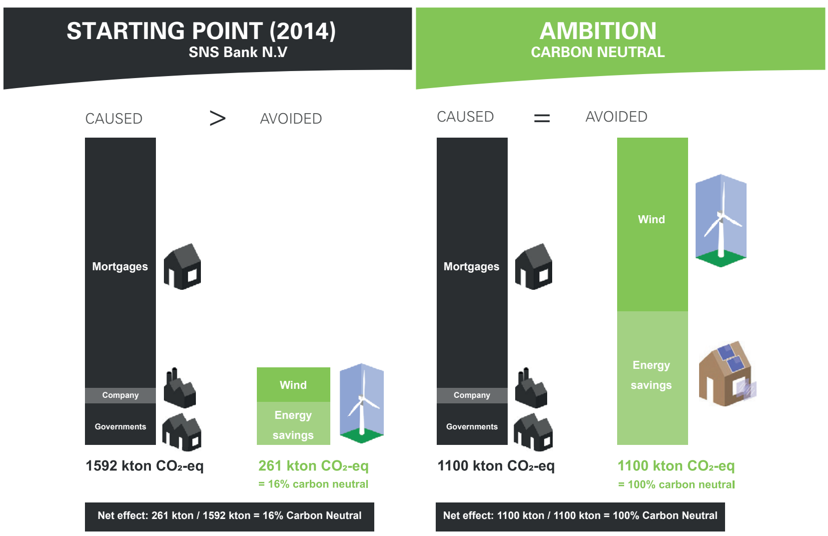
Second AP Fund's carbon footprint as of December 31, 2014

Source: MSCI ESG Research/The Second AP Fund

	Companies' emissions of greenhouse gases (Scope 1 and 2)				Carbon intensity in relation to companies' turnover			
	(tCO_2e)[1]	Adjusted for companies' debt[2] (tCO_2e)	Amount of capital for which data is available (%)	Market value of Fund portfolio for which CO_2e data is available (SEK m, Dec 31, 2014)	Based on portfolio weight (tCO_2e/USD m)[3]	Based on Fund's participation right (tCO_2e/USD m)[4]	Based on Fund's participation right, debt-adjusted emissions (tCO_2e/USD m)[4]	Carbon intensity in relation to the Fund's investment based on participation right, debt-adjusted emissions (tCO_2e/SEK m)[5]
AP2 portfolio of listed equities	3 621 000	2 204 000	92.82	127 562	226	243	199	17.28
MSCI All Country World Index					208	237	198	14.86

[1] CO_2e (carbon equivalent) is a unit of measure that enables a comparison between the climate impact of different greenhouse gases.
[2] The company's emissions multiplied by the ratio 'market value/enterprise value'.
[3] The sum of portfolio weightings multiplied by the ratio 'corporate carbon emissions/turnover'.
[4] The sum of the Fund's share of portfolio-company emissions, divided by the sum of the Fund's share of these companies' turnover.
[5] The sum of the Fund's share of its portfolio-company emissions, divided by the total market value of the Fund's holdings in listed equities.

Extract of the carbon footprint and carbon loss methodology, SNS Bank, November 2015: an example of the avoided emissions calculation



From measurement to risk and performance analysis

In two thirds of the disclosures, the carbon footprint is compared with a benchmark chosen by the signatory. When it is specified (in 70% of the cases), it is generally a generic index, and in the vast majority of cases from the MSCI range.
The portfolio's carbon footprint is below its benchmark's in 82% of the reports. In 28% of the reports, the carbon footprint is compared with several benchmarks selected according to the composition of the funds measured. A composite index is used in 12% of the reports. A major shortcoming of the disclosure process is the small number of reports (24%) that analyse the carbon footprint of investment funds over time.

Novethic has compared a uniform sample of 12 signatories who have calculated their emissions relative to the amounts invested in listed equities, with a methodology limited to Scopes 1 and 2. The results of this comparison are striking: the portfolio carbon footprints range from 101 tCO_2e/€million invested to 452 tCO_2e/€million invested. Such a divergence can be explained in part by differences in allocations by sector and geographic area, but a comparison of benchmarks shows that some of the variation is also due to differences in methodology. One of the investors explains, for example, that its carbon footprint is slightly below the benchmark for MSCI but equivalent to the same benchmark for South Pole.

The diversity of the indicators, the varying scopes and the ill-defined methodologies impede comparisons and demonstrate the need to harmonise the reporting methodologies.

Some signatories, like CalPERS, have chosen to disclose several carbon footprints using a single format, but based on data from different external providers. The footprints differ by as much as 14%, demonstrating the impact of the methodology used to measure carbon intensity.

In addition to the methodological issues, comparisons with a traditional index are only relatively pertinent. They do not enable comparison with a carbon level that is compatible with a 2°C carbon scenario. Only some fifteen investors (two thirds of whom are asset owners) explicitly link their carbon footprint reporting to an assessment of their climate risk. They either proceed by:

- reporting their carbon and ESG risks portfolio audit,
- assessing their companies' carbon risk regarding world's fossil fuel reserves,
- defining their climate change policy (general position and/or portfolio position on fossil fuel energy investments, promotion of the mitigation of climate change),
- assessing the financial exposure of their asset to general impact of climate change.

Among those who do are three Nordic insurance companies (Ilmarninen, Storebrand and Varma) and seven pension funds (AP-2, Batirente, the Fonds de Réserve pour les Retraites (FRR), HESTA, Local Government Super of Australia (LGS), PFZW and PWRI), which together have a total of about €400 billion in assets.

Reduction targets, climate strategy and scenario testing are still uncommon

Although many investors link their carbon footprint disclosure with their shareholder engagement (70%), only 16% associate specific reduction targets with their carbon footprint. They include France's Caisse des Dépôts, CNP Assurances, Humanis and Mirova, in the Netherlands, ABP, ASN Bank, PFZW, PGGM and SNS Bank, in Australia, Catholic Super, Australian Ethical and HESTA, in Scandinavia AP-3 and Varma, and in North America CalPERS and Genus Capital. The targets are generally quantified (for 65%) and dated (for 70%).

Three signatories, Australia's Ethical, ASN Bank and SNS Bank, are committed to achieving carbon neutrality; they have set deadlines ranging from 2030 to 2050.

Also, one quarter of the signatories indicate they have low-carbon strategies, one fifth include divestment (coal, fossil fuels) in their climate policy, and 57% make green investments (green bonds, green infrastructures, renewable energies, etc.).

Responses to PRI's 2016 Reporting Framework highlight the need for stronger global investor action on climate change. Within the G20, a relatively high number of PRI signatories (290 signatories, representing 67% of PRI signatories' assets under management in the G20) reported that they "used emissions data or analysis to inform investment decision-making." Nevertheless, a significantly smaller number (103 signatories, representing 16% of PRI signatories' assets under management in the G20) reported that they had "established a climate change sensitive or climate change integrated asset allocation strategy." Only 88 signatories (representing 22% of total assets under management of G20 PRI signatories) reported that they used "scenario testing".

Overall, these findings indicate that the global investment industry is still developing good practice in actions beyond footprinting, with room for improvement in this area.

Extract from PGGM 2015 Annual Responsible Investment Report

2.2 What We Do in the Area of Climate and Environment

We want to contribute to limiting global warming to below 1.5°C through our investments. We do this by:

- *Investing in Solutions (Section 2.3.1).* We are investing in climate-related solutions, such as sustainable energy and clean technology that contributes to greater efficiency and reduced wastage of raw materials.

- *CO_2 Reduction (Section 2.3.2).* On behalf of our clients we will reduce the CO_2 footprint of the investment portfolio, with the objective of halving it by 2020.

- *Engagement*
  - Market engagement (Section 2.3.4). We encourage policymakers to formulate national and international laws and regulations that recognise the urgency of climate change. Climate policy must contribute to a change in behaviour among companies.
  - Company engagement (Section 2.3.3). By combining CO_2 reduction measures in the portfolio with a dialogue about these measures with companies, we stimulate them to change their behaviour and to operate more efficiently. We focus on the most CO_2-intensive sectors, namely utilities, energy and materials. Our aim is that by 2020 all companies in these sectors will report on their CO_2 emissions and that the most CO_2-intensive companies on average have increased their CO_2 efficiency by at least 25 per cent in comparison to 2014. Finally, we urge companies that run the risk of being hardest hit by climate policy and stranded assets, to adopt better risk management and to make a positive contribution to the transition to clean energy. Our aim is that by 2020 the major companies in the energy sector will have integrated the risks and opportunities inherent in the energy transition into a long-term strategy consistent with the 1.5°C scenario.

- *ESG Integration.* We incorporate material climate opportunities and risks into our investment processes.

Analysis of best practices

A selection of 12 signatories

Among the portfolio carbon footprints disclosed by 97 signatories, Novethic has identified the most comprehensive ones based on the quantity and quality of the information provided and their integration into a more global climate strategy. Twelve signatories have been selected for their good practices: pension funds (AP-4, ASN Bank, CalPERS, Environment Agency Pension Fund (EAPF), and Local Government Super (LGS) of Australia), asset managers (Impax A M, La Banque Postale A M, Mirova), insurance companies (Storebrand and Varma), and other organisations like the Fonds de Réserve pour les Retraites (FRR) and SNS Bank. The best players are not necessarily the biggest investors. Only CalPERS (€264 billion) and La Banque postale AM (€140 billion) manage assets worth more than €100 billion. Others are between €2 billion and €63 billion.

● Detailed information on these signatories' publications

All of them indicate the scope of assets measured. Almost all of them indicate the scope of their issuers' carbon footprint and use an external provider (11/12). Two thirds compare their carbon footprint with a benchmark and have results below that benchmark. Five of them (AP-4, the FRR, La Banque Postale AM, LGS and Storebrand) use several benchmarks to take into account the geographical diversity of their investments. Some specify investment funds, geographic areas or sectors in their carbon footprint, thus providing the detailed information needed to analyse the breakdown of the carbon footprint in one or more of the portfolios measured. For example, Mirova indicates for its equity funds the ten lines emitting the most greenhouse gases and the ten main contributors to avoided emissions.

● Insightful climate risk analysis

Half (FRR, Impax AM, LGS, Mirova, Storebrand and Varma) have included a climate risk analysis in their carbon footprint. This analysis differs depending on the investor. For example, the FRR calculates the number of companies whose turnover comes wholly or partially from the exploitation of fossil fuel reserves and the total value they represent in their portfolio. It then compares this value to its benchmark index. LGS presents an analysis of the carbon risk of its portfolios of Australian and international equities. This report assesses the carbon risk of each business sector and compares it to the benchmark index. It also assesses what is called "Carbon Management". Impax AM has analysed the economic risks of the composition of the MSCI World Energy Index using a specific carbon price scenario. Based on this assessment, this asset manager decides on divestment from high risk assets and reallocates to goods or services that improve energy efficiency.

● Disclosures linked to others' climate actions

Two thirds of this group manage a portion of their assets using low-carbon indexes or targets in a specific time horizon. Half have also signed the Portfolio Decarbonization Coalition: AP-4, ASN Bank, CalPERS, the EAPF, the FRR and LGS. Two thirds combine carbon footprint measurement with a shareholder engagement policy. Although fewer than half have committed to divestment, all engage in some form of green investment (green bonds, renewable energies, etc.). Ten of them take two or more types of action aimed at reducing their impact on climate change and supporting the energy transition (low-carbon index management, shareholder engagement, divestment from fossil fuels (all or some), and green investments). CalPERS, the EAPF and LGS combine all these various strategies.

Overall, the Montréal Carbon Pledge has been a very successful initiative, encouraging signatories to initiate measurement and disclosure and to reflect upon available methodologies. As a result, a large majority of signatories have disclosed their carbon footprint, even if the methodologies are far from stable and uniform. The initiative is also useful for non signatories in the sense that it shows that carbon footprinting is applicable to all kinds of investors, including the largest ones.

An in-depth analysis of the carbon footprint disclosures made under the framework of the Montréal Carbon Pledge shows that under the impetus of this initiative, its signatories have innovated in assessing and measuring their carbon impacts. Yet it also reveals a lack of uniformity in the calculations, initial data, and methodologies.

This unprecedented move reflects the strong investor mobilisation that preceded the COP21, and testifies that all types of investors can implement climate disclosure, including the largest and most diversified. This conclusion is a call to investors that put forward complexity as an obstacle to taking action.

Yet, owing to poor peer comparability; measuring a carbon footprint is meaningful only to the extent that it is associated with a commitment to carbon emission reduction. The best forms of climate objectives are the most rigorous ones, ranging from carbon neutrality to 2°C road maps.

If these encouraging results are to be followed by more positive effects and new commitments, it will undoubtedly be necessary to do more to promote best practice. Signatories will also have to be encouraged to adopt carbon reduction targets and to extend their carbon footprint measurements to all of their asset classes.

A final point concerns the reliability of portfolio carbon footprint measurement: it depends on the quality of the information supplied by issuers and there is still room for improvement. The shareholder engagement practiced by a large majority of the signatories is an important guarantee of their desire to have their voices heard. It is very possible that the signatories of the Montréal Carbon Pledge will try to persuade their fellow PRI signatories to join them in an initiative dedicated to evaluating the carbon risks with the aim of adopting management compatible with the 2°C global warming target.

What is the future direction of the Montréal Carbon Pledge?

To enable more investors to take action on climate change, the Montréal Carbon Pledge remains open for investors to join. Looking forwards, PRI will prioritise the following to support Montréal Carbon Pledge signatories in overcoming industry challenges identified by Novethic in this independent review:

- **Engagement with companies:** Improvements in company emissions disclosure will improve the quality of portfolio carbon footprinting data. We encourage investors to join *Corporate Carbon Footprint Disclosure*, a new PRI-led engagement. This is a collaborative initiative to encourage companies to disclose their scope 1 and 2 emissions. https://www.unpri.org/group/pri-led-engagement-on-corporate-carbon-footprint-disclosure-2418

- **Collaboration with policy makers:** Consistent company disclosures will assist investors in portfolio-level assessment of risks and opportunities. We encourage investors to collaborate with the Financial Stability Board Task Force on Climate-related Financial Disclosures. PRI will continue to input actively to this Task Force, encouraging a global, top-down reporting framework for climate-related risks and opportunities. https://www.unpri.org/download_report/16438

- **Actions beyond footprinting:** Investors can build on their experience of portfolio carbon footprinting and undertake further actions on climate change, through a step-by-step approach. We encourage investors to review PRI's guidance, *Developing an Asset Owner Climate Change Strategy:* https://www.unpri.org/download_report/6113. PRI will continue to support and enhance investorsonclimatechange.org, a collaborative investor action platform and resource listing initiatives an investor can join.

The Montréal Carbon Pledge has supported collective global investment industry action on climate change, making an important contribution to the PRI's future work in this area. Novethic's research identifies that individual leaders played an important role in motivating the industry to act, including six founder signatories[3] and the twelve innovators of good practice identified in this report. As early adopters of disclosure, Montréal Carbon Pledge signatories are well positioned for policy developments that follow from The Paris Agreement and developments in disclosure frameworks as evidenced in the establishment of the Financial Stability Board Task Force on Climate-related Financial Disclosures.

Nevertheless, the PRI concludes from this review that the Montréal Carbon Pledge is not enough:
- *Carbon footprinting does not equate to a full, forward-looking assessment of risks and opportunities relating to climate change;*
- *There are steep, uneven steps from disclosure of a carbon footprint to its use for further actions such as engagement and voting, to establishment of a fund-level investment strategy incorporating climate-related risks and opportunities; and*
- *Inconsistent company disclosures impact significantly on the quality of risk assessments investors can make, acting as a real barrier to investors mounting these different steps.*

Ultimately, PRI's success will not be measured by the number of investors signing on to the Montréal Carbon Pledge, but by our influence on global industry investment practices in climate change.

Looking ahead, the PRI will therefore aim to scale up from the Montréal Carbon Pledge and support the entire PRI signatory base on climate change.

We would like to thank all Montréal Carbon Pledge signatories for leading the way for the global investment industry. We welcome your contribution to further evolution in industry good practice in assessment, management and disclosure on climate-related risks and opportunities.

Martin Skancke, PRI Chair

Acknowledgements

Novethic would like to thank PRI for their support and especially Sagarika Chatterjee for taking time to provide valuable input to this report, as did Fiona Reynolds, Nathan Fabian, Joy Frascinella, Mandy Kirby, Karen Williams and also Helena Charrier from Caisse des Dépôts.

PRI would like to take this opportunity to thank Novethic, our founding Montréal Carbon Pledge signatories and PRI's partners for their support for the Montréal Carbon Pledge; UNEP FI, UNGC, IIGCC, CDP, the Investor Network on Climate Risk/Ceres, Investor Group on Climate Change and AIGCC. We also extend our sincere thanks to Ms Christiana Figueres, Executive Secretary, UNFCCC, for her strong leadership and support for investor action.

(3) Founder signatories to the Montréal Carbon Pledge: Etablissement du Regime Additionnel de la Fonction Publique, PGGM Investments, Batirente, The Joseph Rowntree Charitable Trust, the Environemtn Agency Pension Fund and CalPERS.

Montréal Carbon Pledge
signatories (as of May 2016)

United-Kingdom (20)
Alliance Trust PLC; Aviva Investors; CCLA IM; Central Finance Board of the Methodist Church (The); Church Commissioners (Church of England); Church of England Pensions Board; Environment Agency Pension Fund (EAPF); Epworth Investment Management Ltd; Hermes Fund Managers; HSBC Global Asset Management; Impax Asset Management; Joseph Rowntree Charitable Trust (The); Low Carbon Limited; Old Mutual; Pensions Trust (The); Rathbone Greenbank Investments; RPMI Railpen; Temporis Capital LLP; Universities Superannuation Scheme (USS); WHEB Group

France (17)
Amundi AM; AXA Group; BNP Paribas Investment Partners; BNP Paribas Cardif; Bpifrance; Caisse des Dépôts (CDC); Candriam Investors Group; CNP Assurances; Edmond de Rothschild Asset Management; ERAFP; Fonds de Réserve pour les Retraites (FRR); Humanis; Investisseurs et Partenaires; Ircantec; La Banque Postale AM; Mirova; Sycomore

The Netherlands (17)
ABP (Stichting Pensioenfonds); Actiam; APG Asset Management; ASN Bank; Double Dividend; MN Services; Ownership Capital; PFZW; PGGM; SNS Bank N.V.; Spark / IGNITE fund; Stichting Bedrijfstakpensioenfonds voor de Bouwnijverheid (bpfBOUW); Stichting Pensioenfonds Metaal en Techniek; Stichting Pensioenfonds van de Metalektro; Stichting Pensioenfonds voor de Woningcorporaties; Stichting Pensioenfonds Werk en (re) Integratie (PWRI); Zwitserleven

Sweden (14)
Alecta pensionsförsäkring, ömsesidigt ; AP-1; AP-2; AP-3; AP-4; AP-7; Folksam; Handelsbanken Asset Management; Länsförsäkringar AB; Mistra, The Swedish Foundation for Strategic Environmental Research; Nordea AM; Öhman Fonder; Skandia; Swedbank Robur Fonder AB

Australia (10)
Australian Ethical Investment Ltd.; BT Financial Group; Catholic Super; Commonwealth Superannuation Corporation; HESTA superannuation fund for the health and community service; Local Government Super of Australia (LGS); Plato Investment Management Limited; Solaris Investment Management; UCA Funds Management; VicSuper

United-States (10)
Asset Management Fund (AMF); Boston Common AM; CalPERS; Calvert Investments; Nathan Cummings Foundation; Pax World Investments; Sustainability Group of loring, Wolcott and Coolidge ; Thomson, Horstmann & Bryant; Trillium AM; University of California

Canada (8)
Addenda Capital; Batirente; Co-operators Group Limited (The); Corporate Knights; Genus Capital Management; Toronto Atmospheric Fund (City of Toronto); United Church of Canada; University of Ottawa

Finland (5)
Church Pension Fund (Finland); Elo Mutual Pension Insurance; Ilmarninen mutual pension insurance company; OP Financial Group; Varma Mutual Pension Insurance Company

Austria (3)
Erste Asset Management; Raiffeisen Capital Management; VBV - Vorsorgekasse AG

Japan (3)
DIAM Co., Ltd.; Mitsubishi Corp. – UBS Realty Inc.; Secom Pension Fund

Germany (3)
SEB Investment Management; Steyler Bank; Union Investment Asset Management Holding

Switzerland (3)
Ethos Foundation Switzerland; Nest Sammelstiftung; Zurcher Kantonal Bank

Italy (2)
Cometa Fondo; Etica SGR S.p.A.

Norway (1)
Storebrand

Ghana (1)
Mustard Capital Partners

Spain (1)
Pensions Caixa 30

Denmark (1)
Sparinvest SA

Singapore (1)
Arisaig Partners

Montreal Carbon Pledge
accelerating investor climate disclosure - September 2016

In partnership with

A Novethic research paper, written by Marie Marchais and Dominique Blanc
with contributions of Marguerite Bonnin and Anne-Catherine Husson-Traore