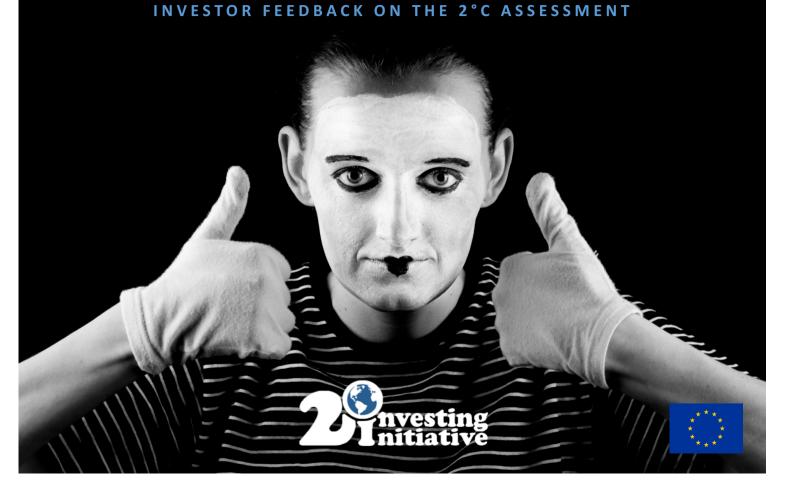
LISTENING TO THE SILENT MAJORITY:



EXECUTIVE SUMMARY

The 2° Investing Initiative as part of the Sustainable Energy Investing Metrics Project (see Annex II) launched an assessment framework to measure the 2°C alignment of listed equity portfolios at COP21 in Paris in 2015. This report summarizes the feedback it has received on the assessment from investors, NGOs, policymakers, and experts as well as the next steps of the project.

Since launching the assessment, 100 investors across 16 countries (Fig. 1 pg. 3) have committed to testing their listed equity portfolios, testing approximately \$350 billion USD of equity, as well as 20 investment products. Following the first round of roadtest, the 2° Investing Initiative has initiated feedback on the model, including investor interviews, third-party consultations, as well as a quantitative survey among the investors who have road-tested the model. The key results can be summarized as follows:

- 21 out of the 24 (88%) investors surveyed said the model was 'equally relevant' or 'more relevant' than the existing climate
 assessments.
- 21 out of 24 (88%) investors said they were likely to use the assessment in investment decisions either now or are as part of portfolio tool on a financial database.
- On average, investors found data at portfolio and company level the most relevant. 21 out of 24 investors found data at either portfolio or company level very or highly relevant.

Key strengths of the model were considered to be its forward-looking nature, reliance on asset-level data, use of science-based benchmarks, and sector-specific analysis. Its weaknesses were its lack of coverage in terms of asset classes, geographies, and sectors, all three of which are currently being addressed.

In 2017-18, 2ii is launching the free corporate bonds portfolio test (investors can submit portfolios starting from now), a partnership with the Swiss government on road-testing with Swiss pension funds and insurance companies, partnerships with financial regulators on performing in-house assessments, as well as extending the model to integrate risk elements.

INVESTOR QUOTES ON THE MODEL (ANONYMOUS)

"...the most relevant tool in the field at the moment..."

"...very useful for us in understanding how our portfolio stands relative to the 2 degree benchmark..."

"We plan to use the analysis in reporting our climate performance, and in our design of climate related targets."

"An excellent initiative which deserves wide adoption and engagement to allow users to zone in on the risks of misalignments at a company level"

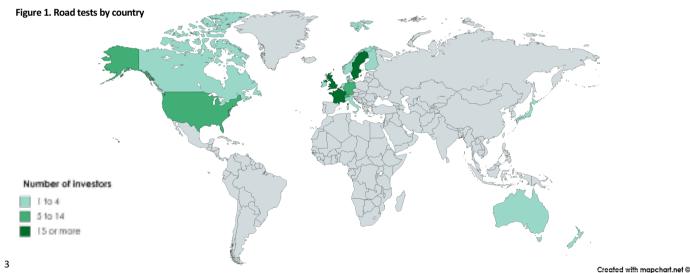
"Very useful analysis and looking at an aspect of carbon risk that to date remains relatively under-studied."

"The analysis could be of great help for AOs and AMs that are not used to thinking about carbon risk."

THE ROAD TEST IN NUMBERS AND NAMES

Since launching the assessment, 100 investors across 16 countries (Fig. 1) have committed to testing their listed equity portfolios, testing approximately \$350 billion USD of equity, as well as 20 investment products. Including index assessment, these tests have covered over 80% of developed markets stock markets and the two investors that won the 2016 2° invest awards both applied the model (AXA and TPT retirement Solutions). To put this number into context, around 125 investors have signed the Montreal pledge and 25 have joined the Portfolio Decarbonization Coalition.

As part of the road-test, 2°ii collected feedback via bilateral interviews from over 30 investors, and as part of an anonymous survey involving a sample of 24 investors (see Annex 1 for survey questions). 2°ii has also shared the model with a number of external stakeholders including universities, think tanks, and policymakers. This report summarizes the feedback from this process, linking qualitative and quantitative feedback. Since the survey was done anonymously, we cannot exclude the change of sampling bias in the results.

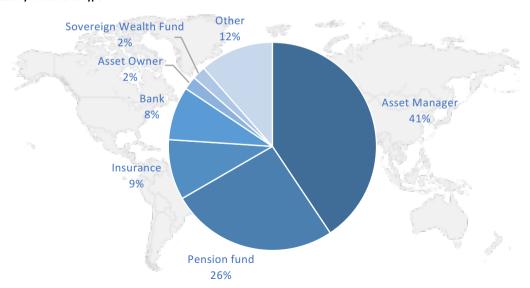


THE ROAD TEST IN NUMBERS AND NAMES (Continued)

In addition to road-testing the model directly with investors, 2° Investing Initiative has assessed over 1500 portfolios and companies in partnership with a range of institutions, including the UNEP Inquiry, University of Zurich, BankTrack, and WWF. Elements of the assessment have also been provided for the OECD and the International Energy Agency (IEA) as part of their World Energy Investment report 2016.

One further road-test is currently under way with a European financial regulator, with two additional partnerships with financial regulators planned in 2017. In addition, the model will be provided on a voluntary basis for all Swiss pension funds and insurance companies in partnership with the Swiss government in 2017.

Figure 2. Road tests by institutional type



SUMMARY OF THE MODEL

The objective of the assessment framework is to measure the alignment of financial portfolios with 2°C decarbonisation pathways. Specifically, the framework quantifies a financial portfolios exposure to a series of climate-related technologies and benchmarks this exposure to targets reflective of a 2°C transition, as defined in energy-technology roadmaps. The result is thus a misalignment indicator that measures the extent to which current and planned assets, production profiles, investments, and GHG emissions are aligned with a 2°C trajectory (see Figures on right).

The model does not pre-define macroeconomic trends or shocks, but rather creates a 'translation software' that maps forecasted macroeconomic trends and shocks to financial portfolios. The model assesses the 2°C alignment of financial portfolios with a 5-year time horizon / forecast period.

The model assesses the 'technology exposure' of portfolios across a range of climate-relevant business segments and sectors. At this stage, it covers fossil fuels, power, and transport (light-passenger duty vehicles, airplanes). Indicators are considered either in 'aggregate exposure' terms or 'trajectory terms' (i.e. investments, asset additions / retirements, changes in production profiles).

The model sources, where possible, asset-level data for key technologies in order to provide for forward-looking, geography-specific assessments for specific business segments. It thus bypasses wherever possible backward-looking, corporate level reporting.

Figure 3. 2°C alignment 'donut' summary chart

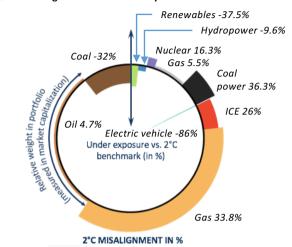
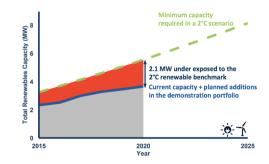


Figure 4. Sample renewable power exposure trend chart





2. FOCUS ON FEEDBACK

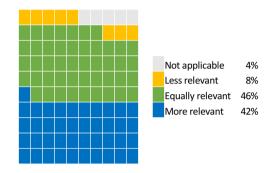
HOW USEFUL IS THE MODEL?

21 out of the 24 (88%) investors surveyed said the model was 'equally relevant' or 'more relevant' than the existing climate assessments. Of the 2 investors that responded they found it less relevant, both said they were still likely to use it, with one of the two investors suggesting its use in "identifying companies to engage with regarding future business plans". The other investor criticized the limited scope but suggested he or she would use it upon expansion.

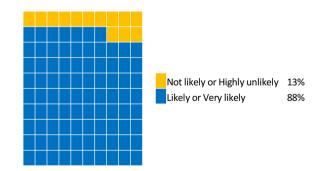
21 out of 24 (88%) investors said they were likely to use the assessment in investment decisions either now or are as past of portfolio tool on a financial database. Interestingly, the qualitative feedback and comments suggests the use case is quite different between investors, with some seeing it as a tool for engagement ("inform discussions [with companies] on stranded asset/climate risk in relation to future plans") and others for stock-picking ("design of climate-related targets").

Of the three investors who said they were not likely to use the assessment, one wrote that they only use external managers and thus were more likely to use the tool "as a check". Another investor criticized the current scope arguing for the need to expand it to other sectors and asset classes, but still found the tool "more relevant' than their existing assessments. The final investor provided written feedback that they "have used it because it is said to be the most relevant tool in the field at the moment and we will wait for it to expand to emerging markets and different asset classes."

88 % said the model was equally or more relevant than existing assessments



88% said they were likely or very likely to use the assessment

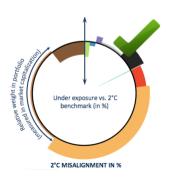


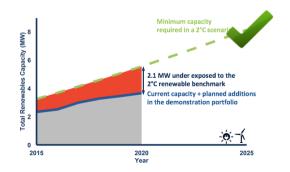
WHICH ANALYTICAL BRICKS ARE THE MOST RELEVANT?

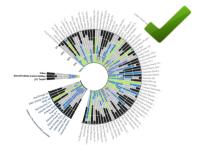
On average, investors found data at portfolio and company level the most relevant. 21 out of 24 investors found data at either portfolio or company level very or highly relevant. This result aligns with the the impressions from the qualitative feedback. Inversely, only 12 of the 24 investors considered asset data line by line very or highly relevant.

In terms of key figures, only 1 out of 24 investors found the information on technology weights the most material. Based on the qualitative feedback, most investors found this graphical representation the most intuitive to understand. The quantitative survey suggests this was not the primary analysis of interest with about one-third of investors choosing the the aggregate 'donut' charts, the forward-looking 'line charts', or the company level 'wheel of fortune' charts as the most interesting respectively (see below).

While many investors asked for more high-level, 'summary' take-away charts, qualitative feedback suggested the current visuals were not intuitive. The majority of investors in interviews found the 'donut charts' hard to interpret, although a few investors in turn found this chart the most intuitive. One key challenge expressed with regard to the analytical bricks is more clearly demonstrating their interaction and the 'take away' message.







WHAT ARE THE MODEL'S STRENGTHS?

The following summarizes the key positive elements or strengths identified with regard to the 2°C portfolio assessment framework:



Investors highlighted as a critical innovation the **forward-looking nature of the assessment**, in particular compared to the current class of carbon footprint data. Forward-looking data is the pre-requisite for comparing portfolios to economic trajectories (see below) and linking portfolios to future risks:



The use of **high-quality asset level data** is another critical feature of the model, reducing the misleading elements of climate-related data, circumventing to a large degree gaps in corporate reporting, and allowing for regional-specific assessments;



Sector-specific analysis allowed for a more granular deep-dive than high-level one size fits all indicators. While the limitation to some sectors was considered a shortcoming by some investors (see next page), the model covers around 80% of the GHG emissions of a typical portfolio. It thus addresses the key sectors from a climate perspective:



The development of a **2°C**, science-based benchmark appeared as another key innovation, allowing investors to benchmark themselves not just against the market, but also against climate goals and the Paris Agreement commitments.



Usability for engagement and stock-picking appeared as a key advantage for investors looking to find meaningful corporate assessments across all companies exposed to climate-related infrastructure for fossil fuels, power, and automobile transport. While this was described as a positive feedback, investors also commented that they felt a need for more guidance on how to use the model

WHAT ARE THE MODEL'S FLAWS?

The following summarizes the key flaws identified as part of the feedback of the model



One key limitation to the road test is its **limitation to listed equity**. For many investors, listed equity only constitutes a small part of their portfolio. Moreover, other asset classes are more relevant from a financing perspective

Response: 2ii launched the model for corporate bonds in October 2016. Further work on sovereign bonds, real estate, and credit is under way.



The road-tested was only open to developed markets portfolios, excluding developing markets.

Response: The model has since its launch been extended and now covers emerging markets.



One of the most frequently cited shortcomings of the model in the anonymous written feedback was **its limited sector coverage**, given its focus on ~20% of the portfolio. The model misses key business segments (e.g. buses, bicycles, carsharing, upstream supply chain, etc.).

Response: Developments are under way to integrate other sectors, with aviation and shipping planned for 2017. It should be noted that extension will be limited given the limited sectors that can be benchmarked to 2°C and their relatively marginal market capitalization.



SRI and thematic investors argued that the model could not fully capture their thematic tilts.

Response: The model was designed to test mainstream portfolios top-down and thus can at best be complementary for thematic investors



The model results are **complex** and cannot be distilled to a single number

Response: 2ii is working with partners on defining 'aggregated results' for the assessment.



3. LOOKING TO THE FUTURE...

THE NEXT STEPS FOR 2°C PORTFOLIO ASSESSMENT...

The following summarizes the vision for the 2°C portfolio assessment and related work

- Expansion of free road-tests. 2° Investing Initiative is launching the free road-test of corporate bonds portfolios starting in Q1 2017. Investors can start sending corporate bonds portfolios starting from now. The road test will be open to all interested investors until the end of 2017. Investors who are interested in re-testing their listed equity portfolios or those who haven't tested to date may also re-apply for the road-test.
- Improving the data. Despite the high quality of asset data there are still some shortcomings, notably questions around matching physical assets correctly to subsidiaries, parent owners, and financial securities. A report testing the sensitivity to company consolidation rules and subsidiary matching will be published Q2 2017.
- Integration of risk indicators. 2° Investing Initiative is leading a parallel research project on climate-related risk metrics in financial markets. The *Energy Transition Risk* project (ET Risk) involves Oxford University Smith School Sustainable Finance Programme, S&P Global, Kepler-Cheuvreux, CO-Firm, Carbon Tracker Initiative, and I4CE. As part of this work, 2ii will seek to connect the dots between 2°C portfolio assessments, economic risk, and financial risk assessment adding a meaningful risk analysis layer over the portfolio tool. First results on this work are expected in the first half of 2017.
- Integration into portfolio optimization tool. 2° Investing Initiative is working with a number of financial data platforms and ESG consultancies to integrate the 2°C framework and benchmarks in an online tool by the end of 2017. In addition the model's source code will be made publicly available.
- **Development of financial products.** A critical next step for the model will be to inform product design and mandates. 2ii has started exploring these pathways with index providers, asset managers and asset owners.
- Partnerships with regulators and policymakers. In 2017-18, 2° Investing Initiative will partner with the Swiss government on road-testing with Swiss pension funds and insurance companies, as well develop partnerships with financial regulators and perform in-house assessments.

ANNEX I: SURVEY QUESTIONS

- 1. Please describe your institution...
- 2. Please let us know where you are based...
- 3. How does the 2°C assessment framework compare to other 'climate assessments' you have done in terms of ability to integrate into investment decisions / portfolio management?
- 4. How likely would it be for you to use the assessment in your investment decisions or shareholder engagement processes?
- 5. How likely is it that you would use the assessment if available on a financial database platform as part of a portfolio optimisation tool?
- 6. Which of the following data points do you think would be most relevant for your use case?
 - 1. Data at portfolio level
 - 2. Data at aggregate company level
 - 3. Data at company level by region
 - 4. Data of all the assets owned by a company
- 7. What are the most relevant / most interesting aspects of the assessment?
- 8. What other types of results would you find the most interesting? (multiple answers possible)
- 9. Please briefly summarise, if applicable, how you have used the assessment to date or how you would potentially plant to use it in the future. What if anything is missing from the current assessment to allow this?
- 10. What are the biggest flaws / gaps in the 2°C assessment framework? What are the needed next steps to improve the test?
- 11. Please add any other comments you may have.

ANNEX II: SUSTAINABLE ENERGY INVESTING METRICS PROJECT

The SEI metrics consortium consists of 10 organizations, including the 2° Investing Initiative, CIRED, CDP, WWF European Policy Office, WWF Germany, Frankfurt School of Finance & Management, University of Zurich, Kepler-Cheuvreux, and the Climate Bonds Initiative. The project was designed with the objective of developing science-based assessment frameworks, benchmarks and tools to measure the 2°C alignment of financial portfolios, ww.seimetrics.org

Their involvement in this project does not constitute an endorsement of the messages in this document. This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 649982. The project aims to develop a climate performance framework and associated investment products that measure the exposure of financial portfolios to the 2°C economy. The report only reflects the author's view and the European Commission/EASME is not responsible for any use that may be made of the information it contains.























The 2° Investing Initiative [2°ii] is a multi-stakeholder think tank working to align the financial sector with 2°C climate goals. We are the leading research organization on climate-related metrics for investors. Our research work seeks to align investment processes of financial institutions with climate goals; develop the metrics and tools to measure the climate friendliness of financial institutions; and mobilize regulatory and policy incentives to shift capital to energy transition financing. The association was

founded in 2012 and has offices in Paris.

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