



# Taking the Plunge

A Stocktake of National Financial Sector  
Climate Alignment Assessments  
November 2021



**Authors:** Dr. Jakob Thomä, Maarten Vleeschhouwer, Daisy Pacheco, Nayra Herrera, Catarina Braga

## About 2° Investing Initiative

The [2° Investing Initiative](#) (2DII) is an independent, non-profit think tank working to align financial markets and regulations with the Paris Agreement goals. Globally focused with offices in Paris, New York, Berlin, London, and Brussels, 2DII coordinates some of the world’s largest research projects on sustainable finance. In order to ensure its independence and the intellectual integrity of its work, 2DII has a multi-stakeholder governance and funding structure, with representatives from a diverse array of financial institutions, regulators, policymakers, universities, and NGOs.

## About our funders

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## Foreword



This December marks the sixth-year anniversary of the adoption of the Paris Agreement. The Agreement defines a societal, political, and economic agenda for our time.

That agenda is built on three key pillars. The first is to hold the increase of global temperature to well-below 2°C above pre-industrial levels and to pursue efforts to limit temperature rise to 1.5°C. The second is to increase climate resilience and adaptation. And the third focused on ensuring that financial flows are consistent with a low-emission and climate resilient development pathway.

Achieving the goals of the Paris Agreement requires tracking progress against them. When countries agreed in Paris to ensure that financial flows would be consistent with a low-emission and climate resilient development pathway, measurement tools to track progress towards this goal were still lacking.

In response to this challenge, the Swiss and Dutch governments initiated an international governmental effort to elevate the tracking of financial sector alignment with climate goals. Since launching the first pilot in 2017, 15 jurisdictions as well as supervisors at European Union level have launched national financial sector assessments.

The collaboration between research and policy has led to over 2,600 financial institutions and over €11 trillion in assets being analysed to date. Open-source and multi-stakeholder approaches like the Paris Agreement Capital Transition Assessment (PACTA) now enable governments and financial supervisors to measure and benchmark progress against the Paris Agreement.

This report is the first stocktake of assessments of national financial sectors' alignment with climate goals. We welcome and are proud of the progress achieved to date, while recognizing that further steps are needed. Over the next 4 years, we hope to contribute to a broader coalition that expands this work around the globe. We are confident that countries will continue to assess the alignment of their national financial sector with climate goals on a regular basis so that we can collectively benchmark progress in the future in a meaningful way.

Financial flows today will determine the structure of our economies tomorrow. Ensuring their alignment is thus a core element to achieve the climate goals.

*Dr. Franz Perrez, Ambassador for the Environment, Switzerland*

*H.R.H. Prince Jaime Bourbon de Parme, Climate Envoy of the Netherlands*

# 1. Introduction

**Six years after the Paris Agreement, the best scientific evidence suggests the climate crisis is accelerating.<sup>1</sup>**

The Intergovernmental Panel on Climate Change (IPCC) finds that scientists are observing unprecedented changes in the Earth's climate in *every* region and across the *entire* climate system. Some of the changes already set in motion such as continued sea level rise are irreversible and set to impact the planet over centuries. To have a shot at keeping warming to well below 2C and ideally 1.5C, the latest report from the UNFCCC shows that emissions will need to decline by 45% by 2030 compared to 2010. Unfortunately, based on the most recent Nationally Determined Contributions, emissions are in fact expected to rise by 16%.<sup>2</sup>

**Fighting climate change requires a fundamental redesign of our societies and economies, which in turn requires significant investments.**

The way we eat, drive and fly must be reformed. The way we produce steel, cement, chemicals, and plastics must be reformed. Our agricultural and land use systems must be reformed. All of this, and more, will require unprecedented investments from both the public and private sector. The financial sector must phase out high-carbon finance, unlock financing for innovative green projects, and help shift the trillions.

**A crucial component in the Paris Agreement is the requirement to align capital flows with climate goals.**

Article 2.1.(c) of the Paris Agreement states requires making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development. However, progress in aligning capital flows at the global level has been difficult, mainly because of the challenges in adequately measuring climate-related financial flows. Measuring alignment of capital flows requires a forward-looking assessment, which in turn requires scenarios and forward-looking data on company and portfolio performances. Unfortunately, scenarios and forward-looking data only exists for a select few sectors.

**Current attempts at measuring progress against Art. 2.1c often try to assess overall global alignment and do not consider the specific role of private finance.**

The UNFCCC Biennial Assessment of Global Climate Finance Flows provides a global overview, with a significant emphasis on public finance flows. Work from NGOs like Climate Policy Initiative or private organizations like BNEF track financial flows without the ability to trace the financing sources across individual institutions. While these are all important exercises, they miss the national component of progress-tracking inherent to the COP process.

**In response to this gap, the Swiss and Dutch governments initiated a global call to action on conducting national financial sector assessments designed to measure the alignment of financial flows across domestic financial institutions with climate goals.**

The initiative was launched in 2019, building off the first such exercise piloted in Switzerland in 2017. As part of this initiative, governments commit to help their financial sector measure their alignment with climate goals. It is supported by 8 governments, including Luxembourg, Austria, Sweden, and Norway. In parallel, financial supervisors and central banks have launched assessments of their regulated entities' portfolio alignment across a number of jurisdictions in both developed and emerging markets. In some countries, industry associations have initiated their own coordinated exercises in parallel or in place of government initiatives.

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<sup>1</sup> <https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/>

<sup>2</sup> <https://unfccc.int/news/full-ndc-synthesis-report-some-progress-but-still-a-big-concern>

## 2021 marks a turning point in the agenda.

Following on initial projects focused exclusively on insurance companies (UK) or insurance companies and pension funds (Switzerland), projects now cover asset managers, banks, insurance companies, and pension funds, listed and non-listed corporate credit, equity, real estate, and mortgages, as well as an overview of climate relevant measures of financial institutions, captured with a qualitative survey. Projects are coordinated by governments, financial supervisors, and private sector associations. By repeating the exercise in 2020, Switzerland became the first country to run the exercise a second time, allowing for not just ‘alignment’ but also ‘progress’ measurement.

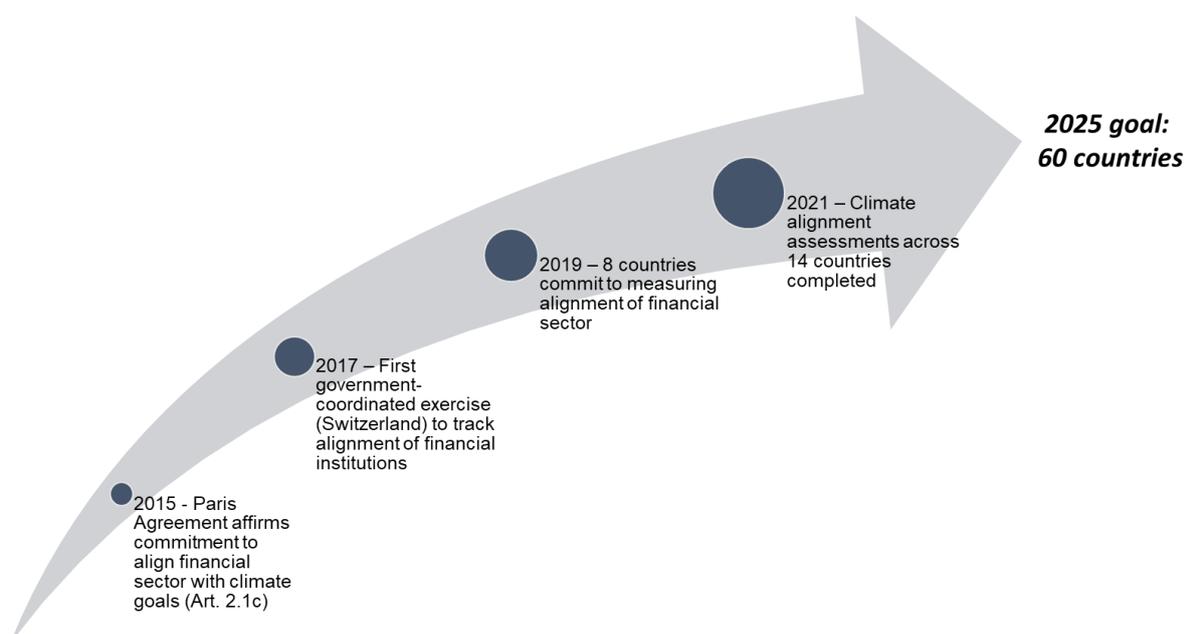
## This report represents the first stocktake of coordinated assessments of the climate goal alignment of national financial sectors.

The stocktake distinguishes itself from other climate finance tracking exercises by focusing on coordinated assessments based on financial portfolio data and often directly involving individual financial institutions. The focus here is not on the individual results, but rather on taking stock of the progress in implementing such exercises and their uptake in the market. It focuses exclusively on tracking exercises seeking to measure alignment with the Paris Agreement and climate goals. It does not consider broader climate accounting exercises or cross-national private sector initiatives (e.g. TCFD). Given data limitations on internal exercises, we cannot for certain map the complete space of national coordinated assessments. The focus here is on those exercises that used the PACTA methodology as a basis, allowing for internationally comparable results across countries and applications.

## The report seeks to contribute to the broader adoption of national coordinated financial sector assessments with the goal of 60 countries by 2025.

Crucially, the stocktake demonstrates the very limited transaction costs associated with conducting national assessments. Assessments have been conducted both in large (Europe, California, Japan) and relatively smaller financial centres (Peru, Liechtenstein).

Figure 1 The history of alignment exercises at national level



## 2. Overview of national coordinated projects

Since the Paris Agreement, nationally coordinated assessments have taken place or are ongoing in 16 countries as well as at EU level. By the end of 2021, over 2,600 financial institutions will have been involved in these projects and over €11 trillion in assets analyzed.<sup>3</sup>

Coordinated national assessments can be subdivided into three different types of exercises:

- **Government exercises:** These are coordinated projects that are typically led by the Ministry of Environment or the Ministry of Finance. There are 8 government-led exercises completed or ongoing.
- **Supervisory exercises.** These are exercises led by a country's central bank and/or financial supervisor. These have been conducted in 5 countries, at state level in the United States in California and New York State, and at EU level. Note that sometimes these run in parallel to government-led exercises.
- **Private sector exercises.** These are coordinated projects led by industry associations and have been implemented in 4 countries.

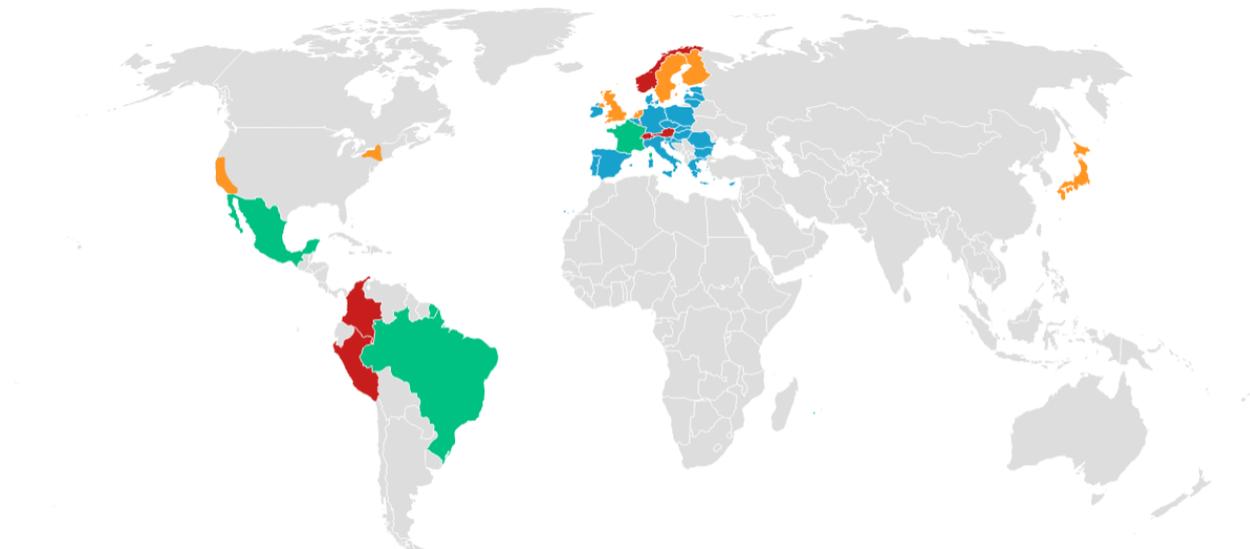
While each of these exercises have their own discrete application plan and process, they all share a set of common features. They all are 100% comparable analysis across financial institutions' portfolios for a discrete set of asset classes and climate-related sectors. Moreover, they provide for an aggregated understanding of the alignment/misalignment with climate goals of the financial sector across these asset classes and sectors.

However, they also have a number of differences. Some exercises cover close to 100% of institutions across a specific type (e.g. New York State), whereas other exercises are voluntary and thus generally 'only' cover 60-80% of the market (e.g. Switzerland, Austria). Moreover, in some exercises financial institutions are actively involved, with each institution receiving individual reports, whereas some supervisory exercises are conducted in a centralized way and thus institutions are not as closely engaged (e.g. Sweden, Netherlands). The table on the next page provides a summary overview of the different applications and their features

Figure 2 Overview of national financial sector alignment assessments

### Host institutions

■ Government 
 ■ Supervisory 
 ■ Private sector 
 ■ Covered by EU-level exercise



<sup>3</sup> Financial institutions and analyzed assets may be counted twice if they are subject to multiple exercises in multiple jurisdictions. This may lead this report to slightly overstate participants. On the other hand, not all exercises have public information on participants covered. On balance, we think these high-level figures understate assets and institutions analyzed. Note that due to national accounting differences, assets analyzed do not always consider only the asset classes covered by the assessment. More granular information however was not available to control for that feature.

Table 1 Overview of national financial sector climate alignment assessments (Source: Authors)

Country	Year	Host Institution <sup>4</sup>	Financial institutions <sup>5</sup>	Approach	Individual Reports (Y/N)	Meta-reports (Y/N)	Est. assets covered (in billion €) <sup>6</sup>	Est. # of FIs <sup>7</sup>
Switzerland	2017,2020,2022	G	IP (2017)	Voluntary	Y	Y	350	82
			IPBAM (2020)				3,500	179
Austria	2021	G	IPBAM	Voluntary	Y	Y	217	59
Liechtenstein	2017,2020	G	IP (2017)	Voluntary	Y	Y	NP	NP
			IPBAM (2020)				3	14
California	2019	S	I	Centralized	N	Y	4,250	679
Sweden	2021	G,S	I	Centralized	N	Y	140	NP
Norway	2021	G,S	IPBAM	Voluntary	Y	Y	220	41

<sup>4</sup> G = Government, S = Supervisory Authority, A = Association

<sup>5</sup> I = Insurance, P = Pension funds, B = Banks, AM = Asset Manager

<sup>6</sup> NP = Not public

<sup>7</sup> NP = Not public

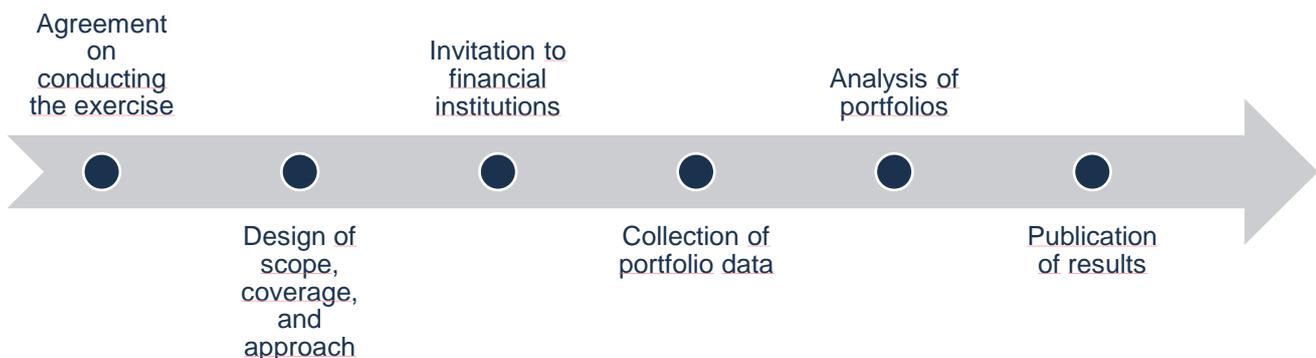
<b>Netherlands</b>	2021	S	IPBAM	Centralized	N	Y	NP	NP
<b>New York State</b>	2021	S	I	Centralized	Y	Y	550	250
<b>Japan</b>	2021	S	B	Voluntary			NP	5
<b>France</b>	2021	A	B	Voluntary	Y	Y	NP	NP
<b>Peru</b>	2021	G	P	Voluntary	Y	Y	41	5
<b>Brazil</b>	2020, 2022	S	P	Centralized	Y	N	50	NP
		A	NP	Voluntary	NP	NP	NP	NP
<b>Colombia</b>	2018, 2020, 2020, 2021	A	I (2018)	Voluntary	Y	Y	13	44
		A	AM (2020)	Voluntary	Y	Y	8	11
		S	P (2020)	Centralized	Y	Y	77	4
		A	I (2021)	Voluntary	Y	Y	NP	24
<b>Mexico</b>	2019, 2020, 2021	A	AM (2019)	Voluntary	Y	N	80	29
		A	P (2020)	Voluntary	Y	Y	79	9
		A	B (2021)	Voluntary	NA	NA	NP	3

<b>EIOPA</b>	2020	S	I	Centralized	N	Y	2,111	1,569
<b>Finland</b>	2021	S	B	Centralized	N	N	NP	NP
<b>United Kingdom</b>	2018	S	I	Centralized	N	N	NP	NP
<b>Luxembourg</b>	2022	G	IPBAM	Voluntary	Y	N		

**While each of these countries have different approaches, they all follow a similar pattern:**

- *Agreement on conducting the exercise.* The first step is an agreement on conducting the exercise by a 'national champion.' This champion leads the exercise within the country and drives the initiative. National champions can be government ministries, financial supervisors/central banks, or industry associations. Sometimes, there are different national champions for different parts of the financial sector.
- *Design of scope, coverage, and approach.* The second step involves a decision on the scope, coverage, and approach of the exercise. Sometimes this is externally given (e.g. an insurance supervisor will be limited to focusing on insurance companies). Decisions include the scope of asset class and sectors, the chosen methodology, the inclusion of qualitative complementary datapoints, timelines, distribution of results, confidentiality issues, and the publication of a public meta-report.
- *Engagement of financial institutions.* The third step involves the engagement of financial institutions. In government-led exercises, this typically involves a formal invitation to participate in the assessment. In the case of financial supervisors, sometimes financial institutions are only engaged at the end of the process and not directly engaged in this step.
- *Collection and processing of portfolio data.* The fourth step involves the collection and processing of portfolio data and potential other datapoints (e.g. survey) as the basis of the analysis. Again, sometimes portfolio data is already collected through other regulatory mechanisms (e.g. Solvency II in Europe) and does not require an additional step. The collection of portfolio data can be an elaborate process. In Switzerland in 2020, over 4,000 individual portfolios consisting of over 1 million individual financial assets/securities were collected as part of this process.
- *Analysis of portfolios.* Step 5 involves the analysis of the financial portfolios based on the methodology and approach chosen in Step 2. This is typically done as part of a centralized process to reduce the transaction costs and ensure comparability.
- *Publication of results.* Finally, results are published, either as a meta report and / or individual reports. Individual reports are typically generated using report generation software to reduce transaction costs. In Switzerland, the project generated 4,000 individual reports of 50 pages, for a total of 20,000 pages generated. In Sweden on the other hand, 'only' a meta report was generated.

Figure 3 The process of implementing alignment exercises at national level (typical structure)



### BOX: The PACTA Methodology

The [Paris Agreement Capital Transition Assessment](#) (PACTA) is a free and open-source methodology and software tool developed by the 2° Investing Initiative (2I<sup>2</sup>) to assess the alignment of investor and bank portfolios with climate goals. PACTA enables financial institutions to measure the alignment of their portfolios with climate scenarios across a set of climate critical sectors and technologies.

At its core, PACTA compares what needs to happen in sectoral decarbonization pathways with financial actors' exposures to companies in those sectors. PACTA provides a five-year forward-looking, bottom-up analysis. The analysis looks at the investment and production plans of companies, which is based on physical asset level data, and consolidates that information to identify the energy transition profile of the companies and their related financial instruments. This information is aggregated at the portfolio level and compared to the production plans projected in different climate scenarios.

The PACTA methodology covers eight of the most carbon-intensive sectors in the economy (i.e., the sectors most exposed to transition risks) – oil, gas, coal, power, automotive, cement, aviation, and steel (the "PACTA sectors"). Together, they are responsible for over 75% of all CO<sub>2</sub> emissions. In each sector, PACTA focuses on the part of their value chain with the highest contribution in terms of CO<sub>2</sub> emissions. For example, in the oil and gas sector, the focus is on upstream activities related to production, while in the power sector, the focus is on power generation and related sources of energy. In addition, PACTA works with domestic research partners (e.g. WuestPartner in Switzerland) to cover other sectors (e.g. real estate, mortgages).

In practice, PACTA measures alignment in three concrete steps:

1. Connecting production plans of companies to decarbonization pathways.
2. Calculating the alignment results on the company level.
3. Allocating company-level alignment results to the portfolio.

#### Metrics

The standard PACTA approach has three main metrics: Technology Mix, Volume Trajectory and Emission Intensities. Under the standard approach, the technology mix and the production volume trajectory are used for Fossil Fuels, Power, and Automotive, where technology roadmaps are known. Meanwhile, emission intensities are used for Steel, Cement and Aviation, where technology roadmaps are less well defined. Each metric provides different pieces of the alignment puzzle, and together they provide a more holistic view of the alignment of portfolio exposures in these sectors. Below is an explanation of each metric.

- *Technology Share Mix.* The technology share represents the weight of each technology in the sector as a percentage of investment therein. The portfolio's technology mix is compared to the scenario and a market benchmark. The technology mix metric focuses on technology shifts within the power, fossil fuels and automotive sectors.
- *Production Volume Trajectory.* The production volume trajectory metric aims to measure the alignment of a portfolio's projected production volumes, based on the five-year capital plans of companies, to those given in climate scenarios. It is used for the fossil fuels, power, and automotive sectors. The technology mix metric and the production volume trajectory metric both provide an indication of the extent to which loan book companies are aligned with the Paris Agreement goals. However, they differ in that the technology mix metric is a measure of the relative amounts invested in different climate relevant technologies within a loan book's portfolio, while the production volume trajectory measures whether the rate of change in the production amount is sufficient to meet the benchmark scenario that is in line with Paris Agreement goals.
- *Emission Intensity.* The emission intensity metric measures the average CO<sub>2</sub> intensity of the portfolio in the steel and cement sector. This emission intensity is given as CO<sub>2</sub>/economic unit of output (for example, CO<sub>2</sub>/per ton of steel produced). This is then compared to an emission intensity reference point set by a climate scenario. While this is not the main metric of choice for the largest sectors

tackled in this methodology, the emission-intensity of the activities financed by the portfolio is nonetheless the first metric in sectors for which no clear technology pathways have been set out.

Figure 4 The technology share mix in PACTA of a typical financial portfolio

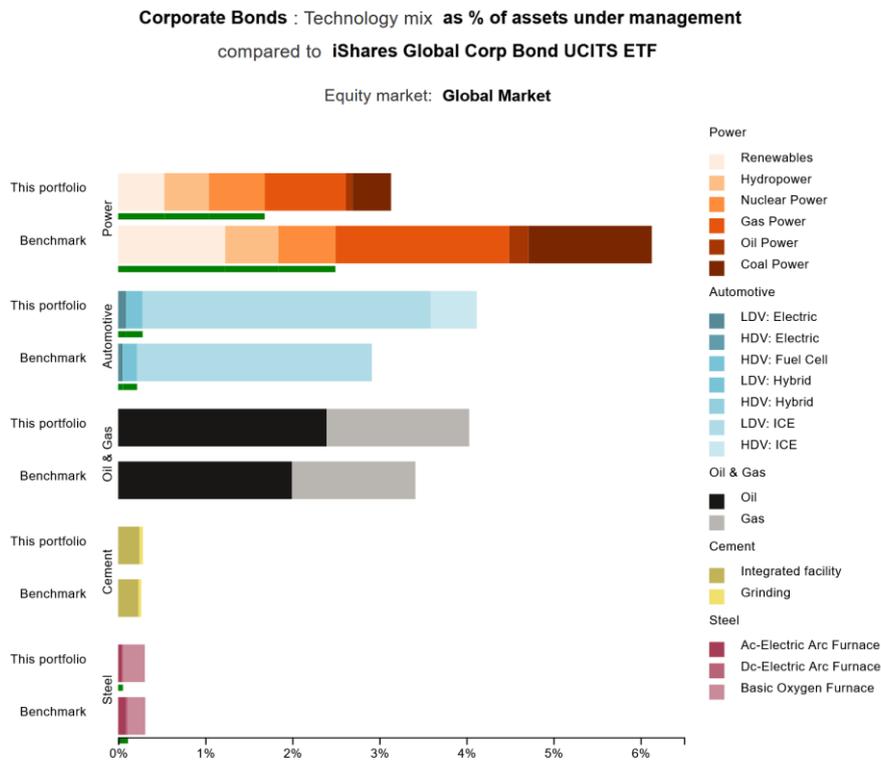
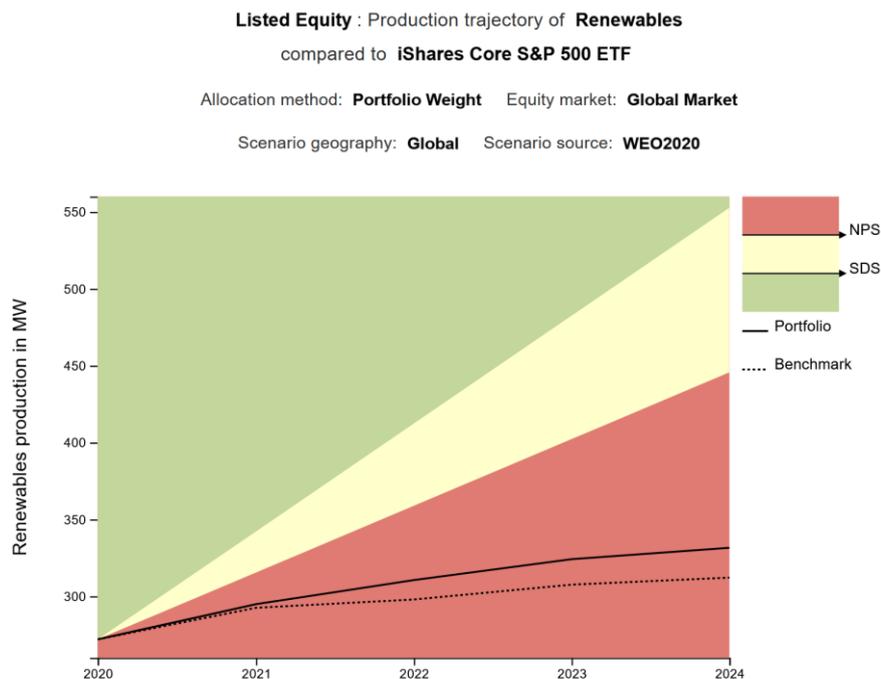


Figure 5 The production trajectory of a typical financial portfolio for the renewable sector



### 3. Case studies

Country	Colombia
Lead	Asofiduciarías (Colombian Fund Association)
# of participating institutions	11
Assets covered	8 billion
Year of exercise	2020
Methodologies applied	PACTA



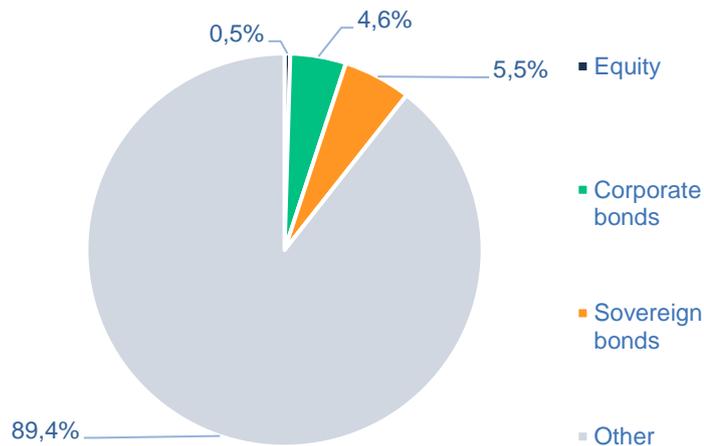
¿Riesgo u oportunidad?  
 Un estudio del desempeño de los Fondos de Inversión  
 Colombianos de Inversión Frente al Cambio Climático

**Description of the project:**

2DII and Asofiduciarías (the trust fund association in Colombia) worked together in the framework of a collective initiative to identify and analyze the potential exposure to transition risks of Colombian trust funds’ listed equity and corporate bonds portfolios. The analysis carried out constituted one of the first steps from the association to use prospective and quantitative information to assess the impact of climate change on investments in the sector. The results of the analysis represented a fundamental advance towards the integration of climate change risks in asset management and investment decision-making in the Colombian trust sector.

The investment portfolio accounted for approximately USD 9.3 bn as of 31 December 2019, which corresponded to the assets managed by 11 trust funds in Colombia (which cover 75% of the total collective investment funds administered by this type of institutions in the Colombian market). The analysis focused on three types of assets within the trust funds’ portfolios: listed equity, corporate bonds, and sovereign bonds, which corresponded to 0.5%, 4.6%, and 5.5%, respectively, of the assets analyzed.

Figure 6 Distribution of AUM by asset class for the Colombian asset manager sector



**Key findings:**

PACTA sectors covered 17% of the listed equity and 8% of the corporate bond portfolio. The climate-relevant sectors with the highest share in the listed equity portfolio are fossil fuels (45.3%), cement (40.3%), and power (12.1%), while in the corporate bond portfolio, power is the main sector (71.8%).

Trust funds' investments are exposed to possible transition risks in both the equity and corporate bond portfolios. However, the corporate bond portfolio could be more affected by transition risks, since the exposure to high carbon technologies that are not aligned with a <2°C scenario is higher than in the equity portfolio (see Figure 0.2). The analysis also finds that trust funds are seizing the opportunities of the transition to a low carbon economy through their investments in hydroelectric and renewables companies.

Figure 7 Current exposure in the listed equity and corporate bonds portfolios, as a % of the portfolio, for the Colombian asset management industry

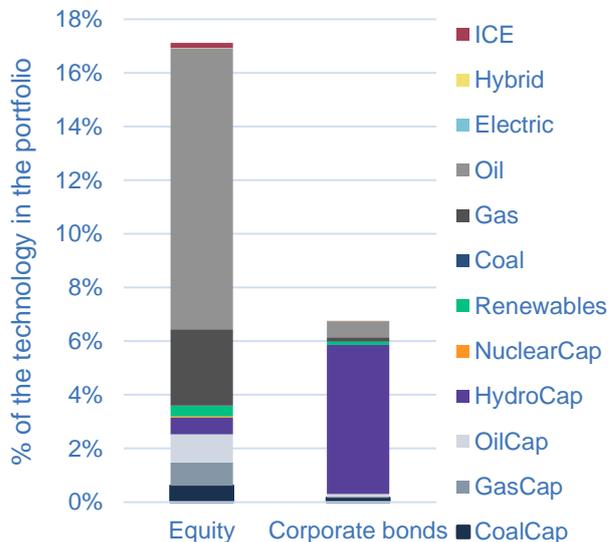
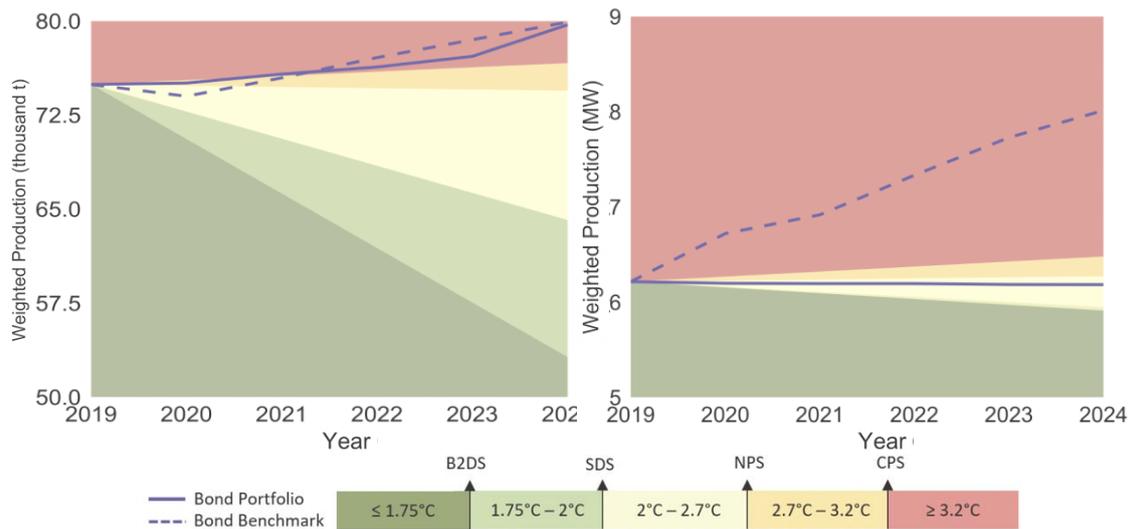
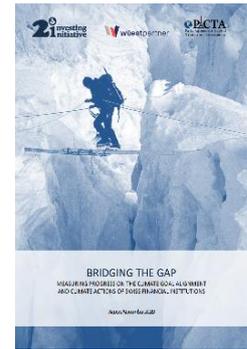


Figure 8 Alignment of coal mining (left) and coal power capacity (right) in the corporate bond portfolio relative to the IEA transition scenarios, for the Colombian asset management industry



<b>Country</b>	<b>Switzerland</b>
Lead	Ministry of Environment, Ministry of Finance
# of participating institutions	179 (Insurance, asset manager, bank, pension fund)
Assets covered	Listed equity, corporate bonds, mortgages, real estate, corporate lending, qualitative survey to capture climate relevant action in all assets.
Year of exercise	2017, 2020, 2022
Methodologies applied	PACTA, Real estate (Wuest Partner)



### Description of the project:

The Swiss government was the first government worldwide to conduct a coordinated climate goal alignment assessment of its domestic financial institutions in 2017, an exercise subsequently repeated in 2020. The exercise is conducted in coordination between the Federal Ministry of the Environment and the State Secretariat for International Financial Affairs (SIF), with the support of the domestic industry associations. Given the dynamic, the participant number increased from 54 in 2017 to 179. In Switzerland, each institution uploads their portfolio through the dedicated Transition Monitor Platform set up for this exercise ([www.transitionmonitor.com](http://www.transitionmonitor.com)). Banks ran the software online, while mortgage portfolios were evaluated with a dedicated partner.

The Swiss meta report did not include the corporate loanbook results and thus only focused on the listed equity and corporate bonds, as well as mortgages and real estate portfolios. The table below summarizes participants by type as well as portfolio volume analyzed for listed equity and corporate bonds and estimated market coverage. The market coverage could not be assessed for asset managers and others (e.g. foundation endowments) given lack of meta data.

A specific feature of the Swiss project replicated in other jurisdictions is the consideration of a complementary qualitative survey in addition to the quantitative data. This survey allows for complementary information on climate actions and policy positions of Swiss financial institutions.

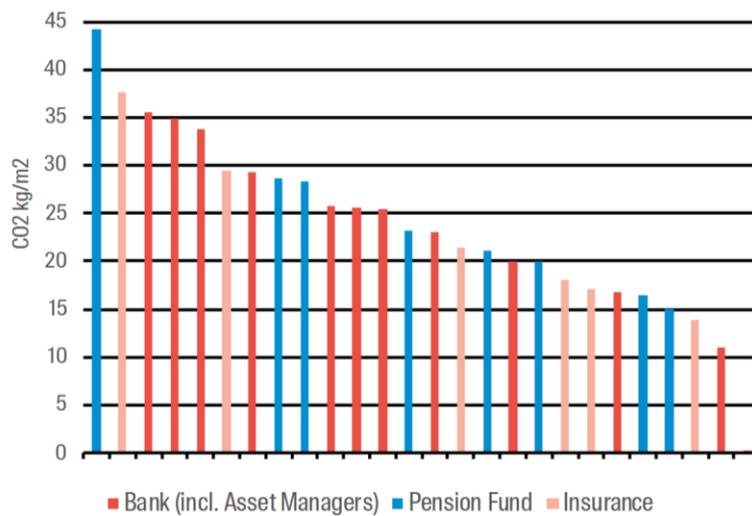
Table 2 Participation in the Swiss pilot by type of financial institution

	Participants	Portfolio Value uploaded (Bln USD)		Market coverage
	#	Listed Equity	Corporate Bonds	%
<b>Pension Funds</b>	106	128,4	105,0	82 %
<b>Insurance</b>	24	43,4	137,4	79 %
<b>Banks</b>	31	950,2	415,4	88 %
<b>Asset Managers</b>	14	188,0	59,0	NA
<b>Other</b>	4	NA	NA	NA
<b>Overall</b>	179	1 310,8	717,0	NA

**Example finding – Mortgages & real estate**

The Swiss 2021 PACTA exercise is the only exercise so far that has included the real estate and mortgage sector, based on a methodology developed with a local knowledge partner (Wuest Partner). The assessment compared the portfolios with national energy efficiency and fuel targets of the Swiss government. Datasets were built based on governmental statistics and an estimation model.

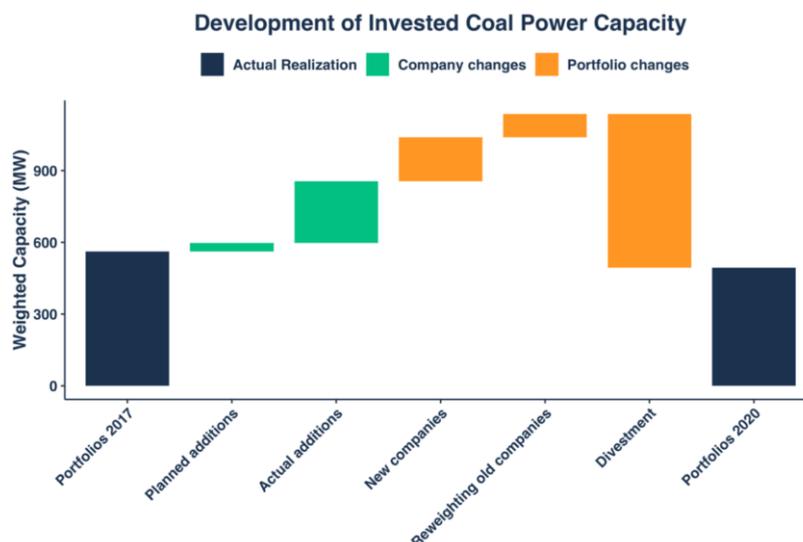
Figure 9 The real estate CO2 intensity of Swiss financial institutions



**Example finding – Coal power retirements:**

Given that the Swiss government in 2021 conducted the second national stocktake, the exercise was able to identify both the overall alignment, but also benchmark progress relative to 2017. The public meta report was thus able to distinguish progress based on real world emissions reductions versus progress related to portfolio changes. The results show the value of repeating the exercise over time and the importance of tracking real world changes of financial institutions climate actions.

Figure 10 Evolution of installed power capacity for a sample of Swiss financial institutions



<b>Country</b>	<b>USA – New York State</b>
Lead	New York State Department for Financial Services
# of participating institutions	250 (Insurance)
Assets covered	Listed equity, corporate bonds, mortgages, real estate, corporate lending
Year of exercise	2021
Methodologies applied	PACTA



An Analysis of New York Domestic Insurers' Exposure to Transition Risks and Opportunities from Climate Change

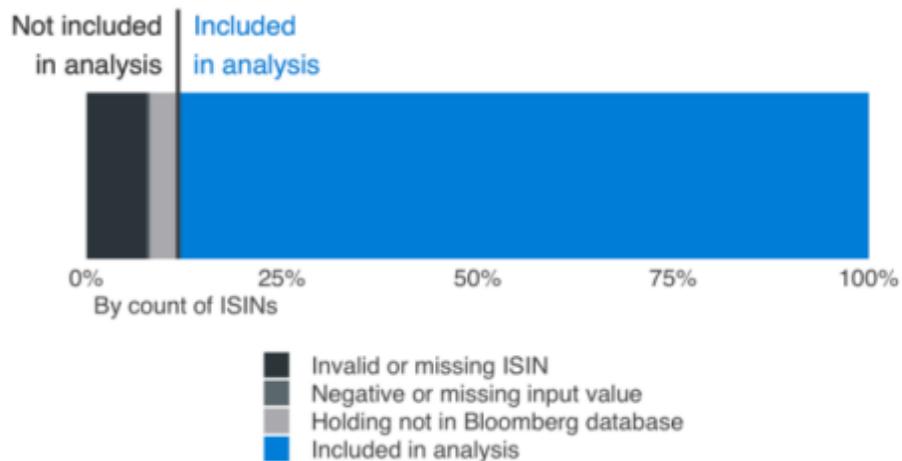
**Description of the project:**

The New York Department of Financial Services (DFS) is the largest state financial supervisor in the country, supervises and regulates the activities of nearly 1,800 insurance companies with assets of more than \$4.7 trillion and approximately 1,500 banking and other financial institutions with assets totaling more than \$2.6 trillion.

In collaboration with 2DII and using the PACTA methodology, DFS analyzed the alignment of 250 insurance companies with portfolios worth more than \$550 billion. Over 130,000 individual securities were analyzed and nearly 125,000, or 95%, were successfully matched with 2DII's financial data. Figure 2 shows the data coverage of the Study. ISIN, which stands for International Securities Identification Number, is a unique code that is used to identify securities.

The figure below provides a reference as to the data coverage of the study.

Figure 11 Coverage of the NY DfS alignment study



**Example findings**

The study finds that New York domestic insurers’ investments in 2019 had meaningful exposure to carbon intensive sectors, making up around 17% of insurers equities and bond portfolios. Moreover, the five-year forward-looking capital plans of most insurers’ investee companies in these sectors were not Paris-aligned, except for natural gas production, natural gas-fired power generation, and electric vehicle production. In many cases, insurers’ portfolios were less Paris-aligned than market benchmarks (i.e., iShares Global Corp bond UCITS ETF31 for corporate bonds and iShares MSCI ACWI ETF32 for equities).

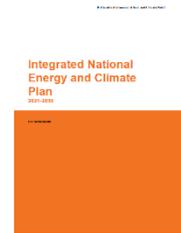
Exposure to high-carbon technologies varies dramatically among individual insurers. Figure 0.3 shows insurers’ holdings in fossil fuel production as a percentage of their corporate bond and equity portfolios. While most 11 insurers had single-digit exposures to the fossil fuel sector, multiple P&C insurers and a few Life insurers had exposures that were significantly higher. One Life entity was exposed more than 50% and one P&C entity was exposed more than 40% in their corporate bond portfolios, while one P&C insurer had all its equity investments in the fossil fuel sector.

The analysis also includes a summary table showcasing the alignment results per sector and technology, thereby clearly indicating which areas in the portfolio require action. In the case of New York insurers, institutions need to take clear and immediate action for example in relation to their exposures to coal production and renewable power generation.

Table 3 Overview of alignment of NY DFS by sector and indicator

	Technology Mix Relative to Paris Goal		Technology Mix Relative to Market Benchmark		Temperature Scenario with which Production Volume Trajectory is Aligned		Paris-Alignment of Production Volume Trajectory Relative to Market Benchmark	
	Corporate bonds	Equities	Corporate bonds	Equities	Corporate bonds	Equities	Corporate bonds	Equities
Coal production					>3.2°C	>3.2°C	Worse	Worse
Oil production					2.7-3.2°C	2.7-3.2°C	Better	Worse
Natural gas production					<2°C	<2°C	Better	Worse
Coal power generation	Too much	Too much	Slightly more	Slightly less	<2°C	<2°C	Similar	Better
Oil power generation	Too much	Too much	Slightly more	Slightly less	>3.2	>3.2	Worse	Better
Natural gas power generation	Sufficient	Sufficient	Similar	Similar	<2°C	<2°C	Can be bigger	Can be bigger
Renewable power generation	Too little	Too little	Less	Similar	>3.2°C	>3.2°C	Similar	Worse
Electric Vehicles	Sufficient	Sufficient	Similar	Similar	1.75-2°C	1.75-2°C	Similar	Similar
Hybrid Vehicles	Too little	Too little	Less	Less	>3.2°C	>3.2°C	Similar	Similar
Internal Combustion Engine Vehicles	Too much	Too much	Slightly less	Slightly less	2.7-3.2°C	2.7-3.2°C	Similar	Similar

<b>Country</b>	<b>Netherlands</b>
Lead	Government of the Netherlands
# of participating institutions	50
Assets covered	Cross-asset
Year of exercise	2019
Methodologies applied	NA



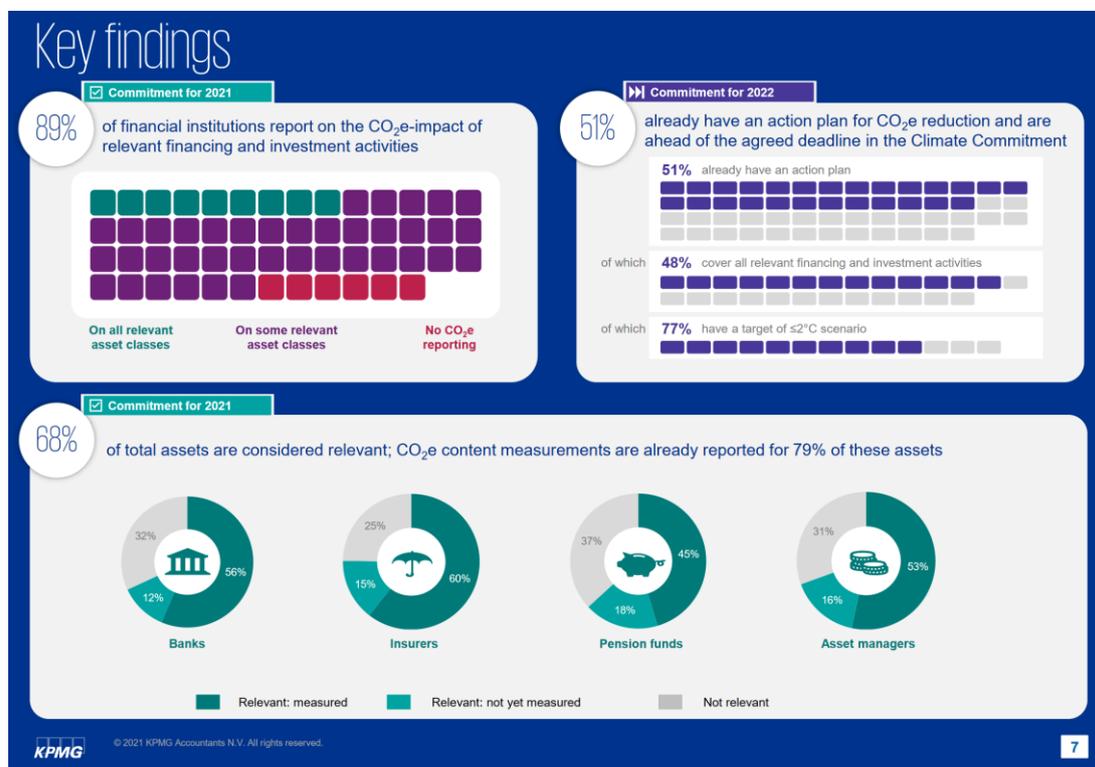
**Description of the project:**

In July 2019, the Dutch government presented its national climate and energy plan (NCEP), which aims to reduce GHG emissions by 2030 to 49 percent of the level recorded in 1990. The plan includes a commitment by the financial sector, signed by over 50 institutions with combined assets of over €3 trillion. The institutions agreed to mandatory measurement and reporting of emissions from 2021 onwards. As of 2022, institutions will publish action plans that outline how they will contribute to a decrease in CO2 emissions, such as setting reduction targets. As part of the commitment, financial institutions will exchange knowledge and best practices on methodologies and actions that financial institutions can undertake to align their portfolios. As part of this effort, the financial sector aims to make climate methodologies more comparable to each other and to work towards further harmonization.

The project is different from the other case studies insofar as it doesn't necessarily involve the implementation of one coordinated aggregate stocktake, but a bottom-up process of voluntary commitments. The principle has also been adapted in Austria. The figure below highlights key progress of the Dutch financial sector.

In parallel to the NCEP, the Dutch Central Bank has also been coordinating and conducting centralized climate risk and alignment analyses across both transition and physical risk issues.

Figure 12 Key findings of the first review of the Dutch financial sector



## 4. Next steps

**We forecast that by 2025, national coordinated projects will have been run in at least 60 countries.** By the end of 2021, 14 assessments will have been completed. When considering EU member states as part of EU-level exercises, technically these exercises have already been completed across nearly 40 jurisdictions. Given the low transaction cost and accessibility of the exercise, as well as robust and improving data coverage, we forecast in particular an expansion to emerging markets.

**As countries replicate and scale these exercises, national exercises can provide new insights in terms of ‘carbon leakage’ and a better understanding of overall progress against the Paris Agreement.** As shown in Switzerland, regular exercises allow the government and participating financial institutions to meaningfully track progress against Article 2.1c, identify gaps, and understand the drivers of progress. At the same time, a growing cohort of countries participating can also help benchmark progress and enhance the understanding of climate progress in the context of COP negotiations. Moreover, these exercises can also address the potential challenge of ‘carbon leakage’ as high-carbon financial assets move out of regulated systems. Ultimately, this work also helps improve our collective understanding of the real-world impact of climate actions in financial markets.

**While climate alignment measurements play an important role for climate progress, they only represent one part of the equation.** The PCAF initiative has helped over the past years to create a global standard around Greenhouse Gas Reporting for financial institutions (‘financed emissions’). The NGFS is helping to harmonize stress-test exercises across financial supervisors. The TCFD is driving harmonization of disclosure standards. Only when these different initiatives work in concert can they achieve their full potential.

## Bibliography

- *Climate change widespread, rapid, and intensifying*. (2021, August 9). IPCC.  
<https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/>
- *Full NDC Synthesis Report: Some Progress, but Still a Big Concern*. (2021, September 17). United Nations Climate Change. <https://unfccc.int/news/full-ndc-synthesis-report-some-progress-but-still-a-big-concern>
- *Paris Agreement*. (2015, November). United Nations Framework Convention on Climate Change. [https://unfccc.int/files/meetings/paris\\_nov\\_2015/application/pdf/paris\\_agreement\\_english\\_.pdf](https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf)
- *PACTA for Banks Scenarios*. (2021, July 7). Transition Monitor. [https://www.transitionmonitor.com/wp-content/uploads/2021/07/20210706-PACTA-for-Banks\\_Scenario-Supporting-document\\_V11.pdf](https://www.transitionmonitor.com/wp-content/uploads/2021/07/20210706-PACTA-for-Banks_Scenario-Supporting-document_V11.pdf)
- *PACTA for Banks Methodology Document*. (2021, July 8). Transition Monitor. [https://www.transitionmonitor.com/wp-content/uploads/2021/07/PACTA-for-Banks-Methodology-document-02-07-2021\\_v1.2.0\\_v4.pdf](https://www.transitionmonitor.com/wp-content/uploads/2021/07/PACTA-for-Banks-Methodology-document-02-07-2021_v1.2.0_v4.pdf)
- *PACTA Knowledge Hub*. (n.d.). Transition Monitor. <https://app.gitbook.com/o/-Lu8qnDr5CrVLdMgw1d/s/-MAzLd7b1SrbHBj2ieZ8/>
- *¿Riesgo u oportunidad?: Un análisis del desempeño de los Fondos de Inversión Colectiva de Colombia frente al cambio climático*. (2020, December). 2 Degrees Investing Initiative. <https://2degrees-investing.org/resource/riesgo-u-oportunidad/>
- *An Analysis of New York Domestic Insurers' Exposure to Transition Risks and Opportunities from Climate Change*. (2021, June). New York Department of Financial Services & 2 Degrees Investing Initiative. <https://2degrees-investing.org/resource/an-analysis-of-new-york-domestic-insurers-exposure-to-transition-risks-and-opportunities-from-climate-change/>
- *Am Zielpfad nach Paris? PACTA 2020 Klimaverträglichkeitstest des österreichischen Finanzmarktes*. (2021, May). 2 Degrees Investing Initiative. <https://2degrees-investing.org/resource/pacta-cop-austria/>
- *Assessing the Alignment of the Liechtenstein Financial Sector with the Paris Agreement*. (2021, January). 2 Degrees Investing Initiative. <https://2degrees-investing.org/resource/assessing-the-alignment-of-the-liechtenstein-financial-sector-with-the-paris-agreement/>
- *Bridging The Gap: Measuring Progress on The Climate Goal Alignment And Climate Actions Of Swiss Financial Institutions*. (2020, November). 2 Degrees Investing Initiative & Wüest Partner.

<https://2degrees-investing.org/resource/bridging-the-gap-measuring-progress-on-the-climate-goal-alignment-climate-actions-of-swiss-financial-institutions/>

- *Gauging the Exposure to Transition Risks of Colombian Insurers' Investment Portfolios*. (2020, July). FASECOLDA & 2 Degrees Investing Initiative. <https://2degrees-investing.org/resource/fasecolda-pacta-scenario-analysis/>
- *Sensitivity Analysis of Climate-Change Related Transition Risks*. (2020, December). European Insurance and Occupational Pensions Authority.  
<https://www.eiopa.europa.eu/sites/default/files/publications/reports/sensitivity-analysis-climate-change-transition-risks.pdf>
  - *The Financial Sector's Climate Commitment. First Progress Report* (2021, October). KPMG.
- *Transition Risks Assessment of Latin American Financial Institutions and the use of Scenario Analysis*. (2020, July). 2 Degrees Investing Initiative. [https://2degrees-investing.org/wp-content/uploads/2020/07/SCENARIO-ANALYSIS-IN-LATIN-AMERICA\\_Final.pdf](https://2degrees-investing.org/wp-content/uploads/2020/07/SCENARIO-ANALYSIS-IN-LATIN-AMERICA_Final.pdf)