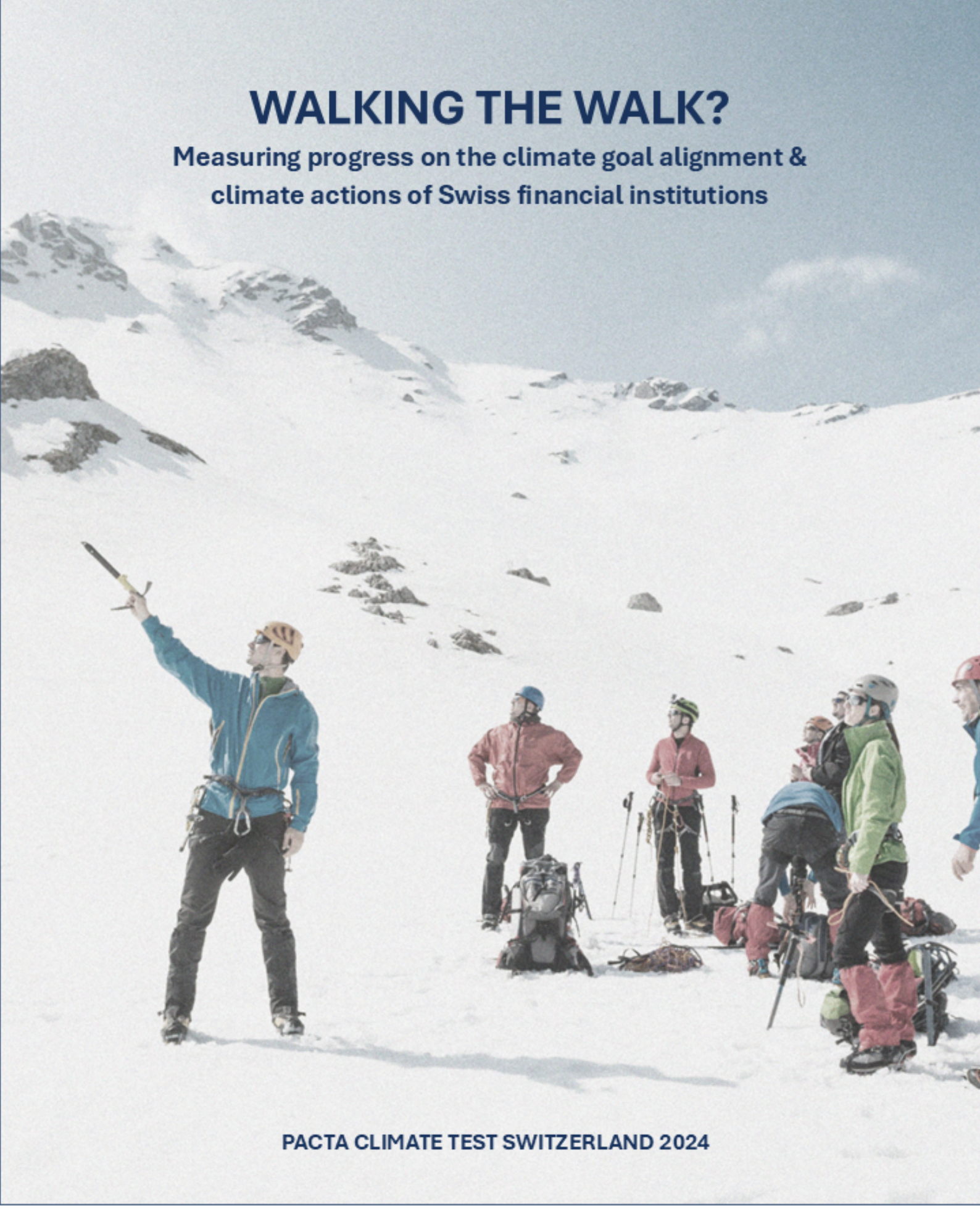
WALKING THE WALK?

Measuring progress on the climate goal alignment & climate actions of Swiss financial institutions



PACTA CLIMATE TEST SWITZERLAND 2024

FPRE

PACTA
Paris Agreement Capital Transition Assessment

RMI

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Website: www.bafu.admin.ch/climate-and-financial-markets. A summary of this report is also available in German, French and English.

Fahrländer Partner Raumentwicklung (FPRE) is an independent consulting and research company. FPRE provides a wide range of decision-making tools and services to real estate actors. These include applications for real estate analysis, consulting, market data and valuation. In addition, FPRE maintains its proximity to research through its teaching activities in training and further education and through research collaborations. FPRE has further developed the PACTA real estate model on behalf of the FOEN and supplemented it with the modules on "Scope 2 emissions" and "Scope 3 emissions from building materials". The views, conclusions, and findings expressed in the Corporate Bonds and Listed equity module, are those of RMI and do not necessarily reflect the position or opinions of FPRE.

RMI is an independent nonprofit, founded in 1982 as Rocky Mountain Institute, that transforms global energy systems through market-driven solutions to align with a 1.5°C future and secure a clean, prosperous, zero-carbon future for all. We work in the world's most critical geographies and engage businesses, policymakers, communities, and NGOs to identify and scale energy system interventions that will cut climate pollution at least 50 percent by 2030. Starting in June 2022, RMI has taken on the management and application responsibilities for the open-source PACTA software and methodology, initially developed by the independent think tank 2°Investing Initiative (2DII). Since then, the tool has been maintained and further developed within RMI's Climate Finance team. This report is part of the internationally coordinated PACTA Climate Alignment Test (CAT) program, which aims to support governments and individual financial institutions for the implementation of PACTA to assess the alignment of financial portfolios to the climate change scenarios. RMI provided the results for the Corporate Bonds and Listed equity module, by using the PACTA for Investors methodology. The views, conclusions, and findings expressed in the Real Estate section, are those of FPRE and do not necessarily reflect the position or opinions of RMI.

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Content

Summary – PACTA Climate Test 2024 Switzerland

KEY FINDINGS FROM THE PACTA CLIMATE TEST 2024 IN SWITZERLAND

The 2024 Climate Test in Switzerland marks its fourth iteration, involving 146 banks, pension funds, insurance companies, and asset managers – making it one of the largest coordinated climate assessments for financial markets worldwide. Thanks to active support from various financial sector associations, participation has increased since 2022, with the exception of insurance companies.

The 2024 Climate Test reveals progress compared to the 2022 results. In particular, there is a growing recognition among financial institutions of their potential to contribute meaningfully to climate goals through their operations. The net-zero target is further already reflected in the majority of internal corporate strategies at the company level. On average, across the sector, banks, pension funds, and insurance companies are on track to achieve the climate targets for directly held real estate, at least with a view to 2030. Good practices *can be found in all areas and asset classes. For example, significantly more mortgage lenders offer various climate incentives for their customers than in the 2022 Climate Test. Around 60% of all participants state that they engage in credible "climate stewardship" for listed equity investments, i.e., by exercising voting rights and engaging in climate dialog with their portfolio companies to put them on track for climate action. In the case of corporate bonds, around 60% of financial institutions exclude coal companies from their investments, showing that the necessary move away from fossil fuels is supported in this area. Some financial institutions are, therefore, already* "walking the walk".

Despite the progress, the results highlight that not all financial sectors and asset classes are yet aligned with the net-zero target, with some financial institutions still having significant work to do, even in terms of directly held real estate. To advance the climate agenda, comprehensive net-zero transition plans must be developed for all climate-relevant business activities and asset class across the financial industry. In particular, the targets set, the transition plans, and their implementation at the portfolio level are not yet aligned and are often inconsistent in many financial institutions. For example, oil production companies held in equity and corporate bond portfolios are planning to further expand their overall production capacity. This contradicts the decision taken at the 2023 Climate Change Conference (COP28) by the global community, to move away from fossil fuels to achieve the net-zero target by 2050 at the latest. Additionally, there is a lack of evidence that climate measures taken by financial institutions will lead to climate-friendly outcomes. This evidence is notably lacking for climate incentives in the mortgage sector, the exercise of voting rights and dialog with portfolio companies in global equity and corporate bond portfolios, and transparency requirements for financial products and services.

Financial institutions can strengthen the credibility and effectiveness of net-zero targets and transition plans, as well as implement measures by adopting a consistent sector-based approach and reporting publicly on its progress. This not only fosters comparability but also helps focus efforts on essential climate objectives. It would be beneficial, for example, if it were systematically stated not only for individual financial products but for all financial products whether they aim for climate goal alignment, climate impact, or none of this. The next step for the Swiss financial market is, therefore, to follow up its broad commitment to the net-zero target for 2050 with climate-effective action in all areas. Or, as the title of the report says: "Walking the walk".

1 Introduction

The PACTA climate test regularly measures how climate-friendly the Swiss financial market invests. PACTA stands for *Paris Agreement Capital Transition Assessment*. The present overall report for the 2024 Climate Test is structured as follows: After a national and international embedding in Chapter 1, an integrated analysis for the various asset classes and priorities in the 2024 test round is provided in Chapter 2 on the goals and plans of the financial institutions. Chapter 3 provides an initial assessment and shows how exposure to climate-relevant economic sectors has developed since the last climate test in 2022. Chapter 4 analyses the strategies and action that financial institutions are taking to become more climate-goal aligned and to make an effective climate contribution. Chapter 5 shows the extent to which the targets, strategies and measures have already led to a climate-goal aligned orientation and where gaps still exist. The final chapter 6 discusses what expectations can be derived from the PACTA results 2024 in terms of good practices and what regulatory and other developments are relevant.

1.1 Why a PACTA Climate Test 2024

According to the IPCC's 2023 report global surface temperature has already risen by 1.1°C above pre-industrial levels by 2011-2020. This warming has been driven by greenhouse gas emissions from human economic activity resulting in widespread impacts such as intensified weather extremes and adverse effects on vulnerable communities. At the 28th UN Climate Change Conference (COP28) the parties (including Switzerland) therefore decided on a recommendation to transition away from coal, oil and gas by 2050 as well as to increase renewable energy capacity and energy efficiency by 2030.[1] Despite the expansion of policies and laws aimed at climate change mitigation, current emission trajectories and finance flows are insufficient to limit warming to below 2°C, highlighting the urgent need for enhanced financial support and strategic investment.[2]

The financial system plays a pivotal role in accelerating climate action by acting as a crucial enabler for the transition to a sustainable, low-carbon economy. To tackle climate change, the financial system needs to redirect capital flows toward climate solutions and support corporates in order to foster technological innovation. Sufficient global capital available, overcoming barriers to climate finance and scaling up investments are critical to achieving net zero targets.

Switzerland has even anchored the importance of the financial markets contribution to reach climate goals in a law. The climate and innovation law[3] not only anchors the net zero alignment of the financial flows as a main goal. It also stipulates an impact goal: the

[1] COP28: global stocktake with commitment to expand renewable energy capacity - DETEC (admin.ch)
[2] https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf
[3] https://www.fedlex.admin.ch/eli/fga/2022/2403/de

Confederation shall ensure, that the Swiss financial centre effectively contributes to reach the climate goals. The law enters into force on January 1st 2025.

To determine the status and progress by the Swiss financial sector in regard to their contribution to climate goals, the regular PACTA Climate Tests for the financial market are an important tool. Therefore, the Swiss Federal Council proposes to anchor them in the respective Ordinance.[4] With the voluntary PACTA Climate Test, the federal government has been regularly tracking the progress of the Swiss financial market in terms of its climate compatibility since 2017. In 2024, the PACTA Climate Test will be carried out for the fourth time.[5]

This coordinated PACTA tests create internationally unique insight, not only in terms of the level of transparency across the various financial sectors but also the comparability of the results. Through peer learning, it aims to support concrete, climate-relevant action. In 2024 one more time, all Swiss pension funds, insurances, banks, and asset managers have been invited by the Federal Office for the Environment (FOEN) together with the State Secretariat for International Finance (SIF) to participate on a voluntary basis. Fahrländer Partner Raumentwicklung (FPRE) and RMI support participating institutions with the application of PACTA.

The major Swiss financial industry associations officially supported the 2024 PACTA Climate Test and recommended that their members take part. These are the pension fund association ASIP, the Swiss Insurance Association SVV, the Bankers' Association SBA, the Asset Management Association Switzerland AMAS, Swiss Sustainable Finance SSF, the Association for Responsible Investments SVVK-ASIR, and the Conference for Investment Foundations KGAST.

The PACTA Climate Test 2024 consists of two quantitative modules and a qualitative survey: The **'real estate and mortgage module'** analyses the emission intensity of Swiss properties and compares it to Swiss climate targets for the building sector to achieve zero emissions by 2050. The **'equity and corporate bond module'** provides sectoral and technology-level insights into investments in eight climate-relevant economic sectors: upstream oil & gas sector, coal mining, power generation, auto manufacturing, steelmaking, cement manufacturing, and aviation. The **qualitative survey** captures climate strategies and further climate-relevant activities of financial institutions across all their business activities.

The PACTA Climate Alignment Test is internationally coordinated. RMI partners with governments, supervisors, and trade associations, both individually and collectively, to support the application of PACTA to financial institution portfolios. This program is designed to assess the alignment of the entire financial sector—or specific subsectors—using a

[4] See media release of the 24.01.2024: Bundesrat eröffnet Vernehmlassung zur Klimaschutz-Verordnung (admin.ch) only available in German, French and Italian.

[5] After a first pilot test in 2017, the coordinated test in Switzerland was carried out in 2020 and 2022. For the reports see https://www.bafu.admin.ch/climate-and-financial-markets

standardized methodology and consistent input data. By ensuring uniformity in the evaluation process, the program generates results that are directly comparable and unaffected by variations in emission scopes, methodologies, estimation approaches, or financial data sources.

Since its conception, the PACTA methodology has been implemented in various countries, including Austria, Colombia, France, Japan, Liechtenstein, Luxembourg, Norway, the Netherlands, Peru, and Sweden. Additionally, it has been used by several regulatory authorities such as the Office of the Superintendent of Financial Institutions (OSFI), New York Department of Financial Services (NYDFS), US Treasury Federal Insurance Office (UST-FIO), California Department of Insurance (CDI), European Insurance and Occupational Pensions Authority (EIOPA), and the European Central Bank (ECB) to assess the alignment of financial portfolios with climate scenarios.

The PACTA methodology has been implemented in various countries beside Switzerland, including Austria, Colombia, France, Japan, Liechtenstein, Luxembourg, Norway, the Netherlands, Peru, and Sweden. Additionally, it has been used by several regulatory authorities such as the Office of the Superintendent of Financial Institutions (OSFI), New York Department of Financial Services (NYDFS), US Treasury Federal Insurance Office (UST-FIO), California Department of Insurance (CDI), European Insurance and Occupational Pensions Authority (EIOPA), and the European Central Bank (ECB) to assess the alignment of financial portfolios with climate scenarios.

These insights provide governments, supervisors, and participating financial institutions with a reliable foundation to inform and refine their climate finance strategies, with the aim of fostering a coordinated and effective response to the challenges of climate change. In addition to this aggregate analysis, each participating financial institution has access to an interactive report with their individual results, and an executive summary containing the main findings of the analysis. The PACTA methodology also underpins the Capital Allocation Alignment metric used in the Climate Action 100+ (CA100+) Assessment[6]. Furthermore, it serves as the foundation for the PARIS Score, which evaluates a fund's alignment with internationally recognized climate scenarios for achieving the Paris Agreement's goal of limiting global warming to 1.5°C. This analysis has been applied to over 17,000 European funds as part of the My Fair Money initiative[7]

1.2 Participation and Coverage

146 financial institutions voluntarily participated in the 2024 PACTA Climate Test. With the exception of the insurance sector, financial sector participation increased across all sectors. The increase since the 2022 test round is certainly also due to the support and mobilization of the respective associations, even though the number of participants fro74m 2020 (179

[6] Climate Action 100+
[7] MyFairMoney - Resources

participants) was not reached again. In terms of number of participants, this is one of the largest coordinated climate assessments for financial markets in the world.

Table 1 Participation of Swiss Financial Institutions in the PACTA Climate Test 2024 compared to 2022

Group	Total 2022	Total 2024
Asset Managers	13	26
Banks	31	34
Insurances	20	15
Pension Funds	67	71
Other	2	0
Total	**133**	**146**

The significant number of participants in terms of both the quantitative and qualitative modules enables a meaningful and robust analysis once more. Within the banking sector, the comprehensive participation is the highest across the quantitative sections and qualitative survey. Within asset managers, half of participants uploaded listed equity and corporate bond portfolios while the other half of participants uploaded real estate and mortgage portfolios. The survey participation is positive. Of all 146 participants, 121 submitted portfolios in the equity and corporate bonds module and 112 submitted portfolios in the real estate and mortgages module.

112 participants completed and submitted the qualitative survey which corresponds to 77% of all participants, demonstrating the importance of the qualitative section. Both the scope and quality of inputs thus allows this climate test to meaningfully connect the quantitative results in terms of the climate alignment across various asset classes, with the qualitative information provided by participating institutions in terms of strategy, target-setting, and transition planning.

Table 2 Participation by asset class of Swiss Financial Institutions in the PACTA Climate Test 2024

Group	Participants submitted Swiss real estate and mortgages	Participants submitting global listed equity and corporate bonds	Participation in the qualitative survey[8]	Total 2024
Asset Managers	13	13	22	26
Banks	25	33	33	34
Insurances	13	12	9	15
Pension Funds	49	63	48	71
Total	**100**	**121**	**112**	**146**

Looking at the financial amounts uploaded – assets under management and the number of properties or mortgages – there has been an increase in almost all asset classes since the 2022 test round. Even though the number of participants in the insurance sector declined significantly, the submitted assets under management for that sector increased, although some of that trend is likely due to overall asset price inflation. Only in the directly held real estate asset class, the number of uploaded properties declined slightly, while a similar number of portfolios were submitted as in 2022 (130 in 2024 compared to 129 in 2022). In the mortgage asset class, the number of portfolios uploaded increased from 63 (2022) to 70 (2024). The number of mortgages also increased, even exceeding the 2020 figure when 1.15 million mortgages have been tested.

[8] The participants of the qualitative survey are contained in the other two modules, meaning that in order to have the participation confirmed in the qualitative survey financial institutions must have submitted portfolios in at least one module

Table 3 Participation details by asset class of Swiss Financial Institutions in the Climate Test 2024

Group	Number of directly held properties in 2024	Number of mortgages in 2024	Equity/Corp. Bond coverage 2024 (in billion CHF)	*Percent increase in Equity/Corp. Bonds compared to 2022*
Asset Managers	2'822	4'663	471	*+19%*
Banks	4'919	1'147'482	1423	*+4%*
Insurances	5'414	25'607	407	*+19%*
Pension Funds	7'254	15'045	425	*+89%*
Other	-	-	3	-
Total	**20'409 (21'342 in 2022)**	**1'192'797 (905'350 in 2022)**	**2730 (2329 in 2022)**	***+17%***

Over a million mortgages on Swiss buildings have been submitted, 96.2% of which through banks. At the end of 2023, Switzerland's building stock consisted of around 1.8 million residential buildings.[9] The broad coverage in the PACTA Climate Test shows the close link between buildings and the financial market. Compared to the PACTA Climate Test in 2020 and 2022 participants in all sectors submitted similar amounts of energy reference areas to test. In addition to the large bank portfolios, 0.4% of mortgages were submitted by asset managers, 2.1% by insurances and 1.3% by pension funds.

In terms of real estate, about half of all buildings held directly by institutional investors have been submitted for the climate compatibility test. When looking at directly held buildings, participating banks own significantly larger properties on average than pension funds, as the submitted energy reference area of 17.5 million m2 exceeds that of the pension funds 14.3 million m2, while pension funds submitted over 2000 buildings more for review than banks. Only the energy reference areas submitted by asset managers have decreased significantly. However, this could be because the 2022 test round allowed asset manager teams within banks to select a separate peer group for these asset classes. This was no longer possible in 2024 for reasons related to the comparison of the survey questions.

88% of the directly held buildings submitted and 96% of the mortgages submitted have "residential" as their main use. This is in a similar range to the 2022 test round (87% and 96.6% respectively). Therefore, the test results and possible climate-related measures will continue to focus on residential buildings. A further 10% of directly held buildings were submitted with "office" as their main use. Only a minority indicates to invest in international real estate (10% of participants) and international mortgages (8% of participants).

[9] Buildings (admin.ch); The number of mortgages can't be compared directly with the number of buildings, as a multi-family home various owners could have different mortgages.

If financial institutions invest indirectly in Swiss real estate, we recommend that they ask their fund providers directly to provide them with comparable PACTA results. AMAS and KGAST supported the FOEN in encouraging their members to participate in the 2024 test round to enable these widely available and comparable results. In addition to direct investments in real estate, pension funds are often indirectly invested in Swiss real estate. Usually through listed funds that are held directly by (Swiss) asset managers or banks. In previous climate tests, participating real estate fund providers could allow PACTA to show aggregated results directly to the pension funds that invest in these funds. Since almost no fund providers allowed this in the last two rounds, indirect investments in the real estate sector were no longer covered by PACTA 2024.

On the listed equity and corporate bond portfolio, a total of 2.7 trillion Swiss Francs (CHF) in holdings was submitted in the PACTA Climate Test 2024, representing a 17% increase in portfolio value compared to the 2022 PACTA Climate Test. All peer groups showed positive growth in assets under management (AUM) submitted for analysis. As anticipated, pension funds led the way with an 89% increase in AUM compared to the previous exercise. Insurance companies and asset managers followed, both recording a 19% rise in AUM even if only two thirds of the insurances participated compared to 2022. Banks, however, saw a more modest increase of 4% in AUM submitted for the Climate Alignment Test. If asset owners have uploaded portfolios that are managed by asset managers in Switzerland, double counting could occur if the latter also have the same portfolios tested. However, from a climate perspective, this is not a problem because the aim is for all financial sectors to contribute to achieving the climate target in line with their capabilities.

1.3 Participant's motivation

In the qualitative survey, we also sought to understand the underlying motivations driving the participation of financial institutions in the 2024 Climate Test. Respondents were permitted to select multiple responses. It is important to note that due to these questions being introduced for the first time in 2024, any comparative analysis with previous years was not possible.

The survey revealed diverse reasons for engagement and reflects the increased sensitization of financial institutions to the general topic as well as to the regular Climate Test initiated by FOEN and SIF. The most frequently cited reasons across all industries are:

- To compare their alignment results with those of their peers;
- To demonstrate the progress of the Swiss financial market in aligning financial flows with climate goals to the public and policymakers;
- To showcase their organization's commitment to climate protection;
- To raise awareness of climate change within their organizations.

Those reasons are followed by the recommendation by both FOEN and SIF as well as their associations and the new developments in the real estate and mortgage part. The use of results for specific reporting purposes was a less important motivation.

1.4 Data quality development

The data quality assessment of the portfolios submitted for the PACTA Climate Test is essential for the validity of the results. Therefore, this chapter discusses the quality of the submitted data and compares it to the last test round. The data presented in this report is based as a snapshot of December 31, 2023, with all analyses reflecting the static results at that point in time.

The data quality for the submitted directly held properties is very good and is similar to that of 2022. The proportion of submitted energy reference areas with "good" data quality in 2024 is 81%, compared to 83% in 2022. For example, 93% of all submitted buildings provided data on the heating system. For the PACTA Climate Test, "good" data quality is assumed if the necessary information for a reliable model calculation is available, and no assumptions on missing data must be made (e.g. missing type of heating system). For buildings up to 30 years old, it is assumed that the information is reliable. For buildings older than 30 years, at least one historical renovation of a part of the building (roof, facade, windows, basement ceiling) is required. If a building is older than 30 years and no information on historical renovations has been provided, data quality is classified as "medium". If the information on the year of construction or the heating system is missing and the calculation is based on an assumption, the data quality is classified as 'moderate'. If mandatory information is missing and the calculation with the PACTA real estate model is not applicable, the data quality is classified as 'n/a'.

Table 4 Data quality by peer group for directly held buildings as a share of the energy reference area

Directly held real estate	good	medium	moderate	n/a
Asset Managers	70%	24%	0%	7%
Banks	86%	6%	5%	3%
Insurances	80%	19%	0%	1%
Pension Funds	84%	14%	0%	3%
All	81%	14%	1%	3%

Mortgage data quality is at a similar level to 2022. More than half (57%) of the mortgages submitted included information on the heating system. This development can probably also be explained by the SBA's self-regulation for mortgage providers[10] in the area of energy efficiency. Although the share of submitted energy reference areas with data quality "good"

[10] SBA guidelines mortgage providers on the promotion of energy efficiency (swissbanking.ch)

initially appears to have increased from 31% in 2022 to 41% in 2024, the actual improvement could be much smaller. Since 2022, certain financial institutions have introduced stricter data protection requirements, which meant that PACTA was no longer able to distinguish between declared heating systems and heating systems enriched from the Federal Register of Buildings and Dwellings (RBD). This could distort the evaluation of data quality. Nevertheless, a positive trend can be observed in the quality of data on heating types reported by participants.

There is still considerable room for improvement in terms of data quality for mortgages. On a positive note, the data foundation in the RBD has been steadily improving since 2022. However, a heating system could still not be determined from the RBD for around a quarter of the mortgages, so the assumption 'oil heating' was used. To improve data quality, it is important that outdated information on the heating system in the RBD is updated with current information. In Switzerland, the municipalities and cantons are primarily responsible for this. However, building owners and institutional investors can also play a role.

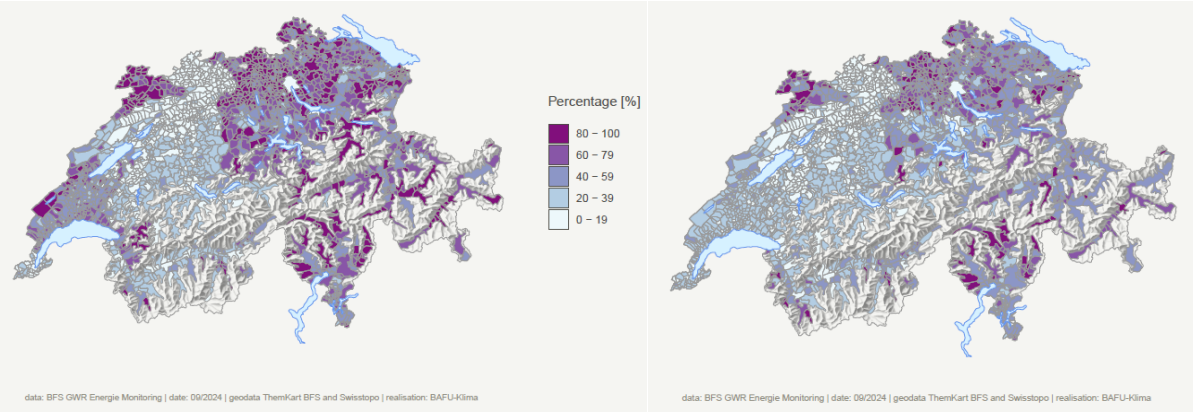
The federal government wants to establish the federal buildings and dwellings register RBD as the core central information tool in the climate and energy sector. It should provide reliable and up-to-date data. In the medium term, cantonal reporting and monitoring should also be able to rely more on the RBD. Knowledge of the granular state of the building stock – and in particular of the heating energy used – is also central to monitoring the net zero targets of municipalities, cities and private-sector actors such as financial institutions. Cantons have long been required to keep the RBD up to date.[11] Since 2017, the Federal Statistical Office (FSO), in collaboration with the cantons, has also incorporated additional secondary data sources (e.g. combustion source controls, Minergie, GEAK, construction program). The CO_2 Act after 2024[12] further strengthens the obligation to update the data on heat sources.

Since the last PACTA climate test 2022 data quality of the RBD climate and energy data significantly improved. As indicated in figure 1 below (left: data as of 31.12.2021, right: data as of 31.12.2023), the proportion of data taken from the 2000 census decreased significantly. The darker the colouring of the municipality, the greater the proportion of data taken from the 2000 census and therefore the greater the likelihood that it is out of date. Or vice-versa, the lighter the colour, the more up to date the RBD is.

[11] Article 5 VGWR

[12] 22.061 | CO2 Act for the period after 2024. Revision | Business | The Swiss Parliament

Figure 1 Proportion of data from the 2000 census: 2021 (left) and 2023 (right)



The CO_2-estimations for each residential building in Switzerland, based on PACTA, can be viewed on the federal government's geoportal.[13] To enable faster corrections of the data for individual buildings, the FSO plans to provide a digital correction form in early 2025. The data then only needs to be validated by the municipal building authorities.

Banks, insurance companies, pension funds and asset managers can actively contribute to keeping the RBD data up to date. Some have already done so successfully for their real estate portfolios after the 2022 PACTA Climate Test.[14] If you're interested, please contact energiegwr@bfs.admin.ch .

Concerning data quality assurance for listed equity and corporate bond analysis, RMI implemented new internal controls designed to reduce errors and improve the accuracy of data inputs. These enhancements include comprehensive quality assurance (QA) checks on scenario and production data, with predefined thresholds that trigger flags for potential inconsistencies. When such flags arise, the team proactively contacts data providers to verify the accuracy and integrity of the information.

On the investment portfolio side, RMI strengthened communication efforts by sending reminders to users ahead of the submission deadline, helping ensure a timely and comprehensive data submission. Financial institutions were requested to submit their portfolio data to the transition monitor platform for analysis. This entailed furnishing the ISINs of their holdings along with the corresponding investment amounts. It is imperative to note that RMI, FOEN, or FPRE do not possess the capability to verify the completeness or accuracy of the uploaded information by financial institutions, and that establishing consistent controls for this type of data is more complex, as portfolio structures can vary significantly between different types of financial institutions. Consequently, the PACTA analysis relies on financial

[13] CO2 calculator for buildings (admin.ch)

[14] The FSO will provide you with an Excel template for data cleansing. The data received will then be processed via https://www.housing-stat.ch/de/energy/algorithm.html.

institutions to adhere to the provided guidelines and incorporate all pertinent information in their portfolio data to ensure accurate results.

Crucially, the PACTA assessment for listed equity and corporate bonds portfolios takes into account forward-looking information in terms of production and investment plans by companies. This is one of the key assets of the exercise. However, for obvious reasons, these plans may change in the future and to the extent that these changes enhance climate alignment, this is desirable. It is also worth noting that the assessment will identify cases where the bottom-up climate alignment is not consistent with the top-down climate targets of companies. This does not imply however incorrect data necessarily, but simply a residual gap between targets and actions.

One other key data challenge involves accounting and consolidation rules across complex corporate ownership structures. Companies will themselves use inconsistent consolidation principles even within their own annual financial and sustainability reports, further complicating comparability between companies' sustainability performance. By using a consistent consolidation rule across all companies, PACTAT avoids this issue, but may at times lead to different results than companies' own disclosure

1.5 About the PACTA modules

The Swiss Real Estate and Mortgage Module used for the Coordinated PACTA Test allows financial institutions to measure the alignment of their Swiss mortgage and real estate portfolio with the climate target of the Swiss building sector to reach zero greenhouse gas emissions in 2050. It is a Swiss specific PACTA module, which was initiated by FOEN, initially developed by Wüest Partner AG and further developed by FPRE for the PACTA Climate Test 2024. The main input factor needed is the location of the properties in the portfolio in form of the EGID (Swiss Federal Building Identifier) or an address. Other attributes like the heating system or square meters of the energy reference area per building could either be filled in by the participants or automatically be matched with the Federal Register of Buildings and Dwellings (RBD).[15] Refurbishment plans were also requested. The CO_2-emissions of each property as well as of the whole portfolio are then estimated and compared with peers and the emission reduction pathway of the Swiss building sector.

The following features have been offered for the first time in the PACTA Climate Test 2024:

- **Renewable heating systems:** Different types of renewable energy sources such as efficient wood heating, heat pumps, can now be recorded in more detail.
- **Real consumption data:** If participants have consumption data at their disposal, they can be implemented in addition and be used for individual illustration.
- **Scope 2 emissions: With a new add-on module,** emissions from electricity consumption and district heating can now also be reported. If the emission factors for

[15] Federal Register of Buildings and Dwellings RBD (admin.ch)

electricity and district heating are known, they can be stated directly. Otherwise, a Swiss average mix is assumed.

- **Scope 3 emissions from building materials:** Initial findings on Scope 3 emissions from the grey energy of buildings can now be reported. These scope 3 emissions are primarily generated during production, construction, renovation and demolition.

When looking at a property, the PACTA report defines three different type of emissions – so called "scopes":

Scope 1: direct emissions for buildings include - in line with the internationally agreed greenhouse gas inventory for Switzerland[16]- greenhouse gases emitted directly from sources under the control of the respective entity. The PACTA CO_2 calculator calculates the direct GHGs associated with the heat demand (heating and hot water) and the combustion of fossil fuels in Scope 1.

Scope 2: indirect, energy-related emissions summarize the GHGs that arise indirectly – i.e. not locally – from the generation of energy that the building needs to operate. The new PACTA CO_2 module determines the indirect emissions associated with the electricity and heating (from electricity and district heating) of the building under review in Scope 2 as well as on the positive side the electricity produced by photovoltaic systems on properties.

Scope 3: other indirect emissions encompass a wide range of indirect emissions associated with the activities of the unit or building but arising outside of its direct organizational sphere. These include, for example, GHG emissions from the production and transportation of materials, the use of products, employee commuting or waste activities. In Scope 3, the new PACTA CO_2 module only determines the indirect GHGs associated with the production of materials, construction of the building, renovation during the life cycle, demolition and disposal of the building (including transport).

The Scope 3 values cannot be directly compared with those from Scopes 1 and 2, nor added to them, because different time horizons are considered.

The development of the Scope 3 module has been accompanied by a validation study of the HSLU.[17] The further developed PACTA Modules will be available unlicensed on the market after the release of this report.[18] For more information on the PACTA Modules and about the methodology, please refer to www.bafu.admin.ch/pacta-climate-test.

[16] Switzerland's greenhouse gas inventory (admin.ch)
[17] The study can be found under 'documents' see www.bafu.admin.ch/pacta-climate-test
[18] For more information see also www.bafu.admin.ch/pacta-climate-test

The listed equity and corporate bond module – which uses the original PACTA methodology - leverages forward-looking production and capacity data from eight key climate-relevant sectors, referred to in this report as PACTA sectors. These sectors include oil and gas production, coal mining, power generation, automotive manufacturing, aviation, and industrial activities such as steel and cement production. The core strength of PACTA lies in its capacity to translate macroeconomic climate targets and transition pathways, such as those outlined in the Paris Agreement and Paris Agreement consistent climate scenarios, into actionable insights at the microeconomic level, specifically for individual firms. The model evaluates the underlying production assets associated with company-listed equities and corporate bonds in relation to these pathways.

Key differentiators of the PACTA methodology:

Five-year forward-looking metrics to evaluate company action in the decisive decade

Real asset insights derived from **capex** and production plans

Financial use cases enabled

Assess portfolio alignment against multiple climate scenarios

Set climate **strategies** and **targets**

Engage directly with clients' investment plans

Manage transition **risk** exposure

One of PACTA's key features is its forward-looking approach. Instead of just analysing past performance, PACTA evaluates the future trajectory of companies by examining companies' five-year production and investment plans.

As it could expected, not all economic sectors face similar challenges when it comes to climate action. PACTA takes this into account by providing sector and technology-specific insights. The methodology is built on a foundation of bottom-up, asset-based company-level data. This means that the tool relies on real-world information about companies' physical assets and production capabilities. By aggregating this data at the company level, and then at a portfolio level, PACTA provides a clear picture of how each company's activities within a sector align with the pathways needed to achieve global climate goals. The PACTA tool for investors is also available unlicensed in the market.[19]

The qualitative PACTA survey aims to obtain a more comprehensive overall picture of the climate-relevant strategies and activities of Swiss financial market actors. For the 2024 test round, the survey was also further adapted to the actual Swiss context, and includes valuable feedback from associations and experts. As priority areas, the survey focused in 2024 especially on:

- **Net zero targets and transition plans;**

[19] https://github.com/RMI-PACTA/workflow.transition.monitor

- **Transparency and reporting:** implementation of existing and announced (self-) regulations and recommendations from the Federal Council and sectors;
- **Climate-relevant measures for mortgages, equity and corporate bond portfolios and in the primary market** (restructuring plans for real estate portfolios are recorded via the quantitative real estate module).

The full documentation of the PACTA methodology for equity and corporate bonds including the external scenarios used for the PACTA Climate Text 2024 and information about the input data used for the analysis you can find here[20].

There are a number of limitations to the PACTA Climate Test conducted in this report. The first relates to the data received from financial institutions. Financial institutions are not obliged to upload portfolios in all asset classes subject to the test nor necessarily their entire portfolios; therefore, this analysis does not necessarily cover all their climate relevant holdings. The PACTA team, the FOEN and the associations recommended submitting all assets under management for the test, rather than only a portion, in order to obtain the best possible overall picture. It is also possible that financial products that are available in many forms merely submitted representative financial products. From a climate perspective, this would not be a problem. To check plausibility, a corresponding question was included in the survey. However, since the PACTA Climate Test is voluntary and based entirely on self-reported data, and not all participants have completed the survey, the authors have little opportunity to verify the information.

The further limitation relates to the climate scenarios analysis for equity and corporate bonds used. The climate scenarios here present one possible manifestation of how the energy transition aligned with the Paris climate agreement could look like. Even though the trend necessary is not controversial (expansion of renewables, retirement of high-carbon technologies), the precise way in which a carbon budget is distributed across sectors will be solved in different ways by different scenarios. Furthermore, different models will include different assumptions about the future development and potential of certain technologies. This analysis therefore focuses on those technologies that are proven and available to the market. Thereby, this analysis does not consider investments in R&D that represent an important contribution financial institution can make in bringing new solutions to the market.

Another limitation relates to the scope of the analysis. PACTA does not cover certain asset classes like the underwriting of insurances or private equity. However, the qualitative survey in 2024 included questions on climate strategies for the infrastructure and commodities asset classes and in the primary market for the first time. And the PACTA lending module was tested in 2020 with large banks but since there are not many having significant lending activities in

[20] PACTA for Investors - PACTA (rmi.org): please refer to the "methodology and supporting documents" section.

the PACTA sectors, has been waived since. The equity and corporate bonds analysis don't cover sectors, such as agriculture and forestry, despite them being highly relevant for limiting future greenhouse gas emissions. These limitations are due to lack of available, meaningful and reliable data for such a quantitative analysis.

The climate test therefore focuses on the asset classes of Swiss real estate and mortgages, because a change in heating from fossil fuels to renewables in buildings can have a direct impact on the climate for financial market players and the asset classes are relevant in terms of volume for various financial sectors. Real estate is also relevant in terms of volume, particularly for pension funds, accounting for over 20% of their assets.[21] In the 2024 climate test, around half of all buildings directly held by institutional investors were submitted for testing. Mortgage claims held by banks account for over 80% of domestic credit volume.[22] In addition, a quantitative model is available without a license.

The other quantitative module focuses on equities and corporate bonds, because these asset classes are among the most relevant in terms of volume in all financial sectors. However, achieving an actual change in corporate strategies and thus an effective impact on the climate is more difficult in these liquid markets. However, the focus on the economic sectors that particularly need to be transformed and the combination with the qualitative questionnaire enable an assessment of the climate-friendly orientation and credible climate strategies and measures of financial institutions.

The full survey in English, German and French is available on the website www.bafu.admin.ch/pacta-climate-test.

[21] Pension Fund Statistics 2022: final and key results - GNP Diffusion (admin.ch)
[22] Banking Barometer 2023 - Banking Barometer 2023 (swissbanking.ch)

2 Mapping the future: Insights from financial institutions on climate targets, transition plans, and reporting requirements

This section discusses the strategies and plans as well as the different reporting requirements in place in Switzerland. The leading questions revolve around how financial market players see the future. The chapter also shows the extent to which the recommendations and self-regulation on transparency that have been introduced or planned since the 2022 climate test have already been anticipated.

In 2023, the Swiss population voted in favour of the Climate and Innovation Act.[23] It anchors the net zero greenhouse gas emissions goal by 2050 at the latest in Swiss law. It also affirms that Swiss financial flows should also align with this goal. The Act calls upon all companies to develop net zero emissions transition plans consistent with the goal. For larger Swiss financial institutions – primarily banks and insurances – that are subject to the Ordinance on Climate Disclosures (also called "TCFD Ordinance")[24] the publication of such a transition plan is mandatory from 2024 (Article 3). In light of this regulatory context, the PACTA 2024 survey asked for the first time how the participating institutions are responding to the net zero target, whether a transition plan is in place or is planned, and if so, how specific it is and for which business areas.

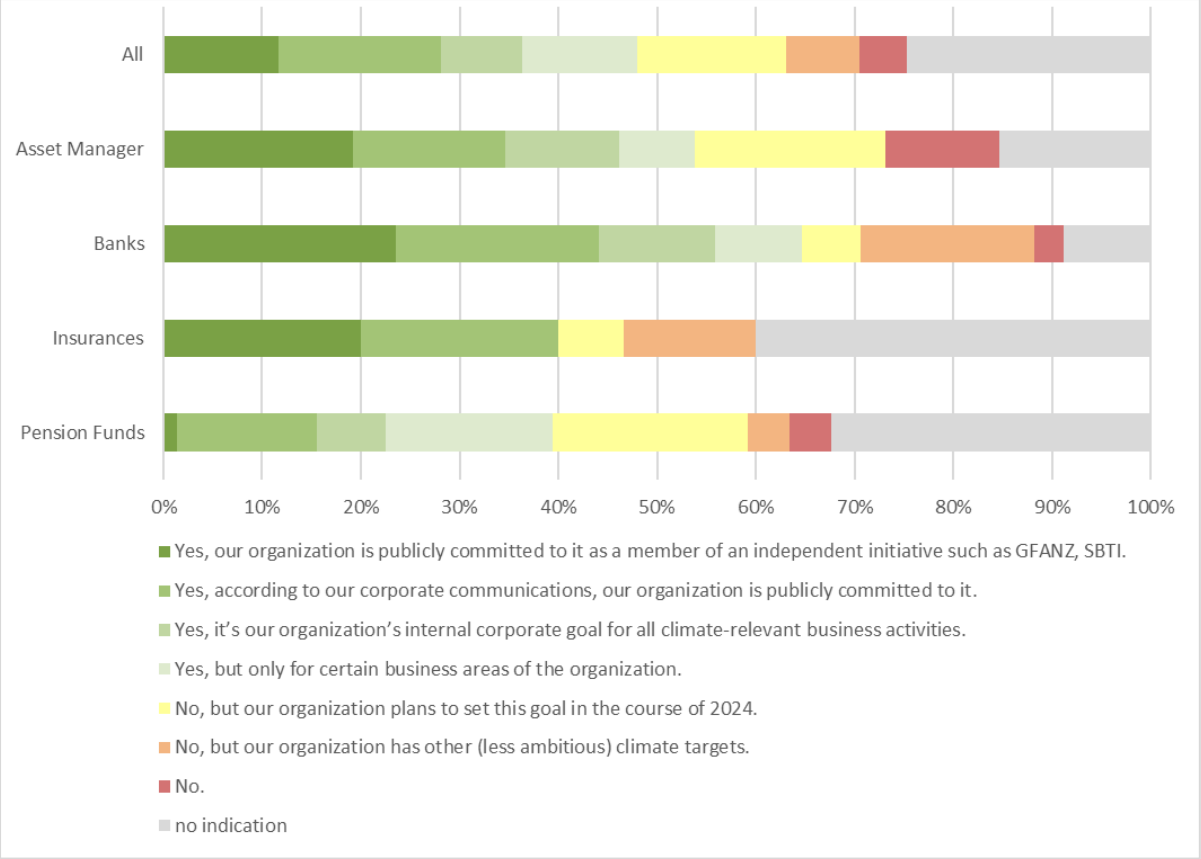
The results in figure 2 show that less than a third of all PACTA 2024 participants (n=146)[25] are publicly committed to a net zero target by 2050 or earlier. This number increases to over 60% accounting also for those which are at least partly committed or plan to set the net zero goal by the end of 2024. Among banks and insurances, the share of institutions with a public net zero commitment is much larger than within pension funds. Adding up all organizations that that indicate to be internally committed to net zero instead of publishing a net zero plan, plan to set this goal in the course of 2024 or aim for net zero at least in certain business areas of the organization, the commitment to net zero raises generally. Within the pension fund sector, this number increases to almost 60% – while staying at less than 50% for insurance. On the other hand, almost 30% of all participants either have a less ambitious target, no target, or didn't indicate anything. Only 5% of all participants explicitly stated that the alignment of business activities with the net zero targets by 2050 at the latest is not the goal of their organization as a whole.

[23] BBI 2022 2403 – Bundesgesetz über die Ziele im Klimaschutz, die Innovation und die Stärkung der Energiesicherheit (admin.ch) (in German, French, Italian)

[24] AS 2022 747 – Verordnung über die Berichterstattung über Klimabelange (admin.ch) (in German, French, Italian), Ordinance on Climate Disclosures (admin.ch) (English); incl. transition plans in line with the Swiss climate goals (Art. 3)

[25] For Chapter 2, all participating institutions are taken into account. If participants did not respond to the specific survey question or did not fill out the qualitative survey at all, they are accounted as 'no indication'.

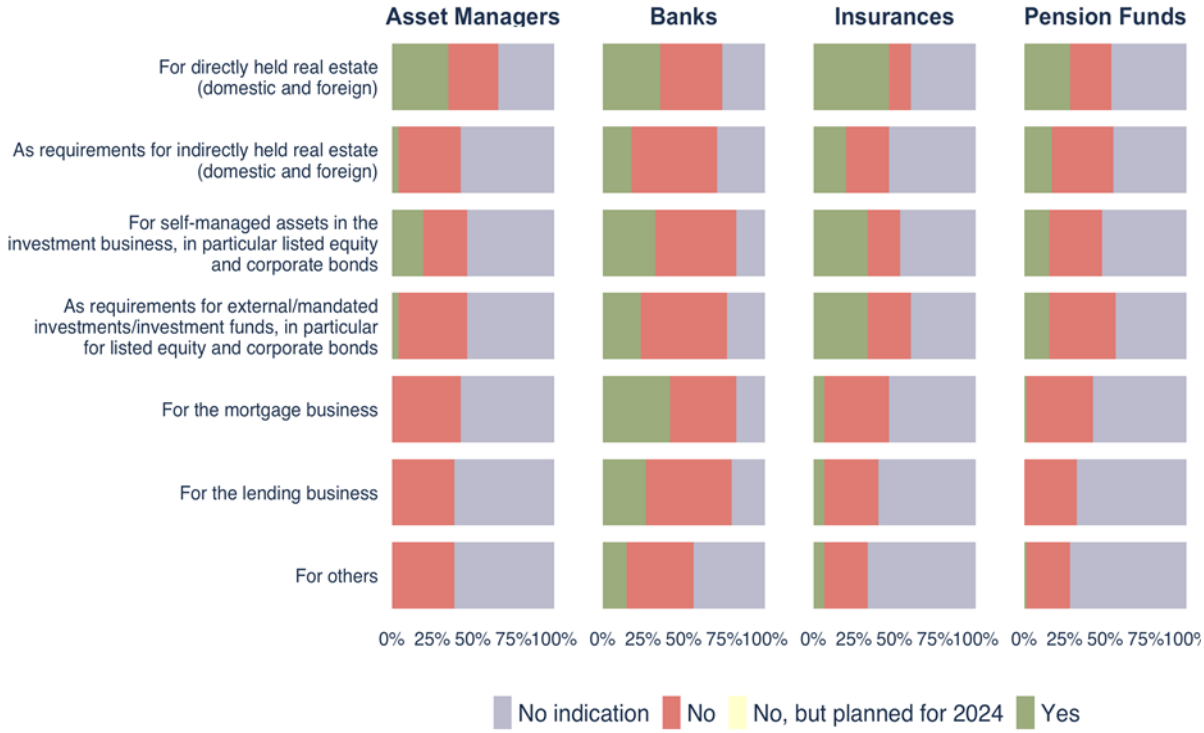
*Figure 2 Survey question: "Is the **alignment of business activities with the net zero target** by 2050 at the latest also the **goal of your organization as a whole?**" (All participants not filling out this question or the survey at all are accounted to 'no indication')*



The survey also asked about concrete net zero goals in specific asset classes (see figure 3). The picture for banks, insurance companies, and pension funds seems relatively consistent with the information on overarching net zero goals, assuming that "all climate-relevant business activities" only include the most frequently held asset classes. Asset managers were more likely to report having an overarching net zero goal than is reflected in the targets for the specific asset classes.

Most frequently, the participants have already set net zero targets in the direct-held real estate and for banks in the mortgage asset class. This is followed by self-managed secondary market investments and external mandates, respectively. In the case of banks and insurance companies, there are already financial institutions that set net zero targets in all of the business activities surveyed. However, it is striking that the majority of participants in all sectors and all asset classes currently do not yet set net zero targets for specific asset classes. However, as more financial institutions are planning overarching net zero targets, it is assumed that asset-class-specific targets will follow.

*Figure 3 Survey question: "Please indicate for **which business areas you have specific net zero targets by 2050 at the latest**."*



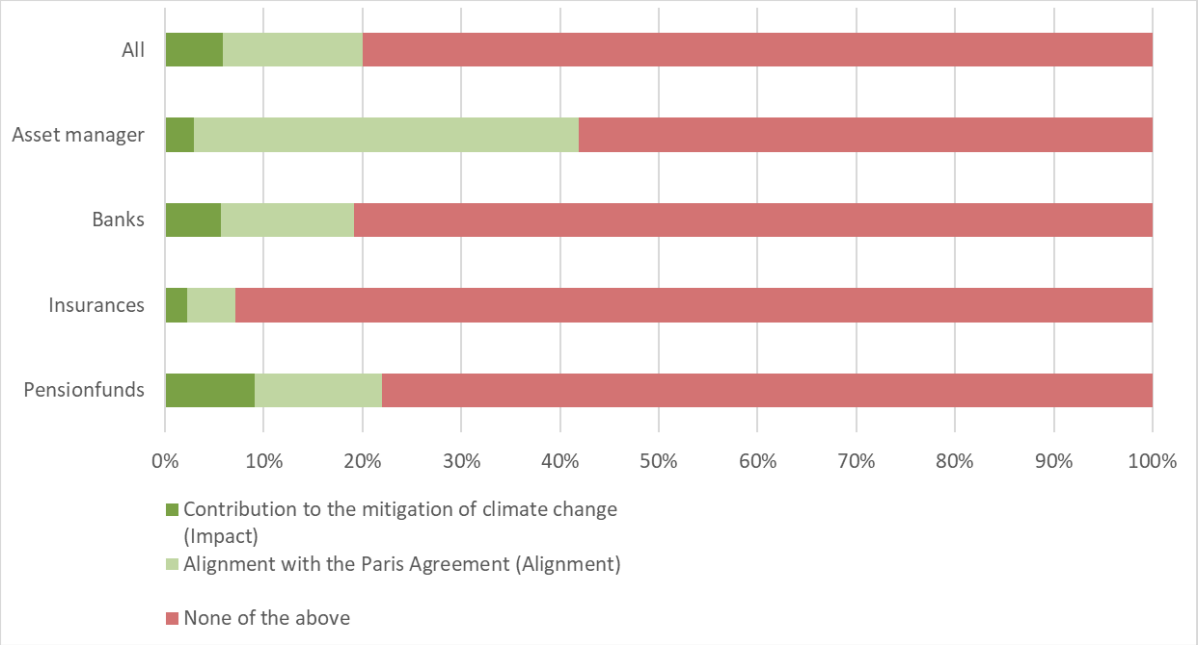
When uploading the equity and corporate bond portfolios, participants were asked to indicate what the aim of the portfolio is regarding climate. The questions were asked in line with the Climate and Innovation Law and the Swiss Federal Council's position to avoid greenwashing (see chapter 2.2), distinguishing 'impact' from 'alignment' objectives. The difference between these two concepts is that one case, the objective is to actively contribute to and shape the transition to a climate aligned economy (impact) versus simply seeking investments that are consistent with a climate aligned economy, without necessarily making an active contribution (alignment).

- **Notably, the distinction made here is in terms of the objective, recognizing that alignment objectives may indirectly also create impact outcomes.** These two objectives are also distinguished from the integration of sustainability issues in your objective with a view towards risk-return optimization, often described as "ESG Integration". While here too there may be positive sustainability spillover effects, the objective itself is not distinguishable from traditional narrow financial objectives, simply taking a sustainability-linked view as to how to achieve these financial objectives. The distinction made here is consistent with other international frameworks, including the UK Financial Conduct Authority (FCA) Classification system, which distinguishes between funds seeking to have impact and those seeking to represent sustainability characteristics.[26]

[26] Sustainability Disclosure Requirements (SDR) and investment labels (fca.org.uk)

The results show (figure 4), that only a small fraction acrossof all financial sectors aim for contribution. Also, the alignment goal is stated only for around 14% of all uploaded portfolios. Mostly pension funds, followed by banks stated to aim for a positive climate impact with 9% respectively 5.6% of the uploaded equity and corporate bonds portfolios. Almost 40% of Asset managers' portfolios aim to align with the Paris Agreement, while only 13.5% of banks' portfolios and only 13% of pension funds, and 5% of insurance state this aim. The alignment goal is to be achieved with engagement activities (see chapter 4).

Figure 4 Portfolio upload question: "What is the aim of this portfolio?"



Even though one question asked for the aim per portfolio (listed equity/corporate bonds) and the other question asked for the net zero targets per asset class per institution, the picture for pension funds and banks looks roughly the same. On the other hand, insurance companies are more likely to state a net zero target for the equity/corporate bonds asset class than they were for the portfolio when uploading. The opposite picture emerges for asset managers, where significantly more portfolios appear to have climate alignment as a goal than financial institutions state as an asset class target. This is not necessarily surprising since asset managers managing assets on behalf of third parties may be reticent to define asset class wide targets, but will manage individual funds in line with climate-aligned mandates.

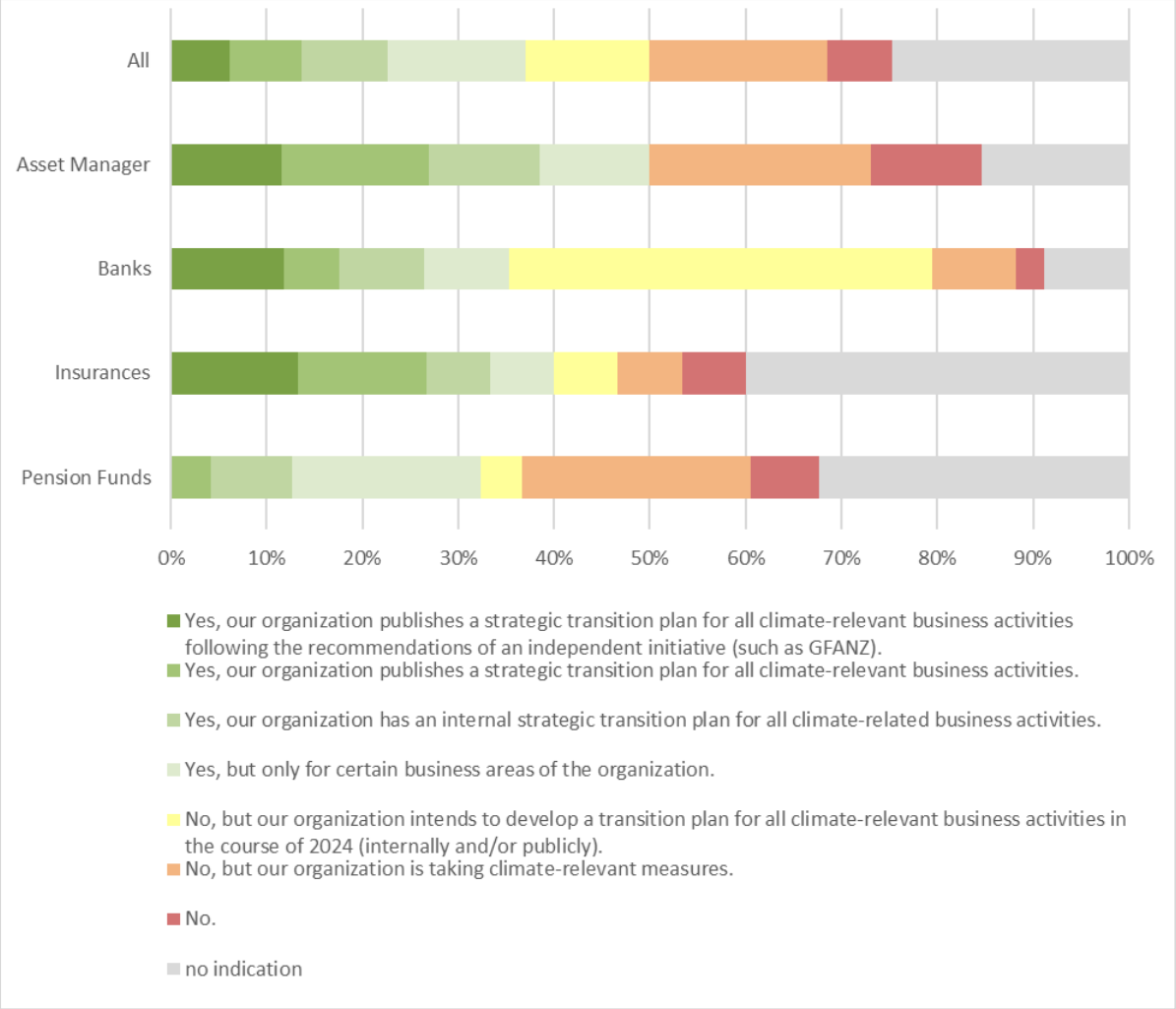
2.1 Transition plans

The Swiss Climate and Innovation law invites all companies to set up a net zero roadmap, also known as a transition plan. Around 40 major banks and 20 insurance companies have been required to publish such a net zero transition plan since the beginning of 2024. This is stated in the Ordinance on Climate Reporting. It supports the implementation of the net zero target. If published, it will underpin a credible path to achieving the target and can also show whether transition risks are adequately addressed.

Only 13% of all participants have a published a transition plan for all climate relevant business areas. Half of all respondents either have an internal plan, one for certain business areas, or plan to set up such a strategic plan. Over 40% of participating banks plan to set up a transition plan this year, while for asset managers, insurance companies, and pension funds, over 50% of the participants still have this step to go. When comparing the answers to the survey question ”Does your organization have a transition plan?” with the answers to the question “Do you implement or plan to implement the requirements of the Ordinance on Climate Disclosures?”, it becomes clear that the same range of banks, insurances and asset managers already having or planning a transition plan, also indicate to implement the requirements of the Ordinance on Climate Disclosures either on a mandatory or a voluntary basis. On the contrary only about 15% of pension funds plan to implement the “TCFD-reporting requirements” including a net zero transition plan at least partly.

This suggests that the Ordinance on Climate Disclosures has a strong effect on the development of (voluntary) transition plans, although it only obliges large companies. In addition, it is noticeable that a relatively large proportion of participants within insurances (40%) and pension funds (over 30%) did not answer this survey question.

Figure 5 Survey question: "Does your organization have a transition plan/roadmap for aligning all your business activities or for some individual business areas with the net zero target by 2050 at the latest?" ("No indication" means the institution did not respond to the survey question")

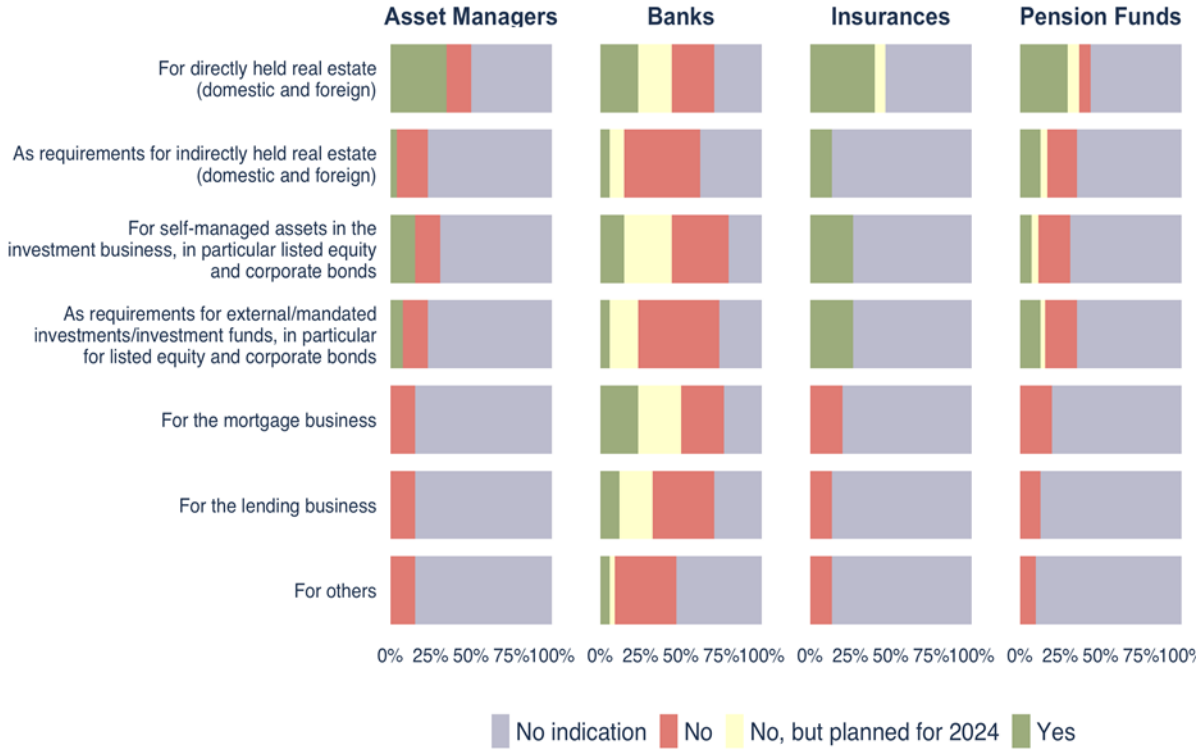


A lower share of financial institutions has concrete transition plans for specific asset classes as figure 6 shows. However, those having a transition plan in a specific asset class also indicate concrete interim targets, e.g., for 2030, and concrete measures planned. The picture looks rather similar to the one for asset-class-specific net zero goals. Real estate and mortgage asset classes seem to be those where most participants have concrete transition plans, followed by listed equity and corporate bonds. Banks primarily state that they have plans to develop concrete transition plans by asset class.

For the mortgage business – a core business for most banks – around 25% have a transition plan underpinned with concrete measures, while another 25% plan to put one in place this year. For asset managers, insurances and pension funds, the focus is more on directly held properties, where around 40% already have a transition plan underpinned with concrete measures. When looking at the analysis of the concrete heating replacement and refurbishment plans of the respective holdings (see chapter 4) we see a consistent result, at

least in the order of magnitude. **This suggests, that the asset-class specific transition plans are credible when it comes to implementation.** Around 20% of participating pension funds and insurances have transition plans for indirectly held property funds.

Figure 6 ***Please indicate for which business areas you have a specific transition plan*** *(also known as a refurbishment plan for real estate) or* ***are planning one*** *(public or internal).*



All financial sectors have institutions that have specific transition plans for self-managed assets in the investment business, in particular for listed equity and corporate bonds as well as respective requirements for mandated investments or investment funds. However, the share of those already having such a transition plan is smaller in all sectors than in the building-specific asset classes. Banks, in particular, plan to set up specific transition plans until the end of 2024. Likewise, in the banking sector, there are financial institutions that already state to have concrete transition plans for all the asset classes mentioned.

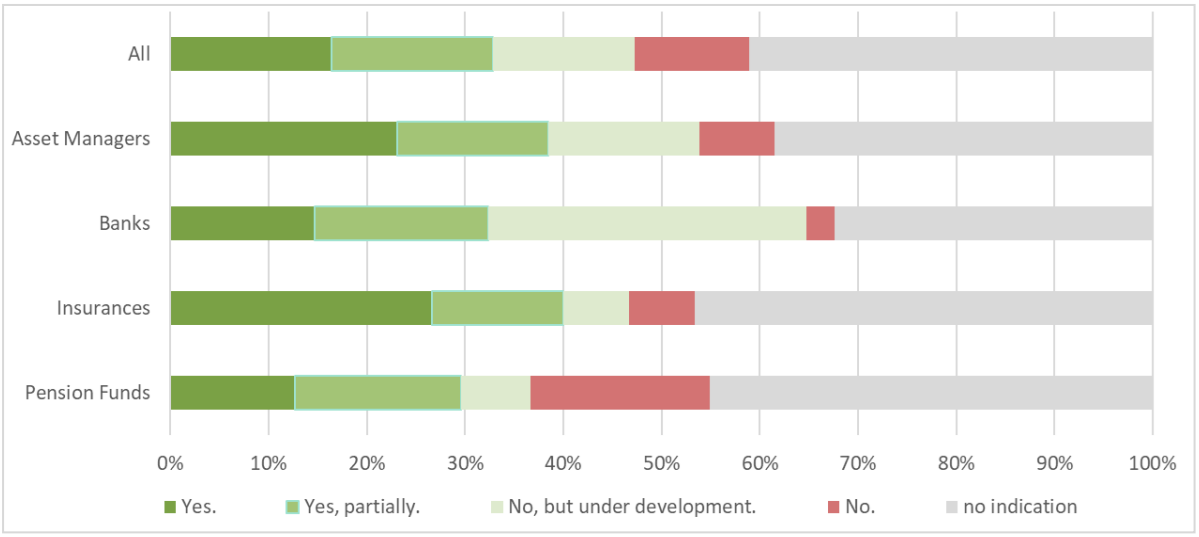
Different economic sectors contribute to climate change in different ways and must be transformed differently. Therefore, the survey asked if a sector-based approach, which takes into account the climate impact of the various economic sectors, is an important part of the strategy in the transition plan for the investment business. This means that fossil fuels such as coal, oil and gas should no longer play a significant role in a transformed economy. For sectors that cannot be dispensed with in the future (e.g. industry, transport), the focus is on promoting the transition. Green energy and climate-friendly alternatives are central pillars of the transition and should be supported. For companies and sectors with comparatively low emissions, the potential for climate measures is limited from the outset. A sectoral approach

is also enshrined in the leading climate standards (SBTI, CBI, GFANZ)[27] and can be supplemented with general portfolio strategies.

Over 30% of asset managers and insurance companies already use sector-based approaches as climate-relevant strategies for equity and corporate bonds. For banks, the figure is 25%, and for pension funds, only 18%. PACTA also uses a sector-based approach. This is also consistent with climate policy goals, strategies and actions around the world. Between 15 - 20% of all sectors are aiming to reduce the carbon footprint of equity and corporate bond portfolios, taking a general view, while another 15% of banks and pension funds say they are taking a different approach. Around 40% of all sectors did not answer this question. By contrast, more pension funds reported that, they engage with companies in specific climate-relevant sectors and exclude certain fossil technologies, without following an explicit sector-based approach. The exclusion of certain fossil fuel technologies is most popular, followed by engagement and voting and support measures to accelerate investment in the areas of innovation and green technology.

Between 30% and 40% of participants in all peer groups are at least partially integrating climate-related factors into their risk management and the corresponding processes as part of their transition plan, as figure 7 shows. Only a few explicitly state that they are not doing so or planning to do so. This development is interesting because net zero transition plans are also becoming increasingly important for financial regulators internationally.

Figure 7 Survey question: "Does the transition plan integrate climate-related factors as a part of the risk management and corresponding processes?"



As expected, banks, insurance companies and asset managers in particular use international recommendations for transition plans. Most refer to the recommendations of the Task Force on Climate-related Financial Disclosures TCFD (16 banks, 6 asset managers, 5 insurances), a

[27] Ambitious corporate climate action - Science Based Targets Initiative; Climate Bonds Initiative; Glasgow Financial Alliance for Net Zero (gfanzero.com); Ambitious corporate climate action - Science Based Targets Initiative; Climate Bonds Initiative; Glasgow Financial Alliance for Net Zero (gfanzero.com)

smaller share to the net zero Alliances (e.g. Net Zero Asset Owner Alliance, NZAOA) or the Transition Taskforce (TPT).[28]

Internationally, transition plans have become the norm in climate reporting and in the development of climate targets and strategies. Financial institutions reporting under International Financial Reporting Standards (IFRS) S2[29] are required to publish transition plans when they have them. The development and publication of transition plans is also recommended by the Glasgow Financial Alliance for Net Zero GFANZ.[30] Transition plans are an integral part of the implementation of climate targets in the business plans of companies and financial institutions.

Another possibility for investors is to engage in real economy policy. In all financial industries, only very few indicate that they do this. Effective climate policy frameworks in all sectors need majorities in order to succeed in the political process. Investors can therefore play a significant role, especially in national policies. This is also emphasized by the NZAOA and other target-setting initiatives. This type of action could also complete a comprehensive transition plan.

2.2 Reporting requirements, self-regulations and recommendations

Switzerland aims to position itself as an international leader in terms of credible climate transparency.[31] Transparency is often seen as an important prerequisite to facilitate climate relevant actions – "you manage what you measure". More transparency and disclosure can indirectly contribute to climate-friendly investments. If financial institutions report on the negative or positive effects of investments on climate, this leads to better-informed investment decisions by customers and other financial market participants. Disclosures should be comparable, forward-looking, and relate to climate goal alignment and contribution.[32] Switzerland, as well as the European Union, push for transparency efforts.

Principle-based reporting requirements are mandatory for large financial institutions and companies in Switzerland. They are anchored in the Ordinance on Climate Disclosures,[33] which is based on the Swiss Code of Obligations (CO 964b).[34] These provisions, in turn, correspond to the EU Non-Financial Reporting Directive (NFRD).[35] As the EU have additional transparency requirements, the regulatory requirements in Switzerland are less elaborate but still ambitious. The Ordinance asks for transparency on governance, strategy, risk management as well as metric and targets in regard to climate, including a transition plan

[28] See TCFD. GFANZ. Transition Taskforce TPT.
[29] IFRS - IFRS S2 Climate-related Disclosures
[30] Glasgow Financial Alliance for Net Zero (gfanzero.com)
[31] Swiss Climate Scores (admin.ch)
[32] Bundesrat verabschiedet Bericht zu klimafreundlichem Finanzmarkt (admin.ch)
[33] See footnote 24.
[34] SR2020 - The Code of Obligations - Art. 964b (admin.ch)
[35] Predecessor of the EU CSRD

(see chapter 2.1). As the Ordinance does not prescribe a specific methodology, the comparability of the information is likely to remain limited. The Swiss Federal Council decided further developments during the writing period of this report (see chapter 6).

As some associations defined sustainable finance as a strategic priority, several voluntary self-regulations and associations' recommendations have been introduced or planned during 2023 in Switzerland. PACTA is able to cover the different financial sectors with its survey. An important question is therefore, how industry self-regulation and recommendations have effects beyond the targeted sector. Voluntary self-regulations are a common instrument in the Swiss financial market. They are introduced by associations on an autonomous basis without state involvement, but are usually seen as binding for associations' member institutions as well as other affiliated institutions. The PACTA survey 2024 aimed to surface the extent to which the announced (self-)regulations and recommendations of the federal government and industry associations are anticipated.

In addition, the Swiss Federal Council published its position to prevent greenwashing in Dezember 2022.[36] It then announced a principles-based state regulation at ordinance level.[37] In June 2024 the Federal Council has taken note of the partial implementation of the position into self-regulatory provisions.[38] The PACTA survey and results refer to the self-regulations as they were known to the members in spring 2024. In its position, the Federal Council stated that financial products or services should only be advertised as being sustainable if they are compatible with a specific sustainability goal, e.g. net zero, or contribute to achieving it. Products, which only integrate ESG risks and optimise performance cannot be labeled as 'sustainable'. This is consistent with international best practice, notably the UK Financial Conduct Authority Sustainability Disclosure Requirements (SDR)[39], as well as EU frameworks[40].

In June 2024, while noting some progress in terms of the self-regulations, the Federal Council pointed to unresolved issues, especially with regard to EU comparability, the permissible reference framework for sustainability targets, and enforceability. It plans to re-evaluate the need for action by the end of 2027 at the latest.

The following transparency requirements have been published by associations targeting the mortgage and real estate asset classes:

[36] December 2022: Federal Council wants to prevent greenwashing in financial market (admin.ch)Federal Council wants to prevent greenwashing in financial market (admin.ch). The term "greenwashing" refers to the practice of misleading clients about the sustainable characteristics of financial products and services.
[37] October 2023: Further efforts to prevent greenwashing (admin.ch)
[38] June 2024: Federal Council notes financial sector's progress in preventing greenwashing (admin.ch)
[39] Sustainability disclosure and labelling regime | FCA
[40] Overview of sustainable finance - European Commission (europa.eu)

Regarding mortgages

- The **Swiss Banking Association SBA** published **guidelines** in June 2022[41], coming into force with a transition period up to January 2024. They cover face-to-face and online advice to private individuals seeking finance for single-family and holiday homes. Their purpose is to motivate owners to deal with the issue of maintaining the value and optimising the energy efficiency of their properties with the support of the bank, and thus be made aware of the importance of energy-efficient renovation. **They point to different incentives lenders could undertake but do not ask for specific actions.**

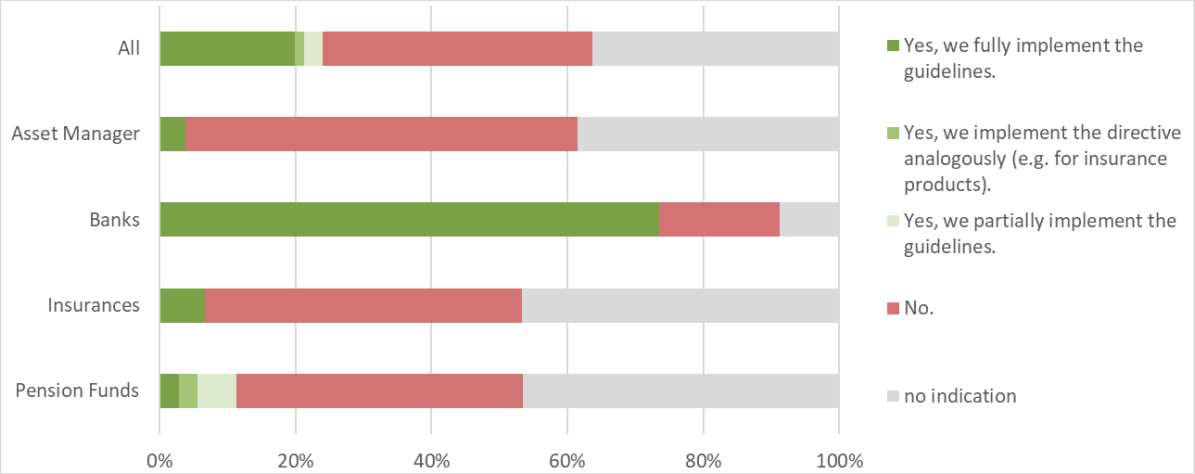
Real estate assets

- The **Asset Management Association Switzerland AMAS** published its environmental indicators for real estate funds in May 2022. It published a revised version with best practice in June 2023.[42] AMAS has called for the immediate application of this best practice, but at the very latest in all annual reports by 31 December 2024. The main indicators are the energy mix, the energy consumption and intensity as well as greenhouse gas emissions and intensity of properties.
- The **Conference of the managing directors of investment foundations KGAST**[43] issued recommendations in December 2023 that members of real estate investment groups should collect environmentally relevant key figures in accordance with the AMAS technical information and best practice guidance (see above) and report them at portfolio level in an appropriate place.
- The **Pension Fund Association Switzerland ASIP published in December 2022**[44] recommendation for its members. It distinguishes between the reporting **on 'basic key data' and 'advanced key data'**. For direct real estate investments within Switzerland, it asks as basic key data the energy mix as well as the energy and greenhouse gas intensity. Advanced reporting also covers international properties as well as information on water use. It also contains additional indicators for other asset classes (see below).

Over 70% of participating banks state that they will fully implement the SBA guidelines regarding mortgages by no later than 2024 (see figure 8). 18% of banks explicitly do not plan to do so. There can also be seen a slight spillover effect of the guidelines to the other financial sectors. Banks cover 96.2% of all uploaded mortgage properties, therefore the guidelines are most important for them. The other sectors' mortgage portfolios are rather small in comparison or some might not offer any mortgages at all. Within the banking sector, participants either state to fully implement the guidelines or not at all, no one indicated only partial implementation. The results are also of interest when looking at chapter 4.1.

[41] SBA - Guidelines for mortgage providers on the promotion of energy efficiency (swissbanking.ch)
[42] Asset Management Association Switzerland | Real estate funds (am-switzerland.ch)
[43] KGAST recommendations for environmental indicators for real estate investment group
[44] ASIP ESG-Reporting 2022 | Schweizerischer Pensionskassenverband ASIP

*Figure 8 Survey question: "When providing **advice in the mortgage business**, we will implement the SBA guidelines for mortgage providers on promoting energy efficiency (mutatis mutandis) by the end of 2024 at the latest."*

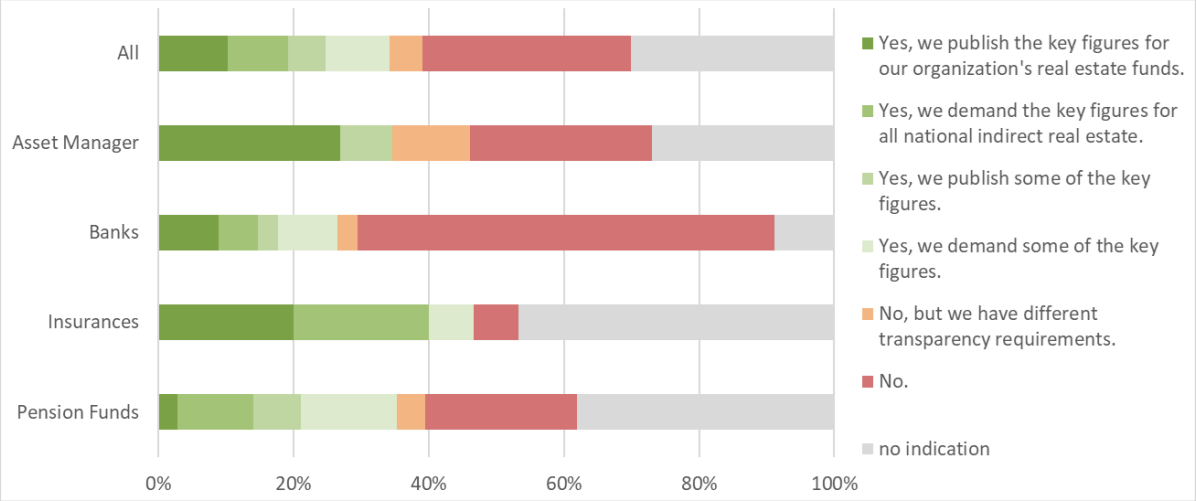


Almost 30% of PACTA 2024 asset manager participants plan to publish the key figures recommended by AMAS best practice guidance by no later than 2024, while another 30% explicitly stated to not doing so. The picture looks very similar when looking at KGAST recommendation for real estate investment groups. Less than 10% of asset managers at least publish some of the key figures while more than another 10% state to have different transparency requirements. If assuming, half of the participants in the asset management sector do not manage real estate funds at all (as they didn't upload anything in the real estate/mortgage module, see

table 2), the findings still conflict with the associations call for full implementation of the best practice guidelines by the end of 2024.

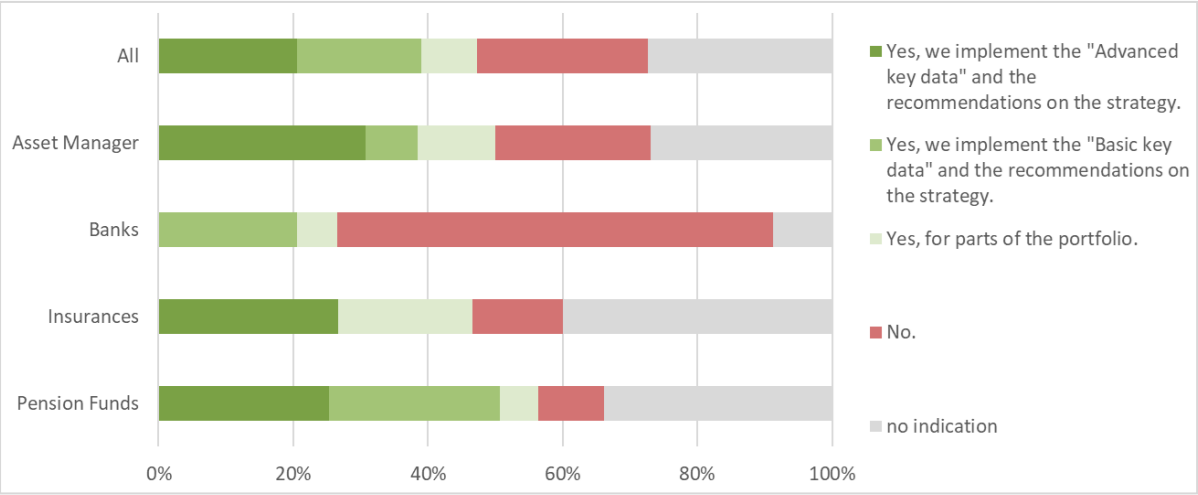
Institutional investors could support the full implementation of the AMAS/KGAST recommendations, however, if they systematically demanded comprehensive and comparable data when investing in indirect real estate funds and groups – of course, it is also possible to demand the fully comparable PACTA results. The bars already show a spillover effect of the AMAS self-regulation, particularly for insurance companies, but also among banks and pension funds. Around 25% of pension funds already require these key figures, or at least some of them, when they invest indirectly in real estate funds. The picture is very similar for the KGAST recommendations.

*Figure 9 Survey question: "Publication or request of key figures for **real estate funds** in accordance with **AMAS best practice recommendation** on environmentally relevant key figures by the end of 2024 at the latest."*



Half of all participating pension funds report the basic key data (as they are included also in the advanced data set) **while 25% already go for the full advanced version. 10% do not follow the ASIP recommendation explicitly.** As basic key data for real estate, ASIP recommends to publish the energy mix as well as the energy and greenhouse gas intensity. Advanced reporting also covers information on water use. It also contains additional indicators for other asset classes e.g. for listed equity and corporate bonds (see below). Interestingly, 30% of asset managers and over 20% of insurance companies implement the advanced key data, which require in addition to AMAS/KGAST best practice also data on water use as well as data on other asset classes.

*Figure 10 Survey question: "Publication of key figures in accordance with **ASIP recommendations** by the end of 2024 at the latest."*



The following transparency requirements have been published by associations targeting (mainly) the listed equity and corporate bonds asset class.

Regarding listed equity and corporate bonds, targeting specific associations' members:

- **The ASIP recommendations** not only demand key indicators for real estate investments but also for listed equity and corporate as well as sovereign bonds. Recommendations include the exposure to fossil fuels and the CO_2-footprint/intensity, as well as information on voting and engagement practice. Advanced actors publish more granular data including on the alignment of the portfolios with climate goals.
- **The AMAS self-regulation for collective assets with a sustainability focus**[45] is a principle-based self-regulation with general organisational reporting and disclosure requirements. It came into force in September 2023 and does not aim for key indicators. To align the self-regulation more with the objectives of the Federal Council to avoid greenwashing, an updated version came into effect in September 2024. The updated version 2.0 was not yet part of the PACTA survey 2024.
- **The Swiss Structured Product Association SSPA** also published principles-based self-regulation for structured investment products with a sustainability focus in June 2023.[46] It also doesn't aim for key indicators.

[45] AMAS Self-regulation on transparency and disclosure for sustainability-related collective assets
[46] SSPA Sustainability Guidelines for structured products with a sustainability focus June 2023

Regarding voluntary transparency recommendations for listed equity and corporate bonds, targeting all financial sectors:

- The **Swiss Climate Score Version 1.0** (**SCS)**[47] has been introduced during the PACTA 2022 test by the Swiss Federal Council **as a voluntary recommendation for all financial products** containing listed equity and corporate bonds. The executive summary of the individual PACTA reports 2022 included some of the indicators to support broad implementation. They recommend publishing a set of indicators on all equity and corporate bond products, even those without explicit sustainability objectives. The SCS aim to foster comparable information. Minimum requirements are defined to calculate the indicators. The results can still differ depending on the exact methodology used.
- The **enhanced Swiss Climate Scores**[48] were published in December 2023 by the Federal Council with the aim of being voluntarily implemented from 2025. In line with its position to prevent greenwashing (see chapter 2.2., para 4), the SCS ask about the climate-related investment goal. Optionally financial institutions shall state and justify whether the financial product is climate aligned or contributes to mitigating climate change. In addition, the exposure to renewable energies must be disclosed alongside the exposure to fossil fuels. SSF and AMAS together with industry experts have proposed and updated a Swiss Climate Scores template[49] to foster comparability. The executive summary of the individual PACTA reports 2024 again contains some of the SCS indicators.
- **The Swiss Sustainable Finance association SSF together with AMAS published a Stewardship Code in October 2023.**[50] The Code does not take the form of binding guidelines. It provides recommendations that are applicable on a voluntary basis and describes the most important elements that are crucial for effective and successful stewardship.

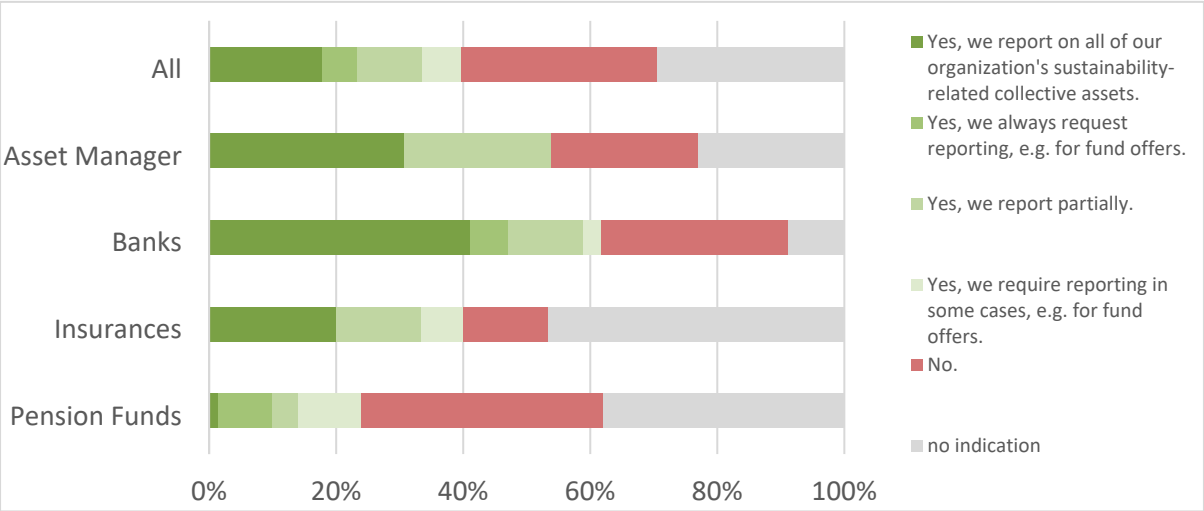
Looking at collective assets with a sustainability focus, 40% of participating banks fulfil the AMAS self-regulation, compared to 30% of Asset Managers. In both groups, around 20% of participants do not aim to fulfil the self-regulation or do not have collective assets or none with a sustainability focus. Another 20% of asset managers and 10% of banks indicate partially reporting in line with the self-regulation. For the PACTA survey, every institution had to categorize as one discrete peer group. Therefore, asset managers operating as part of banks are included in the banking sector.

Some pension funds, insurance companies, and banks require reporting for such assets e.g. for fund offers according to the AMAS guidelines, at least in some cases. Similar to the AMAS/KGAST recommendations on real estate, institutional investors could leverage full

[47] Swiss Climate Scores (admin.ch)
[48] Federal Council decides on further development of Swiss Climate Scores (admin.ch)
[49] Swiss Climate Scores (sustainablefinance.ch)
[50] Swiss Stewardship Code (am-switzerland.ch)

implementation by request reporting for fund offers. In contrast to real estate, comparability on the exact sustainability content of different fund offers may remain difficult.

*Figure 11 Survey question: "Reporting or requesting information in accordance with **AMAS self-regulation for collective assets with a sustainability focus** by the end of 2024 at the latest."*



For structured products, sustainability seems to play a much smaller role. Only 15% of asset managers, 10% of banks, and 7% of insurances report partially according to the SSPA self-regulation, with only very few reporting across all the organization's sustainability-related structured products. Only one pension fund indicates to request reporting from all its providers, one demand partial reporting.

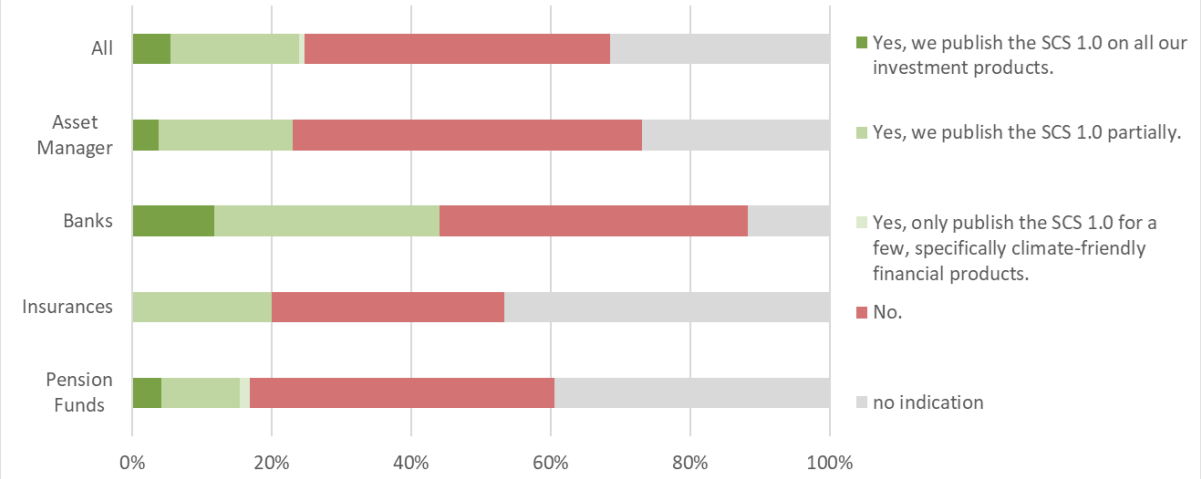
In addition to those self-regulations, the Swiss Climate Scores call for a set of concrete climate indicators mainly targeted to product offering. One asset manager and four banks as well as three pension funds indicated to publish the SCS 1.0 on all their investment products by the end of 2024 or earlier. When taking into account those responses, as well as the indication to publish the SCS at least partly, that number increases to 45% of banks, over 20% of asset managers 20% of insurances and 15% of pension funds. 50% of asset managers as well as 40% of banks explicitly stated 'No'. While almost all participating banks also submitted listed equity/corporate bonds portfolios, that number drops to around 50% across all participating asset managers. The findings are generally in line with those reported by SSF regarding asset managers (including asset managers within banks) for the same reporting period.[51]

The indicated uptake of the enhanced SCS indicators published in December 2023 is just slightly lower when taking into account those saying that they explicitly won't publish the new questions on the aim of the product (alignment or impact with self-explanation). In the enhanced SCS financial institutions shall state and justify whether the financial product is climate aligned or contributes to mitigating climate change. These introductory questions are

[51] Swiss Sustainable Investment Market Study 2024 (sustainablefinance.ch)

optional to answer. The PACTA survey asked, if the enhanced SCS will be applicated fully, or partly with or without the answers on the climate-related investment goal. Given that this answers on the aim of the financial product would enable more clarity for customers, a large part of Swiss financial institutions seems not willing to provide those on a voluntary basis, at least until the end of 2024.

*Figure 12 Survey question: "Publication of the voluntary **version 1.0 Swiss Climate Scores SCS for investment products (equity/corporate bonds)** by the end of 2024 at the latest."*



In a range between 20% (banks) and 30% (asset managers) all peer groups indicate to implement the SSF/AMAS Swiss Stewardship Code for their stewardship activities or demand a credible and high-quality offering (e.g. from pension funds, insurance companies) for stewardship activities by the end of 2024 at the latest. Almost tree quarter of this asset managers event state, that their stewardship activities go beyond the recommendations while only few do so in the other peer groups. 20% of insurances and 30% of the other peer groups explicitly state not implementing the Code.

Regarding investment advice and portfolio management:

- The **Swiss Banking Associations SBA published guidelines** in 2022.[52] Clients must be actively asked about their environmental, social and governance (ESG) preferences and they have to be taken into account. It also asks for advisory training. The guidelines remain principle-based without asking for key data. They were updated in May 2024[53] and became effective in September 2024 to better align with the objectives of the Federal Council's position to avoid greenwashing. The updated version 2.0 was not yet part of the PACTA survey 2024.

[52] SBA Guidelines investment advice and portfolio management (swissbanking.ch)
[53] Guidelines for the financial service providers on the integration of ESG-preferences and ESG-risks and the prevention of greenwashing.pdf (swissbanking.ch)

Regarding sustainability-related unit-linked life insurance:

- **The Swiss Insurance Association SIA published a principle-based self-regulation in June 2024**[54] for sustainability-related unit-linked life insurance to better align with the objectives of the Federal Council's position to avoid greenwashing. **This self-regulation was not yet part of the PACTA survey 2024**. It sets out requirements for the organisation, the development of products, and their distribution without aiming for key data.

Regarding EU disclosure obligations[55], especially the EU Sustainable Finance Disclosure Directive SDFR:

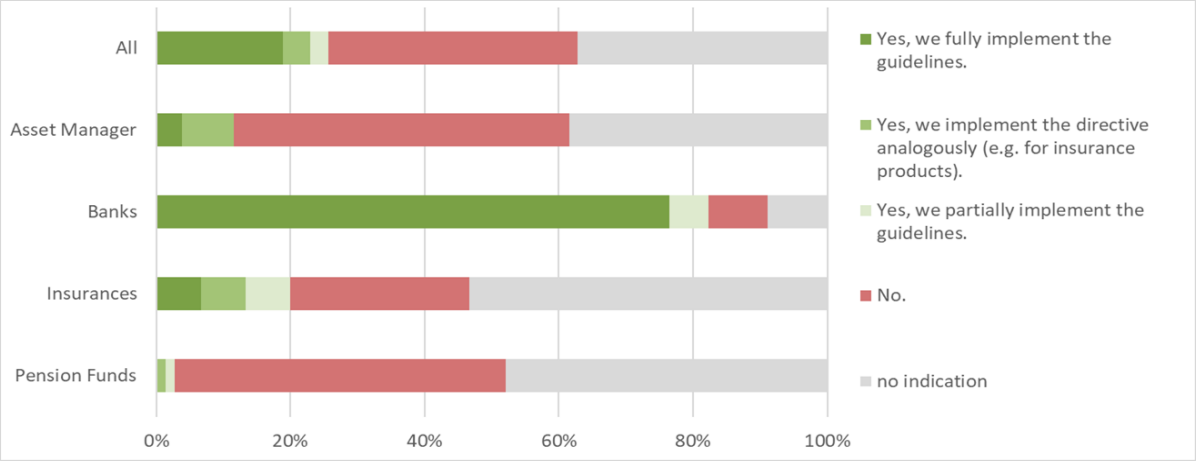
- The SFDR was introduced by the European Commission alongside the Taxonomy Regulation as part of a package of legislative measures arising from the European Commission's Action Plan on Sustainable Finance. For larger financial institutions it also interlinks with the Corporate Sustainability Reporting Directive (CSRD) (see chapter 2.2). The EU SDFR targets financial market participants as well as financial advisers and aims for more transparency with relatively detailed specifications. Swiss financial institutions that conduct activities in the EU or that have European clients can be affected by EU regulations. In the PACTA test 2024 one question demanded explicitly if the organization's financial products are significantly affected by the EU disclosure requirements of the SDFR.

75% of banks implement the SBA guidelines and integrate the questions on ESG-preference into their investment advice. Three banks explicitly stated that they do not. There's a spillover effect for asset managers and insurances, but not for pension funds, as they mostly do not advise clients/insured clients accordingly. As follow up question it would be interesting to know, which incentives are set by which type of questions asked to clients, depending on the exact implementation of the self-regulation. As the PACTA 2024 survey did not further deep dive into this area, this remains open.

[54] Self-regulation on the prevention of greenwashing in sustainability-related unit-linked life insurance | SIA (svv.ch)

[55] Sustainability-related disclosure in the financial services sector - European Commission (europa.eu)

*Figure 13 Survey question: "In the area of investment advice, we will implement the **SBA Guidelines for the financial service providers on the integration of ESG-preferences** into investment advice."*



The EU disclosure requirements are of little relevance in the Swiss financial market.[56] Less than 20% of asset managers say that a significant proportion of their organization's financial products (e.g. more than 2/3) are subject to mandatory EU disclosure requirements. Within banks and insurances, it is less than 10%. The amount sums up to around 30% when accounting also for those saying that they voluntarily set the requirements for a significant proportion of their organization's financial products (>2/3) or at least partly. Pension funds are not concerned with these requirements. At the first glance this contrasts with the findings of the SSF survey,[57] where two thirds of bank and asset manager respondents indicated that they have a legal obligation to implement the EU sustainable finance regulation. The difference could be explained by the regulation inquired: the EU tend to apply and enforce its different regulations on non-financial reporting[58] outside its borders, but not especially the SFDR and taxonomy regulation.

[56] Requirements of the **EU disclosure obligations** (Sustainable Finance Disclosure Directive - SDFR)

[57] Swiss SustainabileSustainable Investment Market Study, Page 65 ff (sustainablefinance.ch)

[58] e.g. Corporate Sustainability Due Diligence Directive (CSDDD) targeting global value chains; Corporate Sustainability Reporting Directive (CSRD) requires that companies disclose sustainability issues from a "double materiality" perspective; the regulation on the Transparency and Integrity of ESG Rating Activities

3 From then to now: evolution of the Swiss financial market in terms of exposure to climate-relevant sectors

In this section, the main question is: Where do the different financial sectors stand today and how has the exposure changed since the PACTA Climate Test 2022? This first component of the analysis allows the identification of exposure to climate relevant sectors in the Swiss portfolios, but also how this exposure is distributed among the different technologies available for each sector. Where possible, we also offer insights into changes relative to the previous Climate Test conducted in 2022. The chapter starts with the real estate and mortgage asset classes, where for the first time analysis on Scope 2 and initial Scope 3 emissions are provided, followed by the exposure analysis for listed equity and corporate bonds.

3.1 Development in real estate and mortgage portfolios

The financial market and the building stock are closely interlinked, particularly through mortgages, but also through directly held real estate. The climate policy targets and regulations are therefore relevant for financial market players. When it comes to buildings, banks, insurance companies, pension funds and asset managers can make an important contribution to achieving the net zero target.

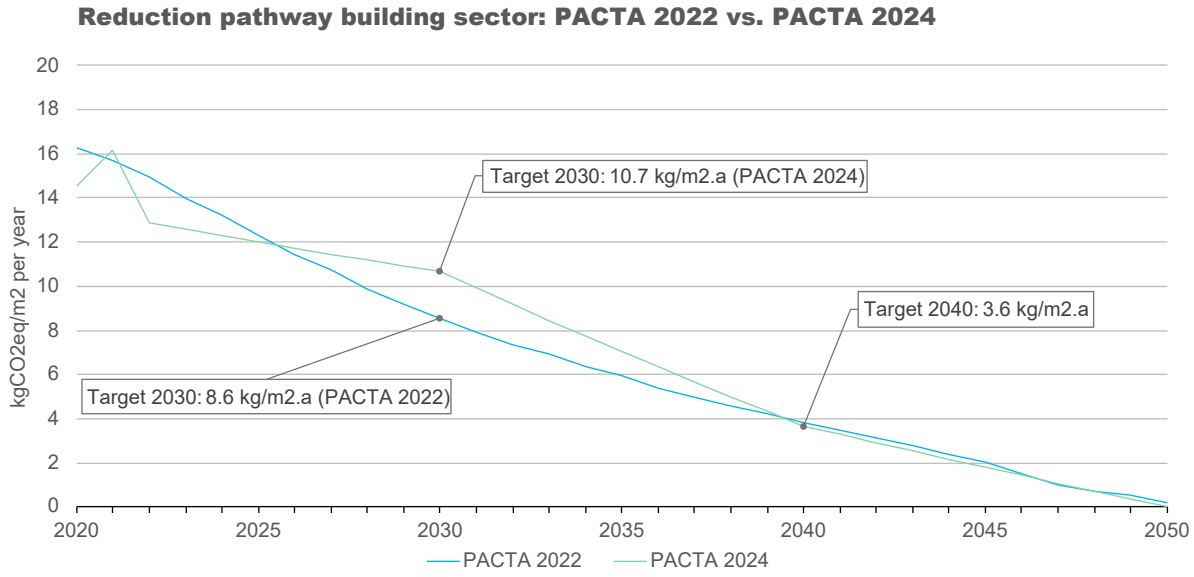
The whole Swiss building sector is responsible for around a quarter of Switzerland's CO_2 emissions and plays an important role in Switzerland's climate policy. Despite significant emission reductions since 1990, the sector missed its national target of an emission reduction by -40% in 2020 (despite mild winters). This is due to the fact that more than half of all buildings are still heated with fossil fuels (heating oil or gas). If fossil fuels are fully replaced by heating systems that use renewable energy, the direct CO_2 emissions of the Swiss building stock can be completely eliminated (known as “Scope 1” emissions). Energy consumption in buildings accounts for about 40 percent of Switzerland's total energy consumption.[59] To reduce overall energy consumption, buildings must be constructed or refurbished in an energy-efficient manner. Total energy consumption includes emissions caused by district heating or electricity, known as “Scope 2 emissions” from a building's perspective.

Switzerland has committed to achieving net zero emissions by 2050 at the latest. As an interim target, the building sector must reduce its emissions by 82 % by 2040 compared to 1990[60]. 2050, the building sector must reach zero emissions. Switzerland has committed to reducing total greenhouse gas emissions by 50% by 2030 compared to 1990, and the Federal

[59] Buildings (admin.ch)
[60] BBl 2022 2403 - Bundesgesetz über die Ziele im K... | Fedlex (admin.ch) Art. 4

Council proposes that the building sector also strives for an interim target of at least 50% by 2030.[61] PACTA translates these interim targets into a reduction pathway indicated in CO_2 emissions per square meter of energy reference area (figure 14). Since the proposal for the interim target for 2030 was not published until June 2024, the calculated reduction pathway for the building sector (green line) has changed slightly compared to the expected reduction pathway in the 2022 PACTA climate test (blue line). The exact calculation and official references for the future development of the energy sector can be found in annex I.

Figure 14 Adapted reduction pathway for the building sector, based on the targets in the Climate and Innovation Act and the CO_2-Ordinance (see annex I)



Several climate policy instruments aim at reducing emissions in the buildings sector. In particular, the CO_2 incentive tax on heating fuels, the revenues from which are partially earmarked for the federal government's buildings program. In addition, the Climate and Innovation Act includes a funding program for heating replacement (the so-called 'Impulsprogramm'). It targets for the period 2025-2034 with a maximum of 200 million Swiss francs per year especially multi-family buildings. In addition, cantonal climate and energy regulations are important. Numerous other measures at federal, cantonal and municipal level contribute to the reduction of CO_2 emissions and energy consumption in buildings (e.g. compensation projects in Switzerland, the technology fund, information, advice, training, standards, labels, spatial planning, tax incentives).

The Conference of Cantonal Energy Directors (EnDK) is proposing a ban on replacing fossil fuel heating systems with fossil fuel heating systems.[62] In 21 cantons, there are already

[61] See Bundesrat eröffnet Vernehmlassung zur CO_2-Verordnung (admin.ch); Entwurf der Verordnung über die Reduktion der CO_2-Emissionen (admin.ch) Art. 3

[62] Einladung zur Expertenstellungnahme Revisionsentwürfe Eigenstromerzeugung und Wärmeerzeugung - Energiehub Gebäude (energiehub-gebaeude.ch)

mandatory minimum requirements for the replacement of heating systems, especially for residential buildings (all except: AG, SO, UR, VD, VS).[63] These require that a significant proportion (at least 10 %) of the heat must be generated from renewable sources or saved through efficiency measures.

To assess their transition risks and their contribution to the transition, it can be helpful for financial market actors to be aware of these developments.

3.1.1 Scope 1 results for directly held real estate: On track on average but wide distribution among actors

On average, all financial sectors are currently on track to meet the climate target for directly held buildings, except asset managers. For the 2024 Climate Test, the aggregated annual CO_2 emissions[64] for the directly held buildings amount to 11.8 kg/m2 per energy reference area. Compared to the 2022 value of 14.8 kg/m2, this results in a significant reduction in Scope 1 emissions. According to the reduction path for the building sector to achieve the net zero target by 2050, the interim value for all Swiss buildings in 2023 is 12.6 kg/m2 per year. This means that the uploaded portfolios all perform slightly better than the Swiss average, except for the average for asset managers, at 13.7 kg/m2.

Table 5 Scope 1 emissions for real estate (directly held buildings)

Directly held real estate	**PACTA 2022**	**PACTA 2024**
	kg-CO_2-eq/(m2.a)	kg-CO_2-eq/(m2.a)
Asset Managers	13.3	13.7
Banks	16.7	10.7
Insurances	14.8	11.7
Pension Funds	13.7	11.9
All	**14.8**	**11.8**

However, the distribution of carbon intensity by portfolio is still very broad. Almost half of the portfolios submitted are currently not aligned with the climate targets, with some portfolios significantly exceeding the actual reduction path for buildings. The gap is even more evident, when looking at the interim target for 2040 and the zero target for 2050, which is only 26 years away. In all financial sectors, there are both institutions with low-carbon real estate portfolios and very fossil-intensive ones.

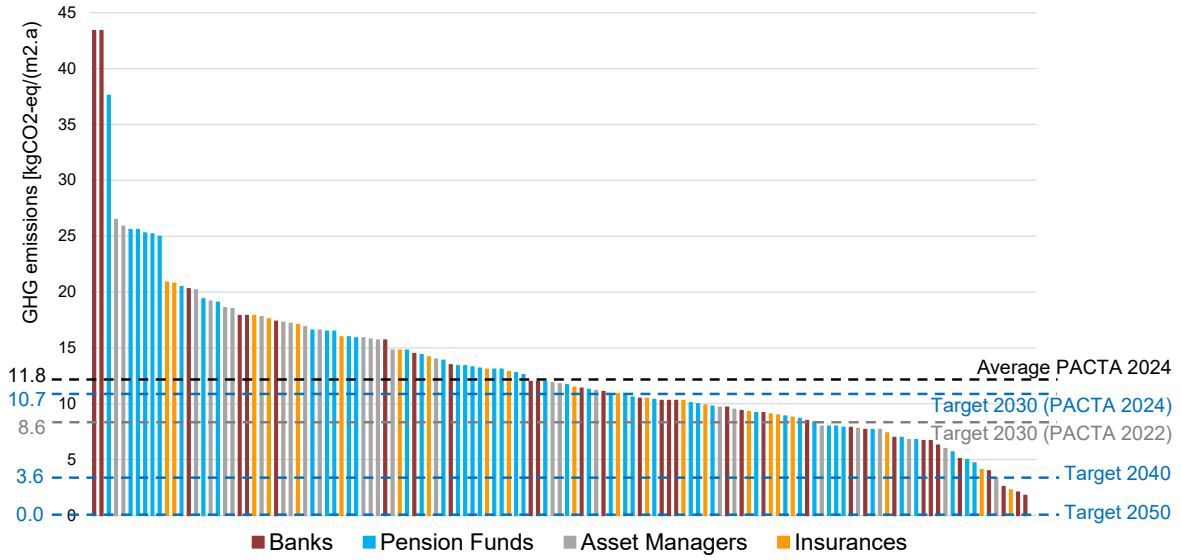
Assuming that some of the portfolios of asset managers and banks are offered to pension funds, for example, as indirect real estate investments, the distribution results suggest that

[63] Heizkessel ersetzen: Anforderungen in Ihrem Kanton | Erneuerbarheizen

[64] The Scope 1 emissions of the buildings were calculated using the PACTA model, as in the PACTA climate test 2022. Further details on the methodology can be found in the separate documentation of the PACTA model: PACTA Klimatest 2024 - CO2-Rechner (only in German).

it is worth taking a closer look at the specific offers in terms of their alignment with climate targets.

Figure 15 Scope 1 emissions per submitted portfolio (directly held buildings) by peer group



The replacement of fossil fuel heating systems with renewable ones is progressing. However, 57% of the submitted energy reference area of directly held buildings is still heated with fossil fuels, 29% with district heating and 15% with renewable energy sources. For directly held buildings, a comparison with the 2022 PACTA climate test across all submitted portfolios shows a slight decrease in the share of buildings heated with fossil fuels (oil and gas) and a slight increase in the share of buildings heated with renewable energy sources. There is little evidence that oil heating has been replaced by gas heating, as the shares for both oil and gas have decreased.

To achieve the zero target, all buildings heated with fossil fuels must switch to renewable energy sources over the next 26 years. These renewable energy systems include heat pumps (using ambient heat from the air, earth, groundwater, etc.), solar heat, wood or district heating, provided they come from renewable sources. On average, half of Switzerland's district heating still comes from fossil fuels[22] and only half from renewable sources.[65] Although emissions from district heating systems are included in the ”Scope 2 emissions“ from a building perspective, we are already reporting on them separately from renewable energies here.

[65] According to the Swiss Energy Statistics 2023 and the emission factors from the Swiss Greenhouse Gas Inventory, the fossil share of district heating remains around 50%. Table 26 in the Energy Statistics 2023 that around 80% of the Swiss district heating energy originates from waste, around 10% from gas and around 7% from wood. In the case of waste, the fossil share of emissions (in the waste incineration plants) amounts around 50% (see emission factors in the Swiss GHG Inventory). The emissions from gas and wood balance each other out, and the rest plays a subordinate role.

Table 6 Share of energy sources for heating by peer group in the energy reference area

Directly held real estate	Oil	Gas	District heating	Renewables
Asset Managers	20%	40%	27%	13%
Banks	19%	36%	31%	13%
Insurances	16%	39%	28%	17%
Pension Funds	19%	37%	28%	16%
All	**19%**	**38%**	**29%**	**15%**

More than half of the directly held buildings submitted were built before 1990. Around 25% were built between then and 2010, and around 20% after 2010. The distribution by construction year is similar for all peer groups.

The evaluation by year of construction shows that newer buildings are significantly more likely to be heated by renewable sources. In the buildings submitted built in 2010 or later, virtually no oil heating systems were installed. About one-sixth of the energy reference area is heated with gas, while district heating and renewable energies are mentioned for more than 80% of the energy reference area. This corresponds to the findings for the whole Swiss building park.[66]

Table 7 Share of energy sources for heating by construction period in the energy reference area for submitted directly held buildings

Directly held real estate	before 1946	1946-1970	1971-1990	1991-2000	2001-2010	after 2010
Oil	19%	28%	26%	17%	6%	1%
Gas	52%	43%	37%	52%	47%	15%
District heating	21%	24%	26%	26%	33%	42%
Renewables	7%	5%	11%	5%	14%	42%

3.1.2 Scope 1 results for mortgage portfolios: slight decline in oil heating, but well above the reduction path for all sectors

Almost all of the submitted mortgage portfolios are well above the reduction path for buildings and are therefore not aligned with the climate targets. However, when interpreting the results for mortgages, the significantly lower data quality of the submitted portfolios compared to the directly held buildings must be considered. Across all sectors, the Scope 1 CO_2 emissions for mortgages are 29.1 kg/m2 and thus even slightly higher than

[66] FSO: Residential buildings by main heating energy source and period of construction - 2023 | Diagram (admin.ch)

the 2022 value of 27.8 kg/m2. On the one hand, however, the PACTA participants provided information on the heating system much less frequently than for buildings they own themselves; in this case, the information was taken from the RBD. This is not updated equally in all cantons yet (see chapter 1.4). When no assumption on the heating system was provided, the assumption “oil heating” was used as requested so by FOEN. This was necessary for around 15% of the mortgages submitted. On the other hand, practically no renovation measures were declared, which influences the heating requirement. The reason for this is the lack of information from mortgage providers about the energy efficiency of the buildings financed.

For many private homeowners, especially in multi-family homes, investing in a heating system replacement is generally associated with greater hurdles (e.g. coordination between the various owners of the property) than for an institutional owner with a long-term strategy and steady rental income. Single-family homes and multi-family homes (and thus condominiums) each account for 48% of the properties submitted for mortgages in the Climate Test 2024. The remaining shares are distributed across other uses (including office and commercial). In Switzerland, single-family houses make up more than half of the buildings (57%) and accommodate just over a quarter of the population. By comparison, multi-family houses represent about 27% of the building stock and house more than half of the population.[67] According to a SFOE study[68], in 2022 a system with renewable energy was used in almost 80% of heating replacements. In the case of low-power systems (i.e. under 13kW, e.g. in single-family homes), almost all systems (95%) were converted to renewable energy. The higher the power of the system, the lower the proportion of systems with renewable energy. This can be observed in systems with a power greater than 13kW, which are typically installed e.g. in multi-family homes.

[67] See FSO: Buildings (admin.ch)

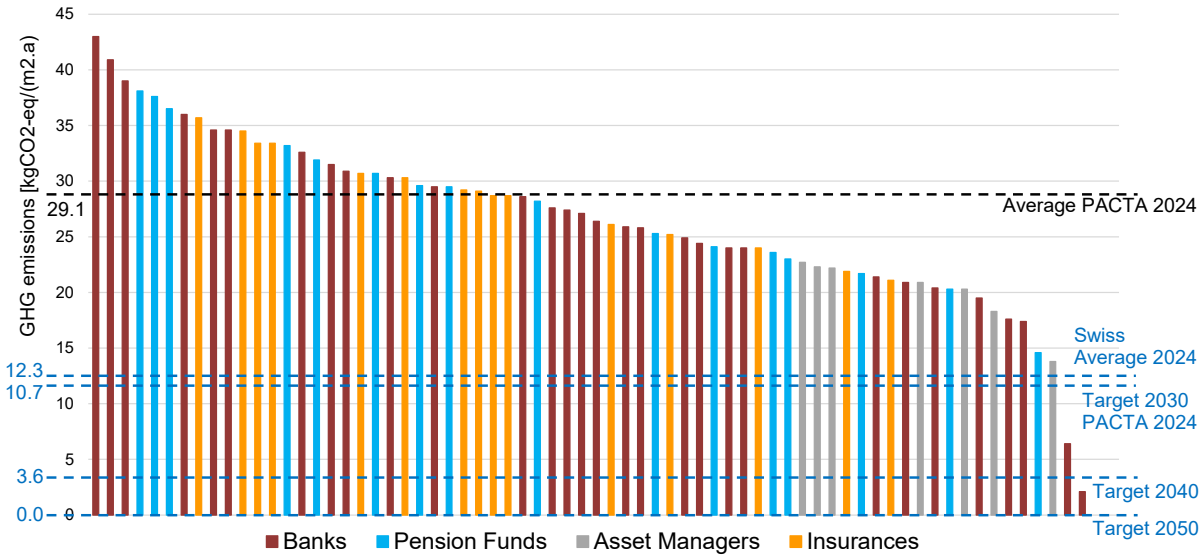
[68] SFOE (2023): Grundlagen zur Ausgestaltung Impulsprogramm für Wärmeerzeugerersatz und Energieeffizienz (KlG) und Weiterentwicklung des Gebäudeprogramms nach Art. 34 CO2-Gesetz

Table 8 Scope 1 emissions for mortgages

Mortgages	PACTA 2022	PACTA 2024
	kg-CO_2-eq/(m2.a)	kg-CO_2-eq/(m2.a)
Asset Managers	29.7	21.3
Banks	27.7	29.3
Insurances	30.8	26.3
Pension Funds	30.3	25.9
All	**27.8**	**29.1**

There is also a wide range of emissions in the mortgage portfolios. Only four portfolios are already climate-goal aligned, while two bank portfolios exceed the 2030 targets. Portfolios from banks, pension funds and insurance companies are at the upper end of the scale, as figure 16 shows.

Figure 17 Scope 1 emissions per submitted portfolio (mortgages) by peer group



Overall, a decline in the number of properties heated with oil can also be observed within the mortgage portfolios. The results still show that 42% of the energy reference area of properties secured by mortgages is heated with oil. The share of mortgages heated with gas has remained unchanged compared to PACTA 2022 and is around one fifth. Around a third of the energy reference area of mortgages is heated using a renewable energy source, which represents a significant increase compared to PACTA 2022. The share of district heating ranges between 7% and 13% per actor (see also chapter 3.1.3). On average, across all energy reference areas, it is 7%, because banks submitted 96.2% of all mortgages.

Table 9 Mortgages: Share of energy sources for heating by peer group in the energy reference area

Mortgages	Oil	Gas	District heating	Renewables
Asset Managers	27%	30%	12%	32%
Banks	43%	23%	7%	27%
Insurances	34%	33%	9%	23%
Pension Funds	33%	30%	13%	25%
All	**42%**	**23%**	**7%**	**27%**

Around a quarter of energy reference areas constructed in 2010 or later still have heating systems that use fossil fuels. This is slightly more than for directly held properties. However, the proportion of energy reference areas heated with fossil fuels has decreased depending on the year of construction.

Table 10 Share of energy sources for heating by construction period in the energy reference area for submitted mortgages

Mortgages	before 1946	1946-1970	1971-1990	1991-2000	2001-2010	after 2010
Oil	40%	58%	51%	40%	23%	7%
Gas	28%	21%	22%	34%	36%	17%
District heating	5%	6%	6%	6%	8%	18%
Renewable	27%	16%	22%	20%	33%	58%

3.1.3 Scope 2 results for real estate and mortgages: greatest potential for PV systems and the emissions mix of providers

Switzerland's net zero target requires extensive decarbonization in all sectors. Because all possible levers must be used to achieve this, the 2024 climate test also took scope 2 emissions into account for the first time. In addition to direct emissions from heating and hot water, emissions associated with overall energy consumption also play a role in buildings. Energy consumption in buildings accounts for around 40 percent of Switzerland's total energy consumption.

Scope 2 emissions include emissions generated by district heating or electricity supply. Electricity emissions can be reduced directly by using the building's own photovoltaic

electricity.[69] A building's energy efficiency also influences demand. Like heating, electricity consumption depends on the size of the building. In contrast, however, it also depends on the number of residents. It sums up the consumption of all electrical appliances, including the electricity for the (renewable) heating system, and is influenced by the level of insulation of the building. In 2023, about 10% of Switzerland's electricity consumption was used for heating.

The new module of the advanced PACTA CO_2 calculator was used to calculate the Scope 2 emissions. Various building data, such as the energy reference area, the heating system, the year of construction or the heating and hot water requirements, in combination with standardized assumptions about building-specific electricity requirements, can be used to estimate the Scope 2 emissions.

The overall Scope 2 emissions from district heating and electricity consumption, aggregated across all peer groups, amount to 5.3 kg/m2 for both directly held buildings and mortgages. The differences between the means of the peer groups as shown in table 11 are small. Compared to the average Scope 1 emissions for directly held buildings, Scope 2 emissions currently account for just under half.

Table 11 Scope 2 emissions for real estate (directly held buildings) and mortgages

Scope 2 emissions	Real estate	Mortgages
	kg-CO_2-eq/(m2.a)	
Asset Managers	5.0	5.0
Banks	5.3	5.3
Insurances	5.6	4.7
Pension Funds	5.0	5.1
All	**5.3**	**5.3**

Scope 2 emissions from district heating

A much higher-than-average number of buildings owned by the financial institutions are heated by district heating. However, this accounts for 29% of the directly owned buildings submitted, and as much as 7% of the mortgages. By contrast, by the end of 2023, around 3.8% of residential buildings in Switzerland were heated by district heating.

[69] From a building perspective, it does not matter whether tenants or owner consume the electricity. Emissions from the electricity consumption of tenants are therefore allocated to Scope 2 emissions. However, tenant electricity could be recorded separately by the PACTA test participants 2024 if required, as tenant electricity is listed under "Scope 3 emissions" in the AMAS self-regulation, for example. From a narrower investor perspective, the influence on tenant electricity consumption by institutional owners is smaller than via the choice of the electricity or district heating provider.

The CO_2 emissions of district heating production vary considerably depending on the provider. On average across Switzerland, the fossil share is still around 50%.[70] District heating is produced in a central facility - e.g. a thermal power plant, a waste incineration plant or a wood-chip combustion plant. In many district heating networks, fossil energy sources such as natural gas or heating oil are used to cover peaks, particularly in the winter months. The exact composition of CO_2 emissions per district heating operator can vary widely and must currently be obtained directly from the producer. However, the federal government and individual cantons aim to increase transparency in the medium term. By the end of 2021, the SFOE listed 1068 networks throughout Switzerland.[71] Various subsidies are in place, fostering the build out and decarbonization of district heating.[72] District heating network operators are aiming to replace fossil fuels with renewable ones. In addition, a significant increase in the amount of heat produced is being sought, which goes hand in hand with the ongoing expansion of district heating networks.[73]

Table 12 shows that the CO_2 emissions from district heating over the entire energy reference areas submitted are quite low. The mortgage portfolios have fewer buildings that are heated by district heating and thus have even lower emissions in this area.

Table 12 Scope 2 emissions from district heating for real estate (directly held) and mortgages

Scope 2 emissions from district heating	Real estate	Mortgages
	kg-CO_2-eq/(m2.a)	
Asset Managers	1.1	0.7
Banks	1.1	0.5
Insurances	1.3	0.4
Pension Funds	1.2	0.8
All	**1.2**	**0.5**

Scope 2 emissions from electricity

The electricity mix in Switzerland is already relatively low in CO_2 compared to other countries. In June 2024, the Swiss population approved the increased promotion of renewable energies.[74] In 2023, hydropower plants accounted for 56.6% of total electricity production, nuclear power plants for 32.4% and conventional thermal and renewable plants (in particular photovoltaics and wind) for 11%. Overall, more electricity was exported than

[70] See footnote 65

[71] See Liste «Thermische Netze» - Auswertungsbericht 2021. Schlussbericht (admin.ch). (German)

[72] The cantons themselves determine which measures they want to promote and under what conditions. The differences can therefore be considerable from canton to canton. The basis is provided by the cantons' harmonized funding model HMF, further information see also Funding for the new heating system 2024 (energieheld.ch) (German) and Leitfaden Fernwärme/Fernkälte (thermische-netze.ch) (German)

[73] See SFOE Heat Strategy 2050 (admin.ch)

[74] See Federal Act on a Secure Electricity Supply

imported during the winter months.[75] In the European Union, on the other hand, solar and wind supplied almost 27% of electricity in 2023.[76] With the Federal Act on a Secure Electricity Supply the existing funding instruments and regulations for the production, transportation, storage and consumption of electricity will be supplemented with new measures.

Emissions from electricity account for the largest share of Scope 2 emissions in the portfolios submitted as table 13 suggests. This applies to both directly held properties and mortgages. The ratio is around 80% of Scope 2 emissions from electricity and only 20% from district heating. However, this ratio can change significantly if the emission factors change, see box below.

Table 13 Scope 2 emissions from electricity for real estate (directly held) and mortgages

Scope 2 emissions from electricity	Real estate	Mortgages
	kg-CO_2-eq/(m2.a)	
Asset Managers	3.9	4.5
Banks	4.2	4.8
Insurances	4.3	4.2
Pension Funds	3.8	4.3
All	**4.1**	**4.8**

Photovoltaic electricity on buildings has the biggest potential to increase renewable electricity production. Overall, the volume of solar power should increase almost fivefold over the next 10 years. Financial contributions for photovoltaic installations on roofs and facades will therefore continue.[77] However, the obligation to install such solar cells is not generalized, but only applies to new buildings with a floor area of more than 300 square metres.[78] The cumulative capacity from solar power amounted to around 6.4 gigawatts at the end of 2023. The strong increase is a considerable challenge, even though the market growth in solar PV installations in 2023 was already over 40 percent for the fourth year in a row.[79]

From an investor's perspective, a building's electricity demand can be partially covered by its own electricity generation via a PV system. This helps to reduce a building's Scope 2 emissions. For example, the PV system can be used to generate electricity for a heat pump.

A PV system was declared in the PACTA Climate Test 2024 for 2.4% of the directly held buildings (table 14). For a further 4.2% of the buildings, a PV system could be added based on the SFOE data. Among the pension funds, around twice as many buildings have a PV

[75] See Electricity consumption down by 1.7% in 2023 (admin.ch)
[76] See European Electricity Review 2024 | Ember (ember-climate.org)
[77] Explanations of the Federal Council - Referendum of 9.6.2024
[78] Das sind die Folgen des Stromgesetzes: Ausbau erneuerbarer Energien in der Schweiz - SWI swissinfo.ch
[79] Energy transition Switzerland – energiezukunft and Solar energy (admin.ch)

system. Taking both figures together, the proportion of buildings with PV systems in all comparison groups, is in a similar range of around 4–5 %, except for pension funds.

Table 14 Proportion of directly held buildings with installed PV systems

Directly held real estate	Declared PV system	PV system enriched with SFOE data
Asset Managers	3.6%	1.7%
Banks	0.4%	3.5%
Insurances	2.2%	2.8%
Pensions Funds	3.6%	6.6%
All	**2.4%**	**4.2%**

Financial market players still have great potential for data collection on PV systems. Banks reported PV systems for around 1% of mortgages. In the other financial sectors, none were reported. The enrichment with SFOE data resulted in a total share of mortgages with PV systems of approximately 5% (see table 15).

Table 15 Proportion of mortgages with installed PV systems

Mortgages	Declared PV system	PV system enriched with SFOE data
Asset Managers	0.0%	15.1%
Banks	1.1%	4.6%
Insurances	0.0%	10.0%
Pensions Funds	0.0%	12.5%
All	**1.0%**	**4.9%**

Declared emissions factors for electricity and district heating

Only pension funds reported emission factors for electricity and district heating for just over 10% of their directly held properties (see table 16). Because the emission factors can vary greatly depending on the provider, this information would be crucial for influencing Scope 2 emissions. In the 2024 PACTA climate test, participants were able to submit their own emission factors for electricity and district heating, which were then used to compare with Swiss averages. No declared emission factors were submitted for the mortgages.

Table 16 Proportion of buildings with declared emission factors for electricity and district heating

Directly held real estate	Declared emission factor electricity	Declared emission factor district heating
Asset Managers	0.1%	0.3%
Banks	0.0%	0.0%

Insurances	0.5%	3.8%
Pensions Funds	10.2%	10.8%
All	**3.8%**	**4.9%**

Emissions factors for Scope 2 emissions

In contrast to Scope 1, where the emission factors for oil and gas are well known and published[80], the current state of knowledge is less clear for the emission factors for electricity and district heating used to calculate Scope 2 emissions. There are various providers of electricity and district heating in Switzerland. As no complete overview of provider-specific emission factors is currently available, Swiss average values based on KBOB data[81] are used in the PACTA Climate Test 2024 to calculate Scope 2 emissions from electricity and district heating:

- Electricity: CH-Verbrauchermix
- District heating: Durchschnitt Netze CH

The emission factors have a direct influence on the emissions. If electricity or district heating is generated entirely from renewable energy sources, Scope 2 emissions are almost zero. Thus, in addition to the increasing use of heating systems with renewable energy sources, the parallel development of emission factors for electricity and district heating will also be of interest.

Comparison of Scope 1 and Scope 2 emissions

The current ratio of direct Scope 1 emissions (fossil fuels) to indirect Scope 2 emissions (electricity, district heating) is shown in figure 18. Scope 1 emissions are at least twice as high as Scope 2 emissions across all peer groups. For mortgages, the ratio is even higher. However, this can be partly explained by the significantly reduced availability of up-to-date building data, in particular of historical renovation measures and the heating system (figure 19).

[80] CO_2-Emissionsfaktoren des Treibhausgasinventars der Schweiz (German)
[81] Ökobilanzdaten im Baubereich, KBOB / ecobau / IPB 2009/1:2022, Version 3

Figure 18 Comparison of Scope 1 and Scope 2 emissions (PACTA 2024) for directly held buildings

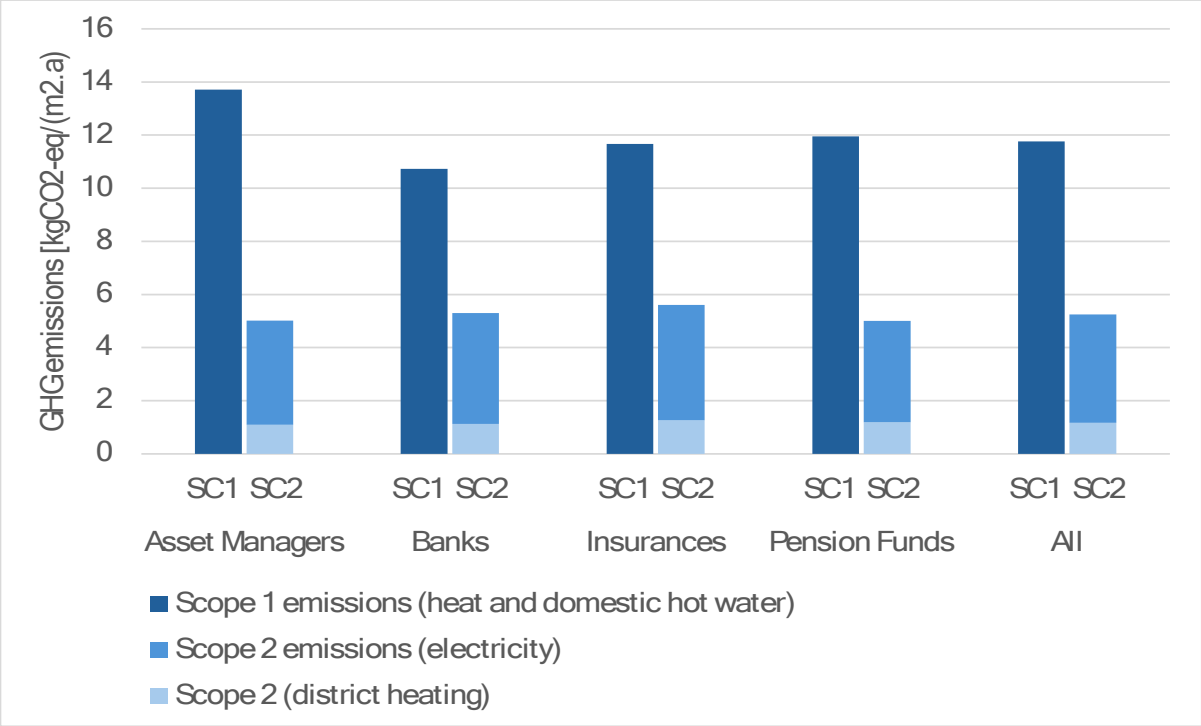
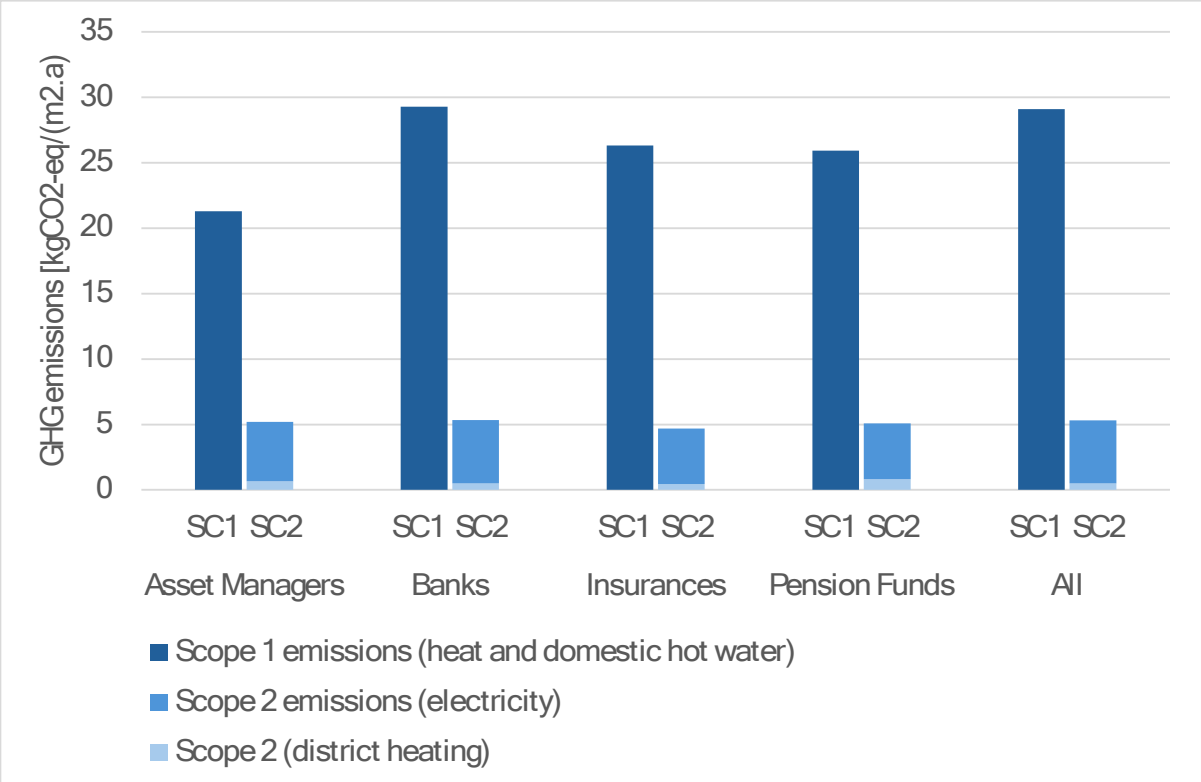


Figure 19 Comparison of Scope 1 and Scope 2 emissions (PACTA 2024) for mortgages



3.1.4 Scope 3 results for real estate and mortgages

Scope 3 emissions are a different category and can't be added up

Building materials are responsible for around 10 percent of Switzerland's greenhouse gas footprint.[82] Measures in this area can make a significant contribution to reducing greenhouse gas emissions in Switzerland and along the supply chain. The Swiss parliament passed an amendment to the Environmental Protection Act[83] on the circular economy.[84] As part of this, the cantons were instructed to set limits for grey energy.[85] This is intended to promote the demand for building materials with low grey energy and support resource-conserving construction methods.

The so-called grey greenhouse gas emissions of materials are often referred to as grey energy compared to the operating energy of scope 1 and 2 emissions. In new buildings today, which are usually heated with renewable energy sources, grey energy accounts for up to a quarter of the primary energy used in construction, operation and mobility.[86]

A study by the HSLU[87] shows that the building cubature and thus the quantity of materials used are particularly decisive for the values of grey emissions in relation to construction, transport and disposal. The scaling with the building size is almost linear, whereby slight efficiency gains can be achieved up to a moderate level through larger building volumes. For very large buildings, the efficiency gains are reduced by the necessity of a stronger supporting structure. The choice of materials has an influence in the range of +/- 20% and enables optimization of grey emissions in this range. Consequently, strategies based on the renovation and reuse of existing materials can make a very important contribution to reducing Scope 3 emissions and the environmental impact of construction projects.

From a climate perspective, information on scope 3 emissions play a particularly important role when it comes to deciding on the construction of new buildings. They are also relevant when deciding whether and how an existing building should be renovated, demolished or the materials reused and rebuilt. The aim of the new PACTA module on Scope 3 emissions is therefore to provide financial market players and institutional investors with an initial approach to the topic and to raise awareness. However, it does not yet provide a concrete basis for decision-making with complete recording of Scope 3 emissions for refurbishment, demolition and/or a reuse concept or for the new construction of a building.

It is also important to understand that Scope 3 emissions cannot be added directly to Scope 1 and 2 emissions because they are based on a different timeframe and require different

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[82] Impact of housing on the environment (admin.ch)

[83] USG, SR 814.01

[84] The amendment to the law was triggered by a number of political initiatives, in particular the parliamentary initiative 20.433 "Strengthening the Swiss circular economy". 20.433 Pa. Iv. Strengthening the Swiss circular economy. (parlament.ch)

[85] New Art. 45 para. 3 lit. e Energy Act EnG

[86] Opening of consultation on the overall revision of model regulations (MuKEn) - Energiehub Gebäude (energiehub-gebaeude.ch) (German)

[87] HSLU 2024, Study on the validation of the "Scope 3" module for real estate, commissioned by the FOEN, can be downloaded under 'documents' on www.bafu.admin.ch/pacta-climate-test

action. Scope 3 emissions do not account for CO_2-emissions at a certain point in time, e.g. the time of the concrete production, but they focus on the entire life cycle of a building. Emissions during the production but also the lifetime and disposal of a component, therefore, play an important role. For example, the so-called "residual value" of CO_2 emissions for an existing building or a real estate portfolio can then be calculated at a specific point in time or expressed in an annual view.

Although the installation of insulation, photovoltaic or geothermal systems leads to higher Scope 3 emissions from construction, transportation and disposal at the time of installation, these emissions are more than offset by the savings during the operation (Scope 1 and 2 emissions) over the life cycle.[88] According to the Swiss conference of energy directors of the cantons EnDK, possible measures to reduce grey emissions in new buildings or renovations include replacing low-emission materials such as concrete, steel and glass with materials such as wood. Efficient use is required for all materials. Efficient and durable building concepts also have a positive impact on the balance sheet.[89]

Initial findings on the Scope 3 emissions from building materials

In the 2024 climate test, a module was offered for the first time to estimate Scope 3 emissions. In contrast to Scope 1 and 2 emissions, which arise during operation, Scope 3 emissions include primary energy for construction, renovations during the life cycle and disposal. According to the underlying SIA standard[90], the PACTA CO_2 calculator assumes fixed, standardized replacement times over the entire 60-year life cycle for each component of a building. The Scope 3 emissions of a building represent all emissions occurring during the building life cycle, which are then reported per year of the life cycle and per energy reference area. This makes the magnitude of emissions from grey energy comparable to emissions from operating the building (Scope 1 and Scope). According to the standard, the embodied energy in a building is fully compensated after 60 years, i.e. the residual value is zero.

The results are based on a small number of building characteristics submitted by the participants. This was done deliberately to make participation as easy as possible for the Scope 3 module as well. Although only a few participants have provided detailed information, it was possible to calculate an initial estimate of Scope 3 emissions for all participants based on assumptions for a typical building and the corresponding Swiss standards that are applied in the model. Depending on the use, typical reference values or quantity structures are modelled for the various building components and the primary energy and emissions are calculated from these. The calculation is based on assumptions about a typical building. For some building characteristics with a significant influence on the result, there is a great deal of uncertainty due to a lack of information in the submitted data. For

[88] HSLU 2024, Study on the validation of the "Scope 3" module for real estate, commissioned by the FOEN

[89] Opening of consultation on the overall revision of model regulations (MuKEn) - Energiehub Gebäude (energiehub-gebaeude.ch) (German)

[90] See SIA 2032 (2020): Grey energy - life cycle assessment for the construction of buildings (German)

example, the presence of an underground parking garage in a typical multi-family house leads to a noticeable increase in Scope 3 emissions due to the larger underground building parts.

The results presented for the 2024 climate test are to be understood as initial estimates of the grey energy and the resulting Scope 3 emissions of building materials. The aim is to encourage more in-depth analysis and a conscious approach to the topic.

As can be seen in table 17, the differences in reported scope 3 emissions between peer groups are relatively small. However, the annual emissions from directly held buildings, at 10.8 kg/m2, are lower than those from mortgages, at 12.5 kg/m2. This is possibly due to the average building size, which is lower for mortgages due to the large number of single-family houses. Single-family homes account for 48% of the properties submitted for mortgages but only 1% of the directly held buildings submitted in the Climate Test 2024.

Table 17 Scope 3 emissions from building materials by peer group

Scope 3 emissions from building materials	**Real estate**	**Mortgages**
	kg-CO_2-eq/(m2.a)	
Asset Managers	10.9	11.2
Banks	10.8	12.5
Insurances	10.4	11.4
Pension Funds	11.0	11.1
All	**10.8**	**12.5**

The Scope 3 emissions shown in table 17 represent the emissions from the cumulative amount of non-renewable primary energy over the entire life cycle of a building. The primary energy and the emissions are considered in relation to the energy reference area and over the lifetime of the building. This makes it possible to compare the magnitude of the Scope 3 emissions with the Scope 1 and Scope 2 emissions from the operation of the building.[91] The annual Scope 3 emissions for the directly held buildings submitted are comparable in magnitude to their direct Scope 1 emissions. When fossil fuel heating systems are replaced, Scope 1 emissions decrease, while Scope 3 emissions increase, thus becoming more significant in relation to a building's total greenhouse gas emissions. For newer buildings, the cumulative emissions (Scope 1 and 2) from the operation of the building can exceed the Scope 3 emissions from the non-renewable grey energy of building materials after about 10 years. If the building is retrofitted with renewable energy sources, the emissions from operation (Scope 1 and Scope 2) are expected to decrease in the future. This means that the point in time when the emissions from building operation exceed those from Scope 3 will be reached later.[92]

[91] Graue Energie von Neubauten - Ratgeber für Baufachleute (admin.ch)

[92] Röck et al. (2019): Embodied GHG emissions of buildings – The hidden challenge for effective climate change mitigation

In addition to the scope 3 emissions summarized in a value, they can also be viewed broken down by different component groups (table 18). This shows the relative contribution of each component group to the total scope 3 emissions. The SIA standard differentiates the following groups:

Table 18 Details on the building component groups

Component group	Description
Preparatory work	Excavation, excavation support, piling
Building envelope below ground level	Foundation, exterior walls
Building envelope above ground level	Exterior walls and facade, windows, roof
Internal and external components	Interior walls and panelling, ceilings, floor and coverings, balcony, canopy
Building services	Electrical system, heat generation, ventilation, water supply and disposal

The contributions of various building components are generally in the same range for directly held buildings and mortgages as table 19 shows. The differences can be explained to a certain extent by the different building types and their size. For example, a typical multi-family house has more building technology and electrical installations than a typical single-family house, which leads to different contributions for “building services”.

Table 19 Contribution to Scope 3 emissions per building component group

Component group	Real estate	Mortgages
Preparatory work	5%	9%
Building envelope below ground level	16%	13%
Building envelope above ground level	20%	27%
Internal and external components	42%	37%
Building services	18%	13%

Residual value and replacement value: consider when renovating

The residual value indicates the proportion of a building's grey energy that has not yet been amortised over the entire life cycle of a building. It becomes particularly important when deciding on demolishing or rebuilding. On average, around 40% of the grey energy in the submitted portfolios has not yet been amortised (see table 20). This average value illustrates that, in the objects submitted for the 2024 climate test, a considerable amount of the emissions from grey energy has not yet been amortised. When it comes to strategic planning, it is of interest to consider the residual value for a specific building. Depending on the circumstances and characteristics of a building, taking the residual value into account can lead to different conclusions when making decisions about the further development of a building.

For example, demolishing a building with a high residual value and replacing it with a new building will cause unnecessary emissions due to the non-amortized grey energy.

Table 20 Residual Scope 3 emission values as of 2024 by peer group

Residual value	Real estate	Mortgages
Asset Managers	36%	50%
Banks	44%	41%
Insurances	38%	38%
Pension Funds	45%	40%
All	**42%**	**41%**

When constructing a building (demolition, new construction, renovation, expansion), in addition to optimizing operating energy (Scope 1 and Scope 2), the effects on Scope 3 emissions should always be included in the decision-making process. Emissions from certain building materials, such as those produced during the manufacture of cement, are among the most difficult to avoid. This makes it even more important to know the amount of embodied energy involved in renovations, conversions or new buildings.

This is also illustrated by the replacement value. The value is based on a hypothetical scenario in which all buildings are demolished and replaced by identical new buildings as of December 31, 2023. In addition to the grey energy associated with the new construction, the non-amortized residual values of the demolished assets are also added.

It turns out that the demolition and replacement of buildings can lead to significantly higher Scope 3 emissions when the undepreciated residual values are considered.

3.2 Listed equity and corporate bond portfolios

The results of the global equity and corporate bond analysis are benchmarked not just to the climate change scenarios, but also against relevant indices. The MSCI World Index, which represents the typical benchmark and listed equity universe used by investors, serves as the benchmark for listed equities. The use of this benchmark has been informed by investor feedback from previous PACTA tests asking for that benchmark as a reference point. For corporate bonds, the benchmark is the iShares Global Corp Bond UCITS ETF, which tracks the performance of an index comprising investment-grade corporate bonds from issuers in both emerging and developed markets.

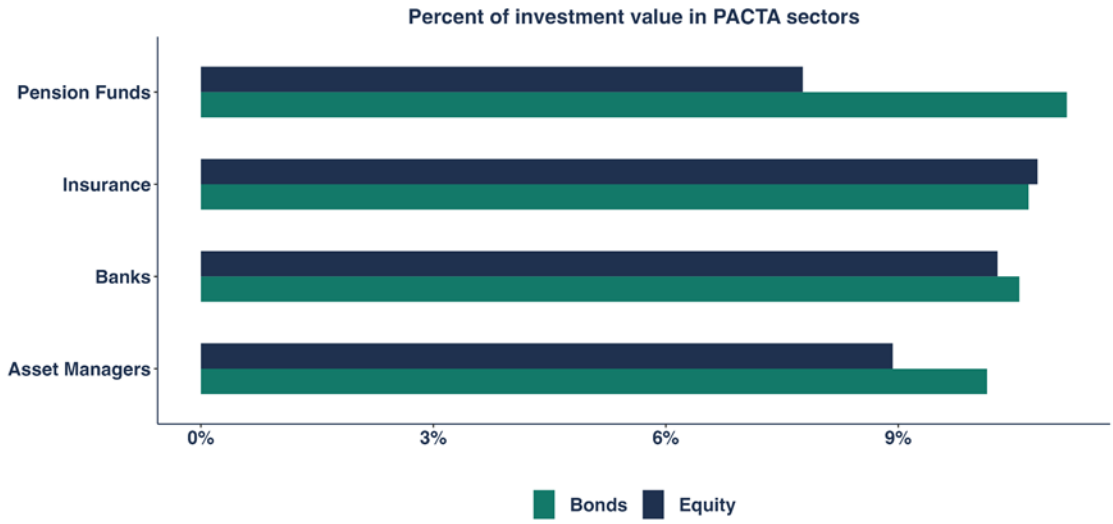
3.2.1 Coverage of the analysis

The sectors covered by PACTA account for around 9.5% of the total assets under management of participating financial institutions in listed equity holdings and corporate bonds. While this figure remains consistent with the previous assessment (~10%), there are some notable shifts in exposure across different asset classes compared to the results from the 2022 Climate Alignment Test, notably for investments in equity holdings for banks' portfolios, where exposure passed from around 15% to 10.5%, and pension funds who increased their investments in corporate bonds passing from 9% to 11.7% as it can be observed in figure 20.

Regarding the exposure by type of financial assets, the PACTA sectors represent between 7.8% and 10.8% of equity investments and between 10.1% and 11.2% of corporate bond investments across the different peer groups. Pension funds show the highest exposure to these sectors in their bond portfolios, suggesting a stronger focus on industries with significant – positive and negative - climate implications compared to the other types of financial institutions. However, the gap in exposure is not very large.

For equity investments, the average exposure to PACTA sectors across peer groups is 9.5%. Insurance companies have the highest exposure (10.8%), reflecting higher investments in industries critical to the climate transition. Meanwhile, pension funds have the lowest exposure, which may reflect a more selective approach to equity investments in these sectors.

Figure 20 Proportion of the assets under management in PACTA sectors for the four main peer groups in the 2024 Climate Alignment Test.



While financed emissions suffer from a number of shortcomings in terms of tracking progress toward climate goals,[93] they provide insight into which sectors contribute the most emissions to a portfolio. This information can be instrumental in identifying priority areas for investors to focus their engagement strategies. Analysing emissions can therefore be an effective way to assess the relevance of sectors covered by PACTA in the context of climate change, given the priority to cover a large part of the emissions over a large part of the portfolio.

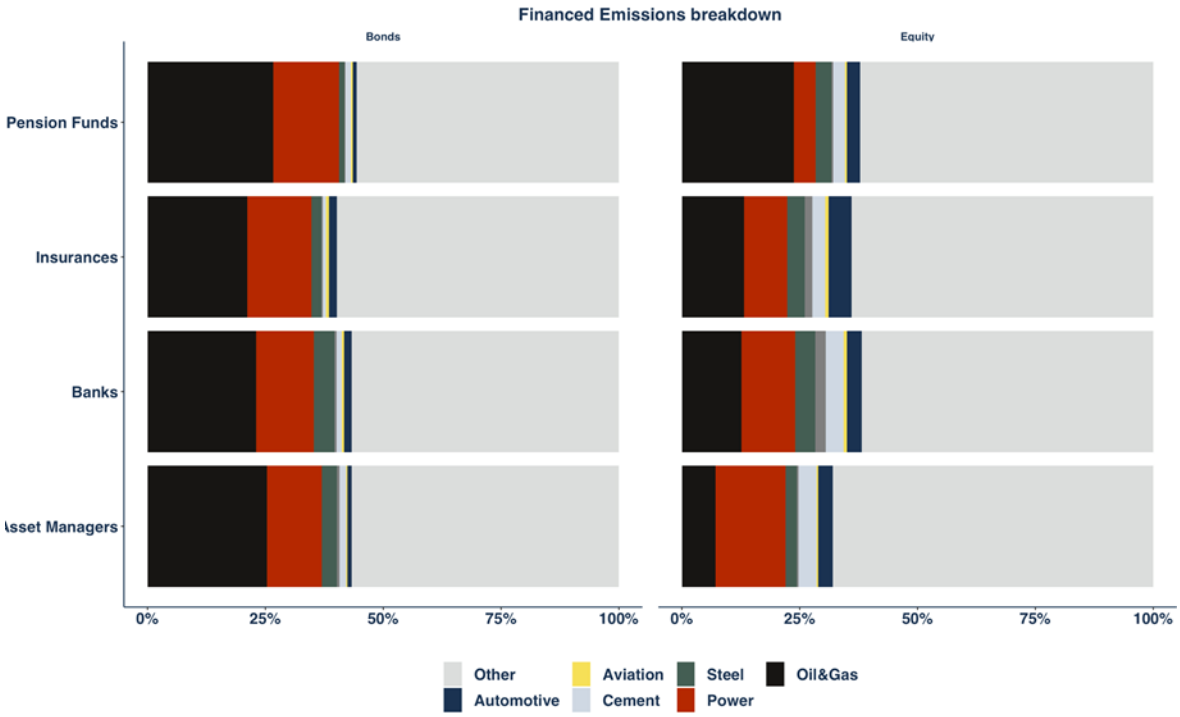
Despite representing only 10.56% in the bond portfolio and 9.45% of the listed equity portfolios, in terms of assets under management (AUM) in Swiss portfolios, the PACTA sectors significantly contribute to both portfolio and global emissions. The PACTA sectors account for roughly two-thirds of all GHG emissions and nearly 80% of all CO2 emissions. When comparing the PACTA coverage to "financed emissions" of a portfolio, the coverage is somewhat lower, constituting 50% and 42% in the bonds and equity portfolios, respectively. However, this figure may underrepresent the actual coverage, as emissions from other sectors in Scope 2 and Scope 3 are often double counted due to their connection to activities within PACTA-covered sectors. For instance, Scope 2 emissions primarily originate from the power sector, which is included in PACTA, while Scope 3 emissions from transportation and distribution also tie back to these sectors. This overlap suggests that the impact of PACTA coverage is more significant than the numbers indicate.

A deeper analysis of these emissions reveals that the **oil and gas** sector is the largest contributor, responsible for 24% of emissions in bond portfolios and 14% in equity portfolios. The **power** sector follows, accounting for 13% of emissions in bond portfolios and 10% in

[93] 2DII - EU Climate Benchmarks Factsheet 2020 (theiafinance.org)

equity portfolios. Other industrial sectors such as **steel** and **cement** also play a role, though their contribution is lower: steel represents approximately 2.5% of emissions in bond portfolios and 3.25% in equity portfolios, while cement accounts for 3.5% of equity emissions and just 1% of emissions in bond portfolios.

Figure 21 Financed Emissions breakdown per sectors (The figures may underrepresent the actual coverage of PACTA activities, as emissions from other sectors in Scope 2 and Scope 3 are often double counted)

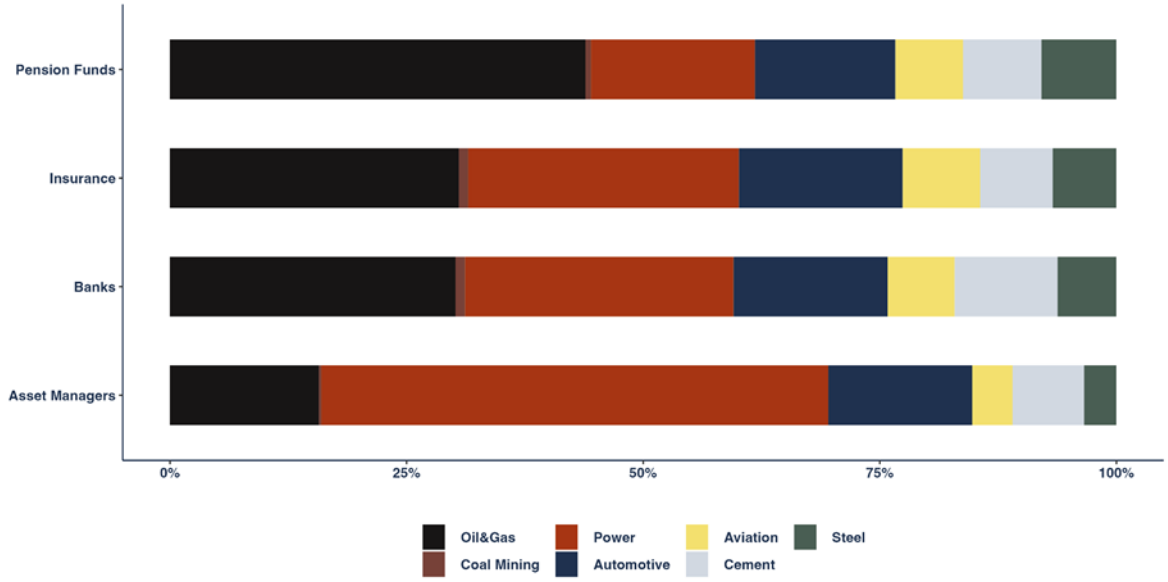


When examining the distribution of exposure across sectors within each financial asset class covered by PACTA, significant changes are evident, particularly in equity portfolios. In the equity portfolio It is possible to observe a decrease of 50% in automotive sector, and an increase of 40% in Oil and Gas. Exposure to power sector remains constant at an aggregate level for the equity portfolio. When analysing peer groups, pension funds, for instance, have seen a notable increase in their exposure to the oil and gas sector, rising by 65% compared to the 2022 results, and reaching 43.9% in the 2024 test (see figure 21). Additionally, there is a general trend of reduced exposure to the steel sector across all peer groups, with the most pronounced change observed in the banks' peer group, where exposure dropped from around 25% to 6.2%.

It is important to note that having exposure to certain sectors is not inherently good or bad. What truly matters is whether these sectors are aligned with climate scenarios or have robust transition plans in place. Engagement with companies in these sectors is also critical, as it can drive alignment with climate goals in the future. The focus should be on encouraging companies to adopt strategies that support the low-carbon transition, rather than simply

reducing exposure to high-emission sectors without a deeper understanding of their transition potential.

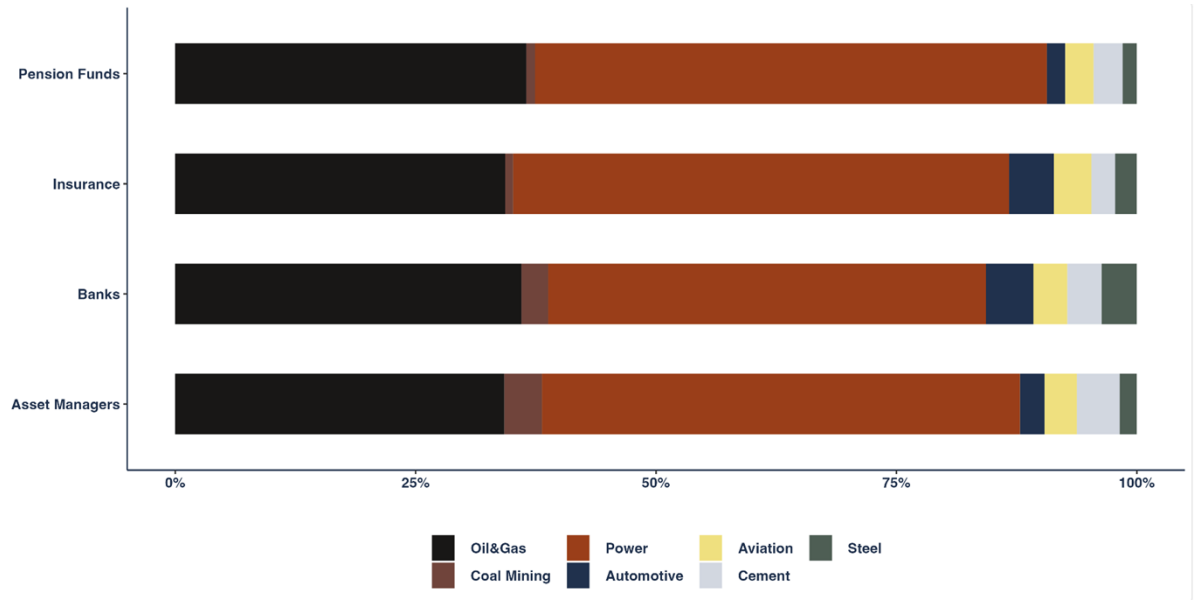
Figure 22 Distribution of the value of listed equity across PACTA sectors for the four main peer groups in the Climate Alignment Test 2024



Significant shifts in bond exposures can be observed, particularly in the power and oil and gas sectors. In the 2024 test round, all peer groups evidence an increased exposure to the power sector compared to the 2022 PACTA Climate Test, with the industry now representing between 45.5% and 53.2% of investments within the PACTA sectors. This marks a considerable rise from the previous range of 32% to 39% in the 2022 test.

The exposure to oil and gas across all peer groups corporate bond portfolios has decreased, with the most substantial change being a 25% reduction in banks' corporate bond investments. In contrast, the steel, cement, aviation, coal mining, and automotive sectors have shown minimal variation in their portfolio exposure within the PACTA sectors, with none exceeding a 5% exposure to the high-emitting sectors under analysis in this report.

Figure 23 Distribution of the value of corporate bonds across PACTA sectors for the four main peer groups in the PACTA Climate Test 2024



The technology mix is a powerful metric for financial institutions to identify opportunities to invest and engage with companies in sectors that are poised to lead in the transition to a low-carbon economy. The technology mix approach allows for a more nuanced understanding of exposure to potential transition risks compared to indicators like carbon footprints or intensities in those asset classes.

3.2.2 Technology mix

The technology mix results illustrate the distribution of production across various technologies within each sector. This analysis is available for sectors with established decarbonization roadmaps, such as power, automotive, and fossil fuels. While ongoing research and development efforts are advancing innovative low-carbon technologies in other sectors, such as cement, these emerging technologies may not be fully represented in the assessment due to their limited scalability or adoption at the time of analysis.

Power Sector

The power sector plays a key role in the global effort to mitigate climate change, as it is one of the largest sources of greenhouse gas emissions and at the same time, a very key sector as having enough renewable power capacity is crucial for a net zero world. Understanding the technology mix within the power sector is crucial for assessing how effectively it can transition to a low-carbon future.

By analysing the distribution of technologies within the sector, stakeholders can gauge progress towards decarbonization and identify areas requiring further investment and innovation. The International Energy Agency IEA highlights the need for rapid deployment of available technologies, as well as the widespread use of technologies that are not in the

market yet to reach Ne-Zero Emissions by 2050, which are expected to account for almost half of the global CO_2 reductions by 2050.[94]

In the context of the power sector, different technologies contribute differently to the energy landscape, and also to the sector's emission profile. Fossil fuels such as oil, gas, and coal have historically dominated energy production due to their high energy density and established infrastructure. However, these technologies also represent significant sources of CO_2 emissions. Oil and gas are relatively cleaner compared to coal, but still have to completely phase out in the coming years. Coal is increasingly being phased out due to its high GHG emissions, and some financial institutions have exclusion policies in place. On the other hand, nuclear power provides a low-carbon option with high energy output. Still, it comes with challenges related to safety, waste management, and public acceptance. The perception of nuclear energy has different points of view in different regions, some being in favour and some areas limiting or reducing its energy generation capacity in it.

Renewable energy technologies, including hydro, wind, and solar power, play an indispensable role in reducing the sector's CO_2 emissions. Hydropower has long been a reliable source of renewable energy, contributing a substantial share to the global energy mix, and according to the IEA's latest findings, in 2028, hydropower will remain the largest renewable electricity source.[95] Wind and solar technologies have seen rapid advancements and cost reductions, making them central to future energy strategies. The IEA highlights in its World Energy Outlook 2023 report that accelerating the deployment of these renewables is critical for achieving global climate goals.

In summary, by examining the current technology mix and its evolution, stakeholders can better understand how their investments contribute to the shift the power sector towards full decarbonization.

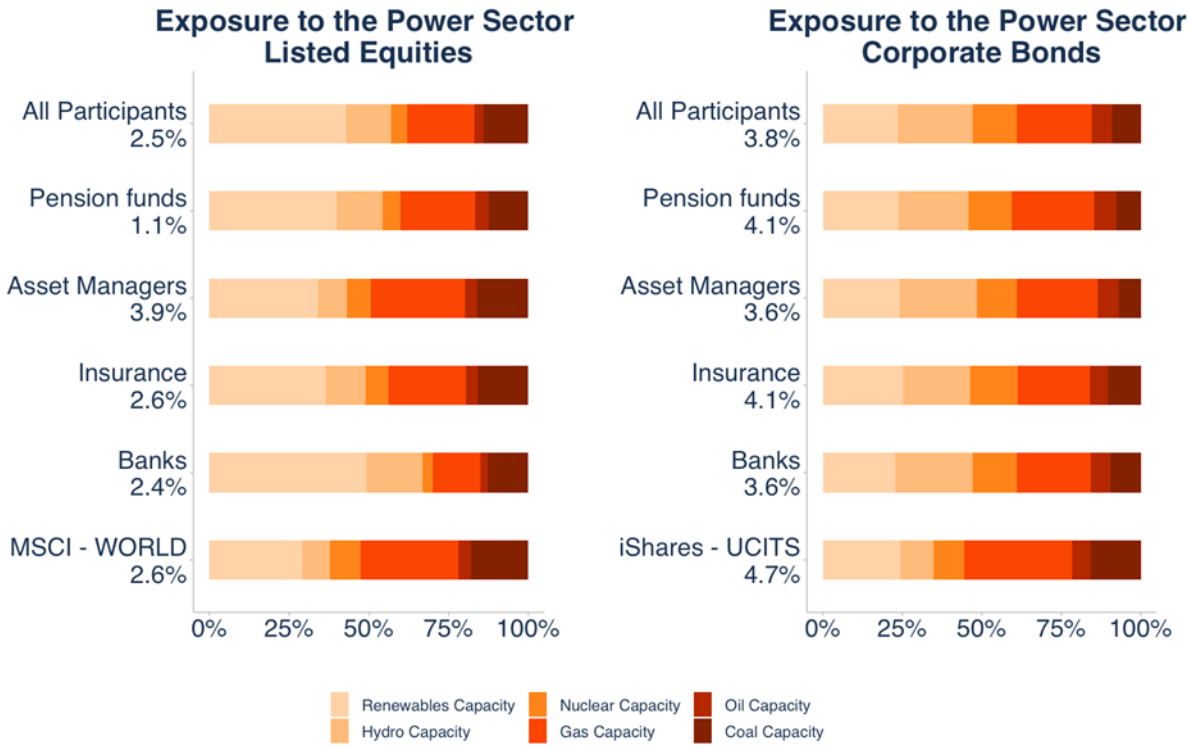
Figure 24 presents the technology mix of Swiss financial portfolios. The listed equity portfolio has a higher exposure to renewable energy capacity than the bond portfolio. Exposure to renewable energy is notably higher in listed equity portfolios compared to corporate bonds, with banks doubling their exposure to renewables relative to 2022 results.

On average, all peer groups show a greater exposure to renewables and hydro energy than the MSCI World index, while in corporate bonds it is close to the iShares-UCITS ETF. Banks, in particular, have also significantly reduced their exposure to gas capacity over this period. In both equity and corporate bond portfolios, approximately 50% of energy generation capacity is sourced from renewables and hydro. However, there is a clear distinction between the two asset classes: while listed equity portfolios allocate over 40% to renewables, corporate bonds have an equal distribution of around 25% for both renewables and hydro.

[94] Net Zero by 2050 (iea.org)
[95] Hydroelectricity (iea.org)

However, the share of fossil-fuel based electricity generation in investments in electricity capacity accounts still for almost half of the total for asset managers and around one-third for banks. Despite the positive trend in renewables, gas capacity in corporate bond investments has increased since 2022, rising from below 17% to around 25% in 2024 across all peer groups.

Figure 24 Technology share of aggregate portfolio values invested (exposure) in companies active in the power sector per peer group as a percentage of the sector



Fossil Fuels: Oil and Gas extraction and coal mining

Regarding sector-specific exposure, the aggregated portfolio for all Swiss participants shows a slightly higher exposure to fossil fuels in corporate bonds (2.9%) compared to listed equities (2.2%), as illustrated in figure 25. Oil is the dominant component in both portfolios, accounting for over 50% of production across all assessed peer groups.

While most peer groups have exposure levels similar to the MSCI Index, pension funds exhibit approximately a 10% higher exposure to oil compared to both the index and other peer groups in listed equity portfolios. In the corporate bonds sector, oil exposure is fairly consistent across peer groups and the index, around 50%, with notable differences in coal mining exposure. Asset managers have a 12% exposure to coal mining, slightly higher than the 10% exposure of the iShares Global Corp Bond UCITS ETF benchmark.

Although insurance companies, asset managers, and banks show a slight increase in fossil fuel exposure in their equity holdings compared to the 2022 test, reaching 2.6%, 1%, and 2.5%, respectively, their overall exposure remains lower than that of the MSCI World Index.

In bond investments, banks exhibit a marginally higher exposure to fossil fuels compared to the iShares Global Corp Bond UCITS ETF (+0.3%). Conversely, asset managers and insurance companies have increased their fossil fuel exposure relative to the previous Climate Test. As of 31st of December of 2023, exposure to fossil fuels for asset managers and insurance companies was 2.7% and 2.6%, respectively.

Figure 25 Share of aggregate sector portfolio values (exposure) invested in companies active in fossil fuel industries, by peer group

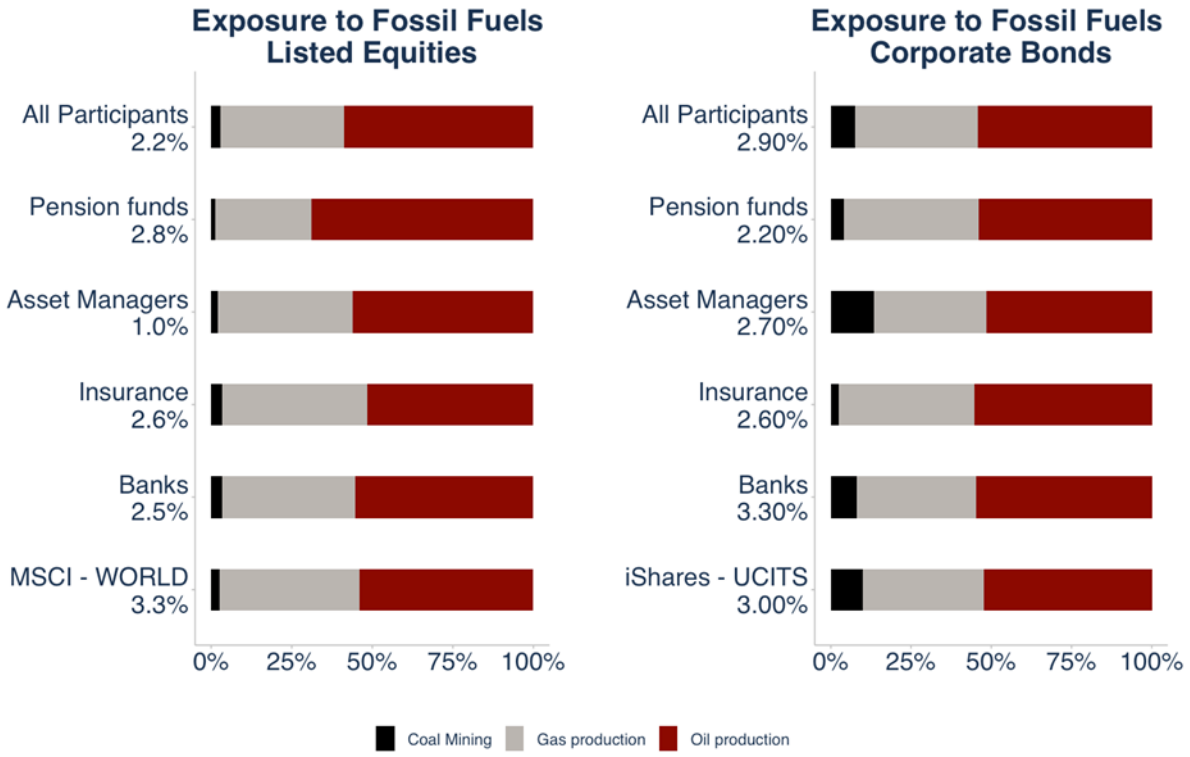
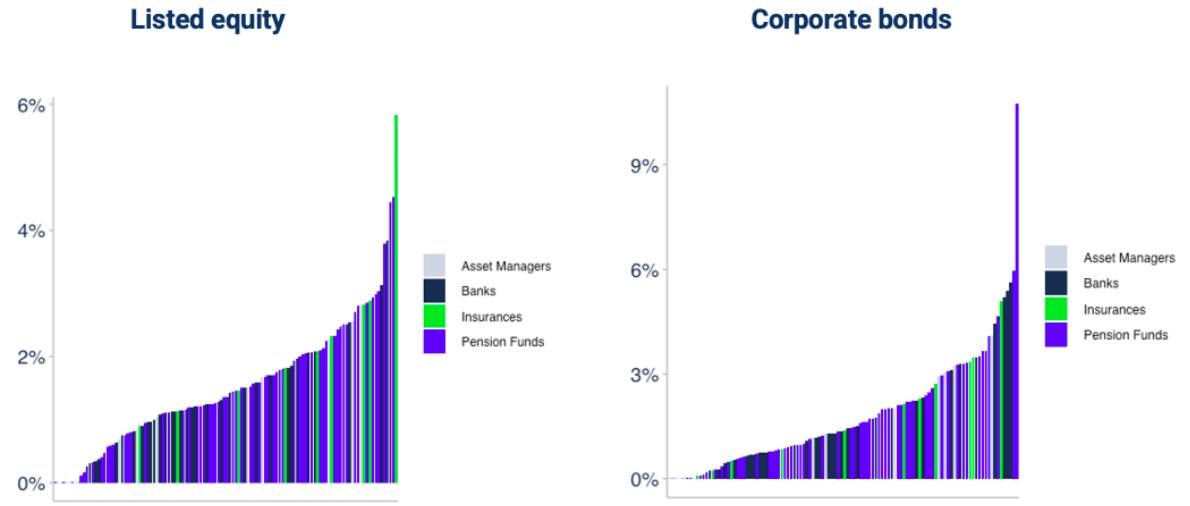


Figure 26 presents a detailed breakdown of fossil fuel exposures across individual financial institutions. The data indicates that the highest exposure in corporate bond portfolios is 11%, while the highest in listed equity portfolios is 6%. These two institutions, however, are clear outliers within the broader dataset. For the majority of financial institutions, exposure to fossil fuels in corporate bond portfolios remains below 6%, and the median for both types of financial assets is below 2%.

Figure 26 Exposure distribution to fossil fuel, distribution by participants



Automotive Sector

Transportation is a major contributor to greenhouse gas emissions, and its decarbonization is essential for achieving net zero targets.[96] According to the International Energy Agency's (IEA) Global EV Outlook 2023, the transition to cleaner automotive technologies is pivotal in reducing transportation emissions, which are among the largest contributors to climate change. This position is reflected in the expected 32% increase of electric vehicles sales in the NZE 2050 scenario for the upcoming five years.

That's why understanding the distribution of technologies—internal combustion engines (ICE), hybrid systems, and electric vehicles (EVs)—is fundamental for evaluating the sector's progress towards these targets and the link to the investments. While internal combustion engines (ICE) have historically been the backbone of the automotive industry, powered by gasoline and diesel fuels, these vehicles are increasingly seen as unsustainable due to their significant greenhouse gas emissions. The IPCC and the IEA underscore the urgency of transitioning away from ICE vehicles to mitigate the adverse effects of climate change.

As governments worldwide implement stricter emission regulations and push for cleaner alternatives, the role of ICE vehicles in future automotive markets is expected to rapidly diminish. Hybrid vehicles, which combine traditional ICE technology with electric propulsion, represent an intermediate step towards full electrification, however while relevant, according to the IEA, faster progress is expected from the Electric vehicles (EVs), which are essential for achieving significant reductions in transportation emissions.

Exposure to the automotive sector varies significantly between equity and bond portfolios, ranging from 14.8% to 17.3% in listed equity and from 1.9% to 4.9% in corporate bond

[96] Panel on Climate Change (IPCC) Sixth Assessment Report

portfolios. Within the listed equity portfolios, exposure to electric vehicles (EVs) is notably lower compared to other peer groups. In contrast, the MSCI World Index has a significantly higher exposure to electric vehicles, representing over 50% of the automotive sector—a reflection of the index's broader coverage of EV-related companies. Asset managers, in particular, exhibit the lowest exposure to EVs among the peer groups, with investments in electric vehicles making up only around 30% of their automotive sector exposure.

In corporate bond portfolios, the overall exposure to the automotive sector is lower. Within this sector, there is a greater proportion of companies focused on internal combustion engine (ICE) technologies, with electric and hybrid vehicle manufacturing accounting for only 12.5% of the automotive sector. This discrepancy in technology mix between equity and bond portfolios may be attributed to investments in different companies, which have a larger share of ICE manufacturing in the bond portfolio compared to the equity portfolio.

Figure 27 Technology share of aggregate portfolio values invested (exposure) in companies active in the automotive sector per peer group as a percentage of the sector – Listed equity

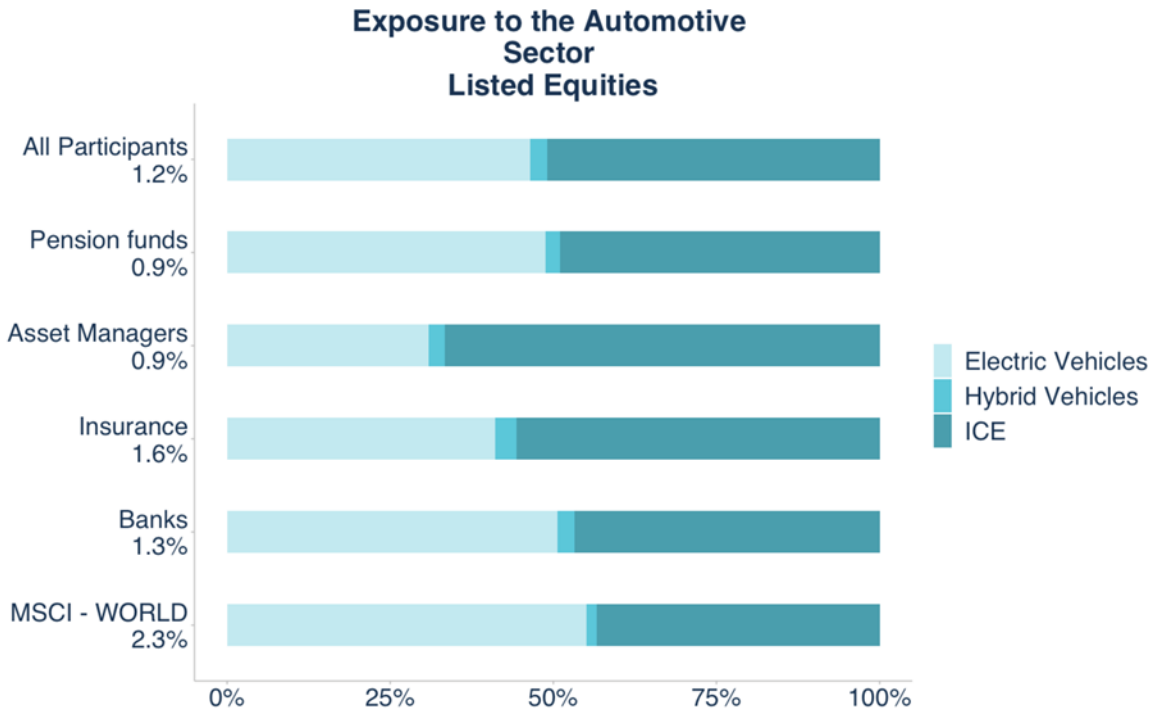
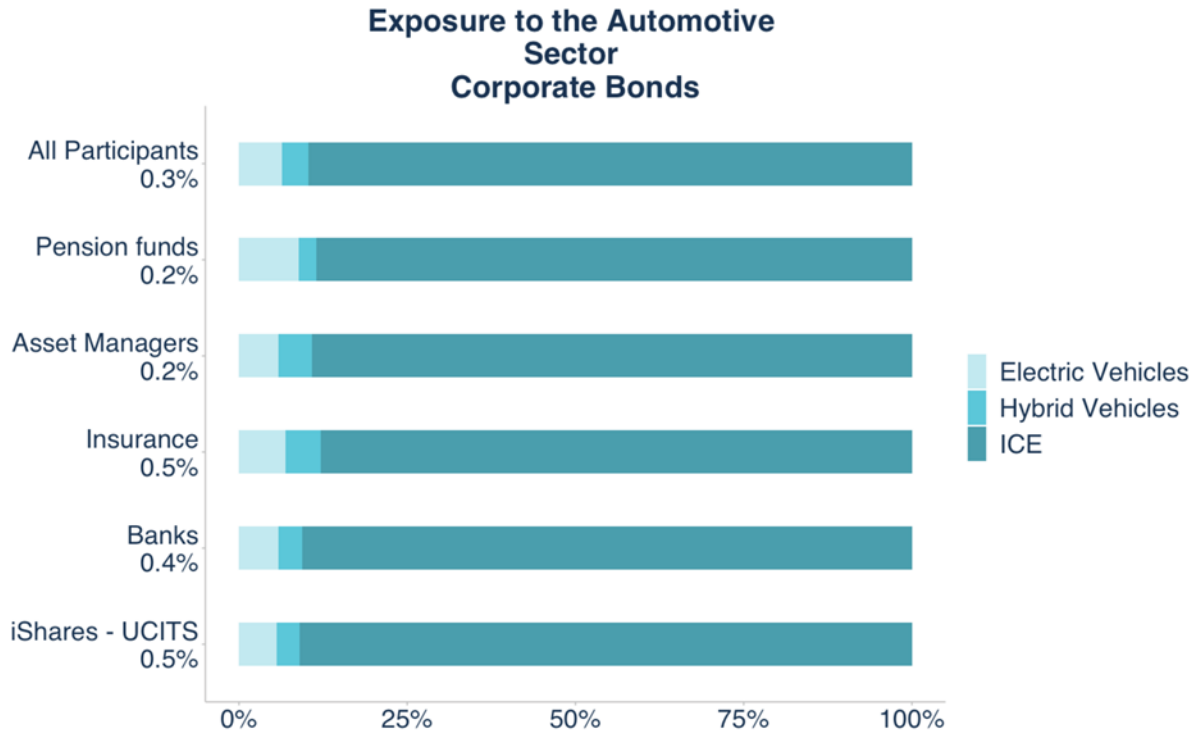


Figure 28 Technology mix of investments in the automotive sector – Corporate Bonds



Aviation Sector

The aviation sector is responsible for approximately 2.5% of global CO_2 emissions and has contributed about 4% to global warming to date, according to *Our World in Data*. Most of the sector's emissions come from the act of flying itself. While not everyone has flown, increased affordability and access to air travel have driven up emissions in recent years. Despite gains in energy efficiency, the overall rise in demand for aviation continues to push emissions higher.

Understanding the future trajectory of emissions in this sector requires considering three key factors:

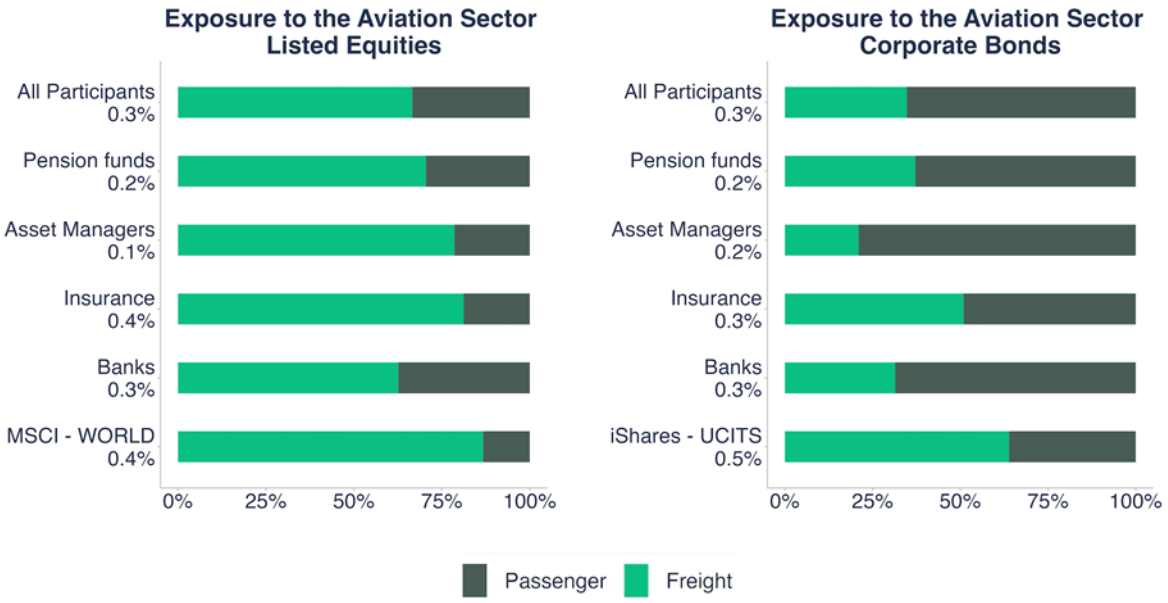
- **Aviation demand** (which includes both passenger and freight),
- **Energy efficiency** (measured as energy consumption per kilometre), and
- **Carbon intensity**, which is directly influenced by the type of fuel used.

Decarbonizing aviation poses a unique challenge compared to other sectors. While low-carbon technologies are either available or under development for many industries, aviation's path to decarbonization will largely depend on continued improvements in energy efficiency and a transition to sustainable aviation fuels, as demand for air travel is projected to keep growing.

In terms of exposure to the aviation sector in the Swiss financial portfolios, the share of aviation in the corporate bond portfolio has remained largely unchanged. However, there has been a slight decrease in exposure within the listed equity portfolio, particularly in the

insurance peer group, where exposure fell from 0.6% to 0.4%. Exposure for other peer groups has remained stable. As seen in the 2022 assessment, passenger transportation exposure is higher in the corporate bond portfolio compared to the listed equity portfolio, where freight transportation holds a more significant share.

Figure 29 Technology mix of investments in the aviation sector



Industry: Steel and Cement Sector

Decarbonizing the steel industry is crucial due to its significant impact on global greenhouse gas emissions and its role as a fundamental component of multiple sectors, including automotive, construction, and energy. The steel sector is currently the largest carbon-emitting manufacturing industry, responsible for 7% of all man-made emissions worldwide, making it an immediate priority for decarbonization according to the World Economic Forum.[97]

The challenge is that steel production heavily relies on coal, which is used both as a reducing agent and to provide the necessary carbon content, as noted by the International Energy Agency (IEA).[98] While steel demand is expected to continue rising due to economic growth in regions like India, ASEAN countries, and Africa, the sector must transition to low-carbon production methods such as green hydrogen and electrification of processes to align with climate goals. Although some technologies, such as electric arc furnaces, already exist, there are still substantial financial and infrastructure barriers to overcome. The World Economic Forum estimates that achieving commercial-scale green steel production would require between €2 trillion and €3 trillion in capital expenditure, in addition to substantial

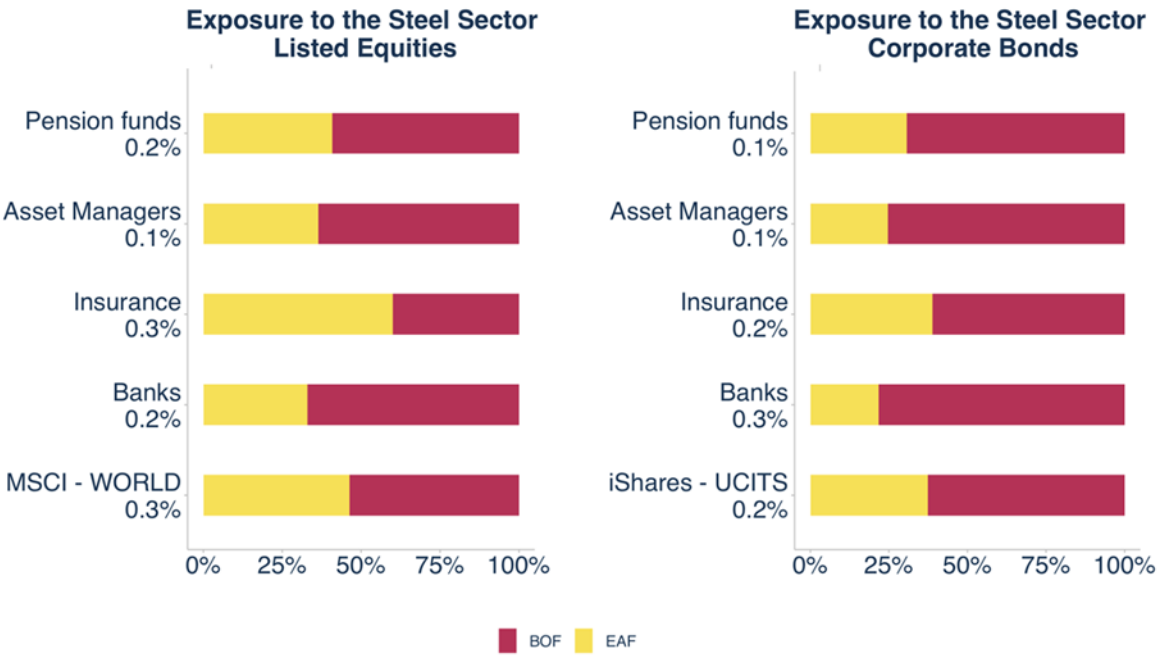
[97] Why steel can be an unexpected leader in decarbonization (weforum.org)
[98] Steel (iea.org)

investments in renewable energy. Decarbonizing steel would not only reduce the sector's direct emissions but would also have a cascading impact on emissions reductions in dependent industries like automotive and construction, making it a critical target in the global effort to achieve net zero emissions by 2050.

The analysis of Swiss portfolios' technology exposure within the steel sector indicates that over half of the investments across all peer groups, including the benchmark indices, are linked to companies utilizing the Basic Oxygen Furnace (BOF) technology. BOF relies heavily on coal as both an energy source and a reducing agent, making it a significant contributor to CO_2 emissions. To mitigate these emissions, the adoption of Electric Arc Furnaces (EAFs) is crucial, as EAFs are significantly less energy-intensive and primarily rely on secondary scrap steel rather than iron ore, positioning them as a key technology for decarbonizing the steel sector. While other innovative low-carbon technologies are emerging, they are not yet integrated into climate scenarios due to limited data availability or their nascent stage of development.

Figure 30 illustrates the distribution of steel production technologies across peer groups. All groups show similar levels of exposure, ranging from 1% to 3% of total holdings, which aligns closely with the exposure in the benchmark indices (0.28% for MSCI Equity and 0.21% for iShares UCITS Bond). Despite some reduction in steel exposure, particularly in the listed equity portfolio where banks have led the shift away from BOF technology, a considerable portion of steel production still relies on high-carbon BOF processes. This highlights the need for increased investment and financial support to drive the transition towards EAFs and other emerging low-carbon technologies within the steel industry.

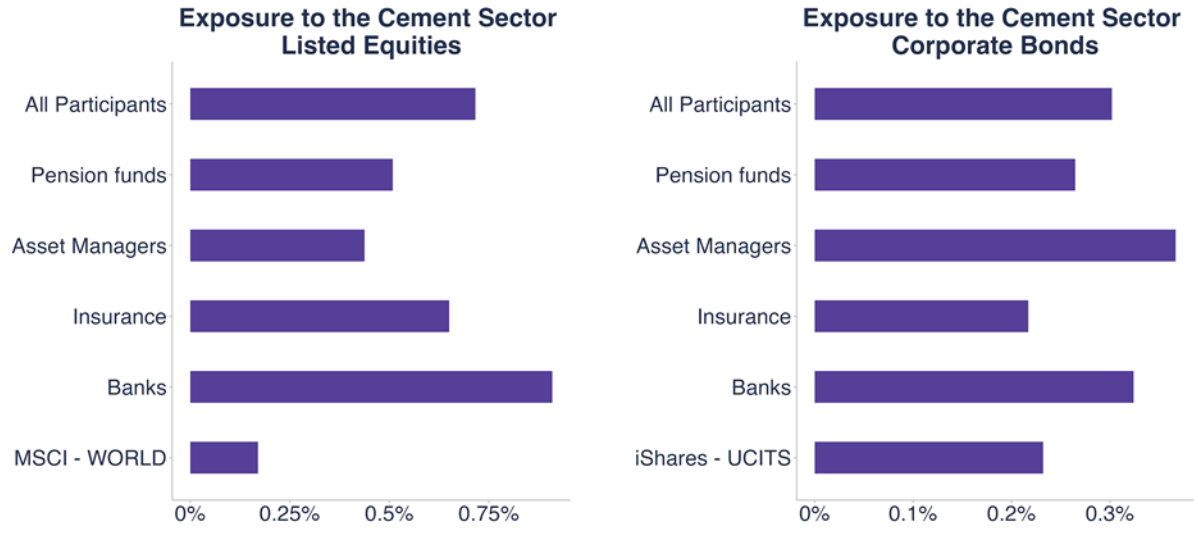
Figure 30 Technology Mix of investments in the Steel Sector



The cement industry, like the steel sector, is among the largest industrial sources of CO_2 emissions and is classified as a hard-to-abate sector due to its reliance on energy-intensive processes and carbon-intensive materials. Demand for cement, as with steel, is primarily driven by construction activities and large-scale infrastructure projects. One of the key challenges for the cement industry is meeting growing global demand while simultaneously reducing its carbon footprint. According to the International Energy Agency, the main strategies to reduce emissions in cement production include improving energy efficiency, switching to lower-carbon fuels, enhancing material efficiency (e.g., reducing the clinker-to-cement ratio), and advancing near-zero emission production technologies. The latter two strategies are particularly critical, as they account for the largest share of direct emission reductions in the Net Zero Scenario. However, aligning the cement sector with this scenario will require the development and large-scale deployment of new technologies that are not yet commercially available.[99]

Figure 31 illustrates the portfolio exposure to the cement sector. In listed equity portfolios, the average exposure is approximately 0.75% across all peer groups, compared to 0.3% in corporate bond portfolios. Within listed equity portfolios, banks show the highest exposure at 0.9%, while asset managers have the lowest at 0.4%. By contrast, the MSCI World benchmark has an even lower exposure of 0.2%. In corporate bonds, asset managers have the highest exposure at 0.4%, while insurance companies have the lowest exposure at around 0.2%. The iShares UCITS benchmark for corporate bonds also shows a similar low exposure of 0.2%. These figures indicate that while there is some differentiation across financial institutions, overall exposure to the cement sector remains relatively modest, reflecting the sector's challenging decarbonization pathway and potentially limited investment opportunities at present.

Figure 31 Exposure to the cement sector of Swiss financial portfolios



[99] Cement (iea.org)

4 Paving the way to zero: financial institutions' climate action strategies revealed

The leading question for chapter 4 is: What are financial institutions doing currently, what are the climate strategies and action that are being put in place? Starting with directly held real estate the planned heating replacement and refurbishment strategies are evaluated. For mortgages the 2024 survey not only asked in detail about the incentives offered by mortgage lenders, but also what evidence of impact they themselves observe. For equity and corporate bonds, the study shows which measures are popular and how. Engagement and voting are the most promising in terms of achieving climate targets. The chapter therefore discusses the implementation of those actions in the Swiss financial sector.

4.1 Climate action in real estate

4.1.1 Planned refurbishments and heating system replacements

In 2020, the Swiss building stock comprised almost 1.8 million buildings with residential use, plus around 1 million non-residential buildings. In total, around 1.1 million heating systems need to be replaced in Swiss residential buildings, 720,000 oil heating systems, 310,000 gas heating systems and 140,000 electric heating systems.[100] Of these, around 35,000 to 40,000 heating systems are replaced each year. The average lifecycle of a heating system is 15 to 25 years. In 2022, the canton's subsidized replacement rate was 2.7% of oil heating systems, 2.3% of gas heating systems and 1.8% of electric heating systems. For a complete replacement of the existing stock by 2050, the overall rate (including non-subsidized heating systems) must be 3.7%.[101]

In total, around 1.1 million residential buildings in Switzerland are in need of renovation. At current renovation rates, all windows will have been replaced once by around 2065, all pitched roofs by 2090 and all façades by 2100. According to the FSO, 63 percent of today's building stock was constructed before 1980. Until 1980, there were hardly any requirements for thermal insulation. Buildings from this period that have not been thermally renovated contribute significantly to the high proportion of heat consumption.[102]

While in the PACTA climate test 2022, at least one renovation was still planned for around half of all directly held buildings, in the climate test 2024, this is only planned for around a third. Table 21 shows that the various peer groups plan different renovations by 2050 (roof, windows, basement ceiling, facade). As in the 2022 PACTA climate test, the peer group of banks submitted the lowest proportion of planned renovations for all components in the

[100] Basis for the design of the impulse program for heat generator replacement and energy efficiency (KIG) and further development of the building program in accordance with Art. 34 of the CO2 Act

[101] Climate and Innovation Act: Vote on June 18, 2023 (admin.ch)

[102] Opening of consultation on the overall revision of model regulations (MuKEn) - Energiehub Gebäude (energiehub-gebaeude.ch) (German)

current climate test. However, the values are significantly higher than in the 2022 climate test, but still lower than in the other peer groups.

On the other hand, the number of planned heating system replacements has increased significantly compared to 2022. Almost one-third of all properties are scheduled to have their heating system replaced by 2050. In 2022, this was only the case for 6% of buildings. However, there are also major differences here: banks are planning to replace heating systems in only 15% of the buildings they own, while the figure for insurance companies is 44%.

As in the 2022 Climate Test, no renovation plans or planned heating changes were submitted for the mortgages. This forward-looking information is usually not reported to mortgage lenders by the mostly private owners.

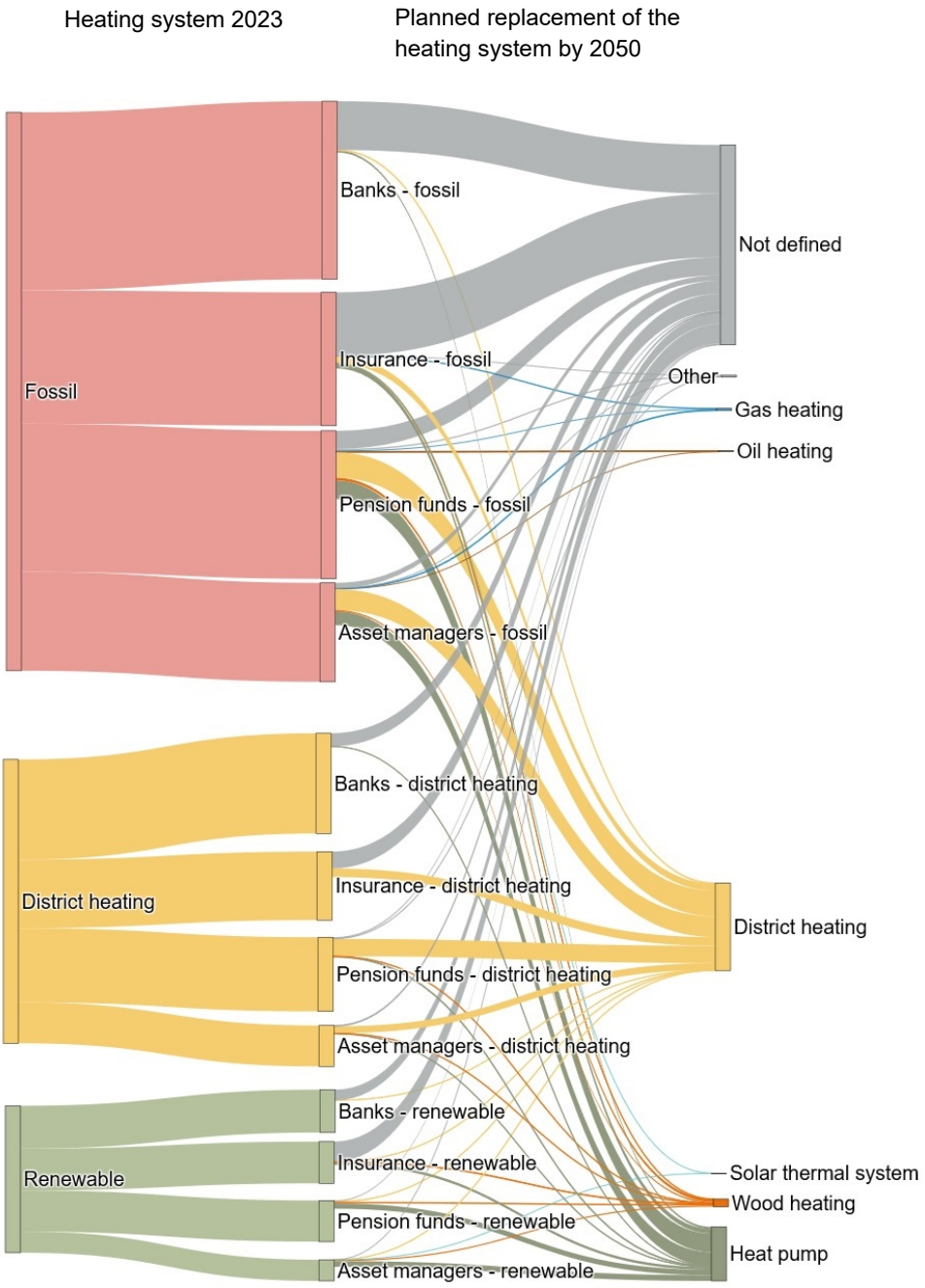
Table 21 Proportion of directly held buildings with planned refurbishments and heating replacements by 2050

Directly held real estate	Roof	Facade	Windows	Basement ceiling	At min. 1 refurbishment	Heating system
Asset Managers	35%	30%	34%	24%	39%	32%
Banks	15%	15%	16%	0%	18%	15%
Insurances	40%	41%	44%	6%	49%	44%
Pension Funds	30%	26%	31%	22%	33%	31%
All	**30%**	**28%**	**31%**	**13%**	**34%**	**31%**

When it comes to replacing heating systems in directly owned buildings, almost no heating systems that run on fossil fuels are planned (figure 32). When oil and gas heating systems are replaced, only around 1% of the energy reference area for which a heating replacement is planned relies on fossil fuels. Almost 30% of the area previously heated with fossil fuels will in future be heated with renewable energy or district heating. For 38% of the area previously heated with fossil fuels, the planned energy source has not yet been defined. However, based on the regulatory requirements, it can be assumed that this area will also be heated with renewables or district heating in the future. This is consistent with market observations. According to the Energy Directors' Conference of the Cantons (EnDK), 88% of all heating systems sold in Switzerland in 2023 were renewable heating systems[103].

[103] Quelle: Verkaufte Heizungen in der Schweiz: Die Dekarbonisierung des Gebäudeparks ist auf Kurs - Energiehub Gebäude (energiehub-gebaeude.ch)

Figure 32 Directly held buildings with planned heating system replacement by 2050: Distribution diagram of energy reference areas by planned replacement of the heating system and by sector.

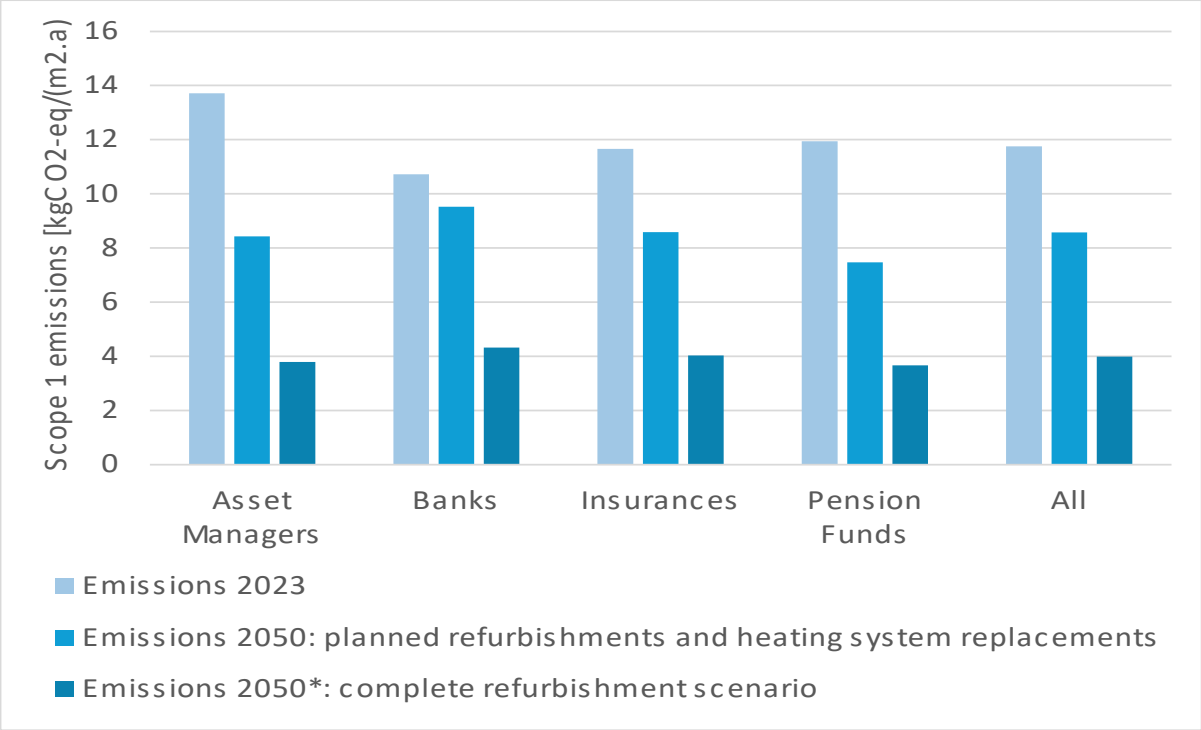


4.1.2 Looking ahead to 2050

To achieve the interim target for 2040 (3.6 kg/m2) and the target for 2050 (0.0 kg/m2), further efforts to reduce direct Scope 1 emissions must be made. With the current renovation plans for the buildings and the planned replacement of heating systems, the

submitted portfolios with directly held buildings are not on track (see figure 33). Taking into account the renovation plans submitted by 2050 and the planned replacement of heating systems, the Scope 1 emissions for directly owned buildings are 8.6 kg/m2 (2022 climate test: 11.8 kg/m2). Compared to today's emissions of 11.8 kg/m2, this represents a reduction of 3.2 kg/m2 or around 27 %. Compared to the interim targets from the building reduction path, the calculated value for directly held buildings for 2050 is only compatible with the 2030 interim target (10.7 kg/m2).

Figure 33 Scope 1 emissions outlook 2050 for direct held buildings



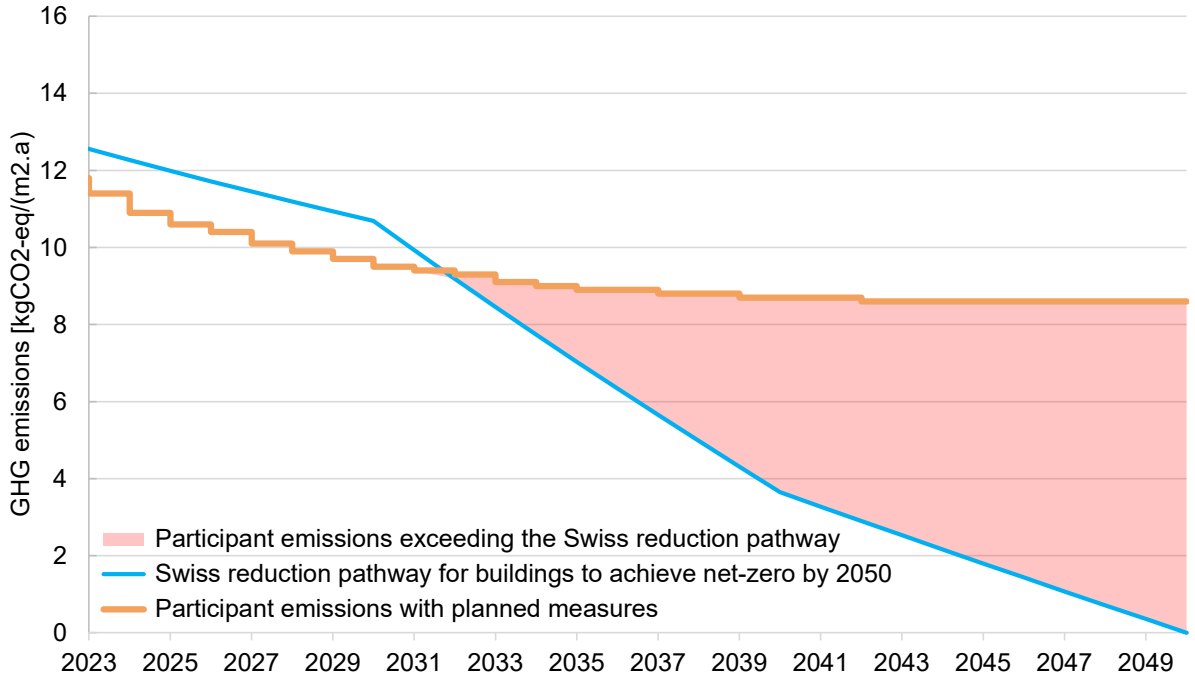
On average, no financial sector has already planned measures that could bring the entire portfolio to zero emissions. Only minor deviations can be seen between the comparison groups, which are also related to the remediation plans submitted. A hypothetical complete renovation scenario 2050* in which the thermal insulation of all components (roof, windows, facade, basement ceiling) is improved in all submitted buildings leads to direct emissions of 4.0 kg/m2.

This shows that scope 1 emissions could still be significantly reduced by improving building efficiency. However, to achieve the climate targets, it is essential to replace heating systems and switch to renewable energies.

As figure 34 shows, participants are on track on average with their directly held buildings until 2030. Afterwards, plans must speed up. The development over time of Scope 1 emissions for directly owned buildings (orange line) shows that, taking into account the planned measures submitted for 2050 – i.e. refurbishments or replacement of the heating

system – the interim target for 2030 according to the Swiss reduction pathway for buildings (blue line) can be achieved. After 2030, the decrease in emissions will slow down with the measures planned to date. The interim target for 2040 and the net zero target for 2050 cannot be achieved with the currently planned renovations and replacement of heating systems. This is also indicated by the widening red gap between the Scope 1 emissions of directly held buildings and the Swiss reduction pathway for buildings. More ambitious planning than is currently in place is needed to achieve the targets.

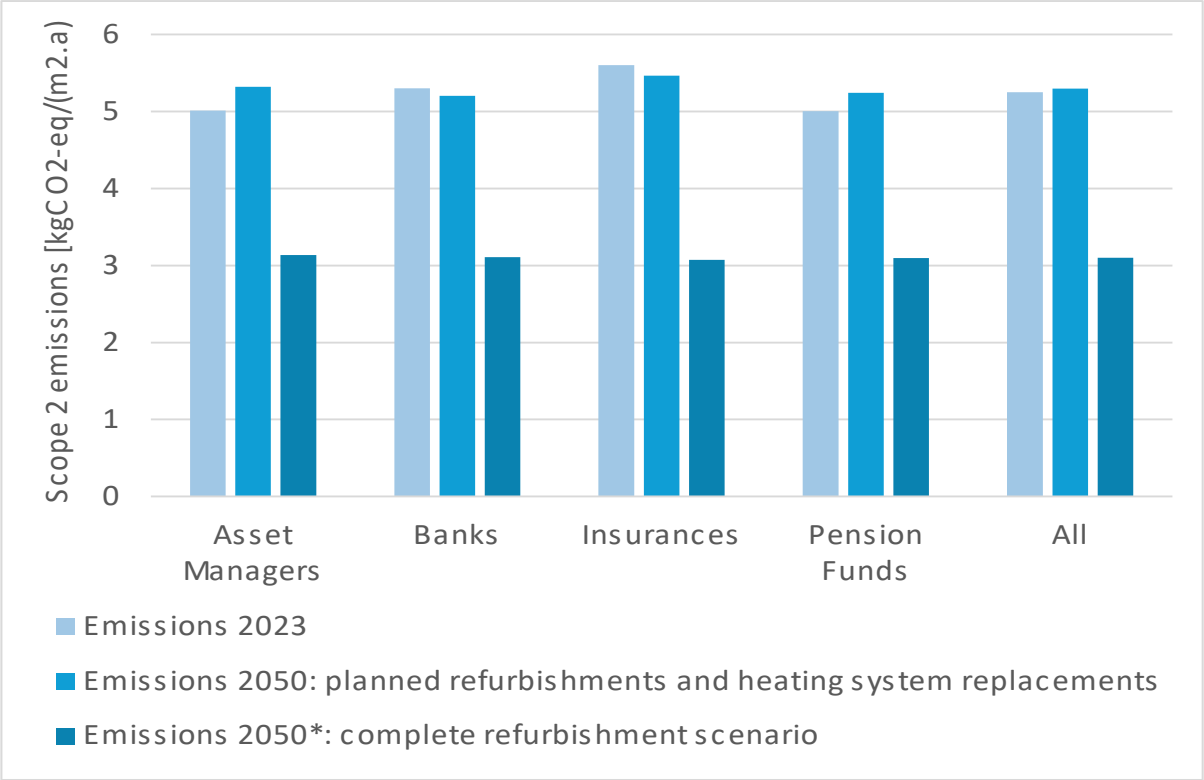
Figure 34 Development of Scope 1 emissions for directly held buildings according to submitted refurbishment plans and heating system replacements



Scope 2 emissions outlook 2050 for direct held buildings

In the Climate Test 2024, the analysis of Scope 2 emissions is based on the assumption of constant emission factors for electricity and district heating (figure 35). Future Scope 2 emissions are directly influenced by possible changes in the emission factors. Depending on the production method and the energy sources used to generate electricity and district heating, the emission factors and thus also the Scope 2 emissions could still change significantly in the future.

Figure 35 Scope 2 emissions outlook 2050 for direct held buildings

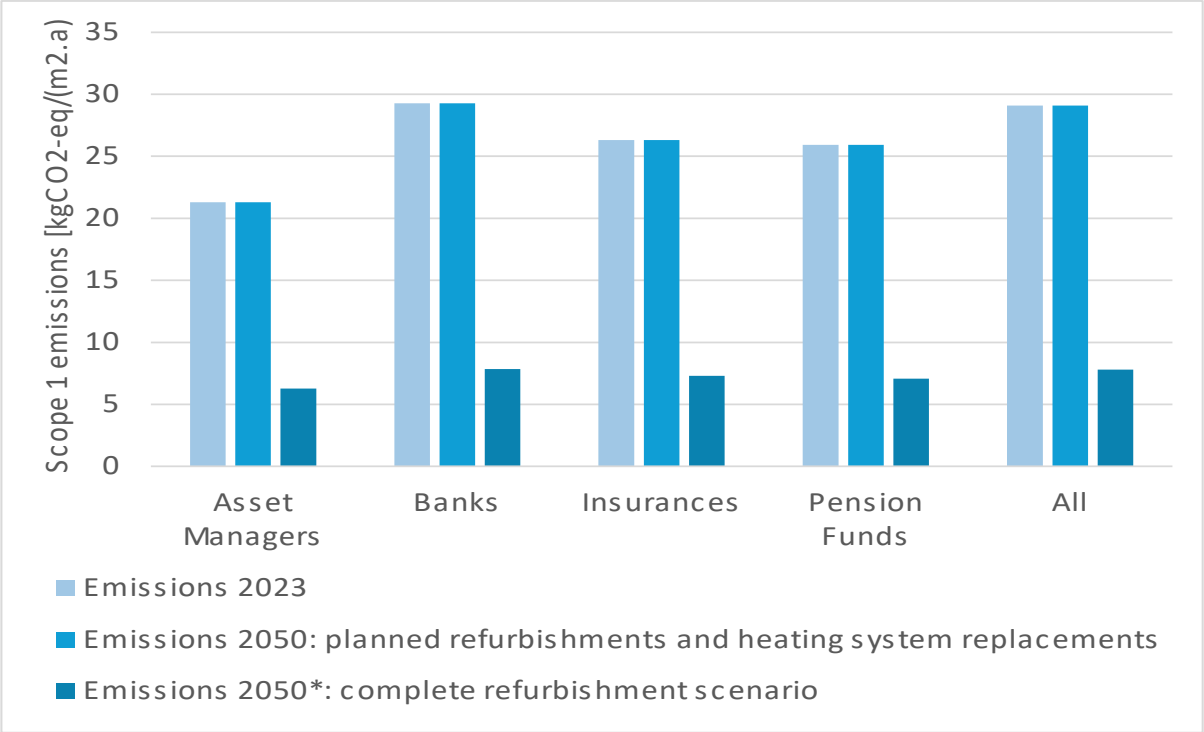


4.2 Mortgage action and evidence for impact

For mortgage portfolios, no planned renovation measures were submitted, as lenders can hardly know, what building owners plan. As one focus of the PACTA Climate Test 2024 for Switzerland is on real estate and mortgages, the previous chapter discussed concrete, building-specific renovation plans for the replacement of heating systems and energy-related renovations for directly held properties in depth. They were recorded directly via the quantitative real estate module.

However, there can be calculated a hypothetical renovation scenario for all insulated components, as it was done for directly held real estate. This also shows significant potential for increasing building efficiency with mortgages as figure 36 shows. Nevertheless, switching to renewable energy sources for heat generation is also necessary for mortgages to achieve the climate targets for buildings. In line with the findings for real estate also future Scope 2 emissions are directly influenced by possible changes in the emission factors, depending on the production method and the energy sources used to generate electricity and district heating.

Figure 36 Scope 1 emissions outlook 2050 for mortgages



However, lenders can undertake different efforts to improve the climate compatibility and energy efficiency of properties in the mortgage portfolio and thus to preserve value in the long term. Asked this question, around 70% of banks state they are doing so. As uploaded mortgages belong mostly to banks, this answer is encouraging.

4.2.1 Measures in advising

The survey further investigated what climate-relevant measures financial institutions apply when granting mortgages. The first set of questions target providing advice on new and/or adjustment of existing mortgages. The questions related to private customers with single-family homes and vacation homes to be financed. By climate-relevant building improvements both renewable heating replacements as well as significant energy efficiency improvements are meant. There were multiple answers possible.

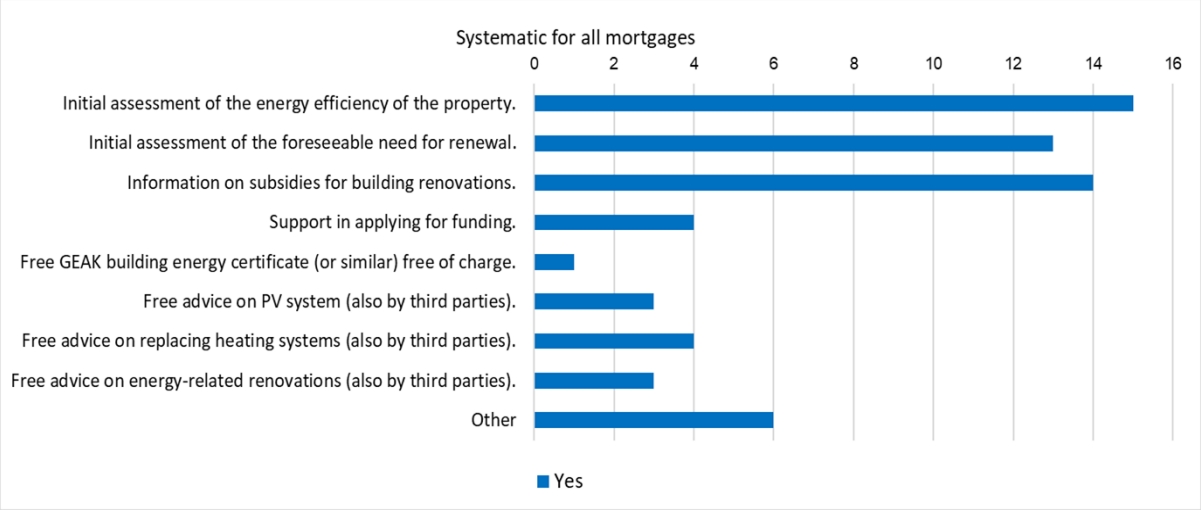
Systematically for all mortgages, the most common action is providing an initial assessment of the energy efficiency of the property to their customers (figure 37). Asset managers and insurances do almost not give advice at all, some pension funds do. Assuming the 15 responses for the most common answer came from banks, this corresponds to 44% of all participating banks. The second most popular action is providing information on public and private subsidies for refurbishments followed by an initial assessment of the foreseeable need for renewal.

The picture looks very similar regarding 'at the request of customers' instead of 'systematic for all mortgages' with generally slightly higher numbers (18 providing initial energy efficiency assessment). The same is valid for 'only for older properties or those in need of

renovation' this time with generally lower numbers (12 providing initial energy efficiency assessment).

Interestingly, the answer that is now most frequently mentioned was not mentioned at all in the 2022 PACTA Climate Test ("Initial Assessment of Energy Efficiency"). At that time, the question about measures in the mortgage area was asked openly. In 2022 the "assessment of the need for renovation" was mentioned most often, followed by "drawing attention" and "free and independent advice".
Today, information about public and private funding for building renovations plays a more important role.

Figure 37 Mortgage lenders action when providing advice, undertaken systematically for all mortgages



The fact that especially the initial energy efficiency assessment as well as the other measures in the 2024 Climate Test are carried out systematically for all mortgages and not just in response to customer demand is certainly due to the SBA's newly introduced self-regulation (see chapter 2). The graph also shows that a wide range of measures are being taken.

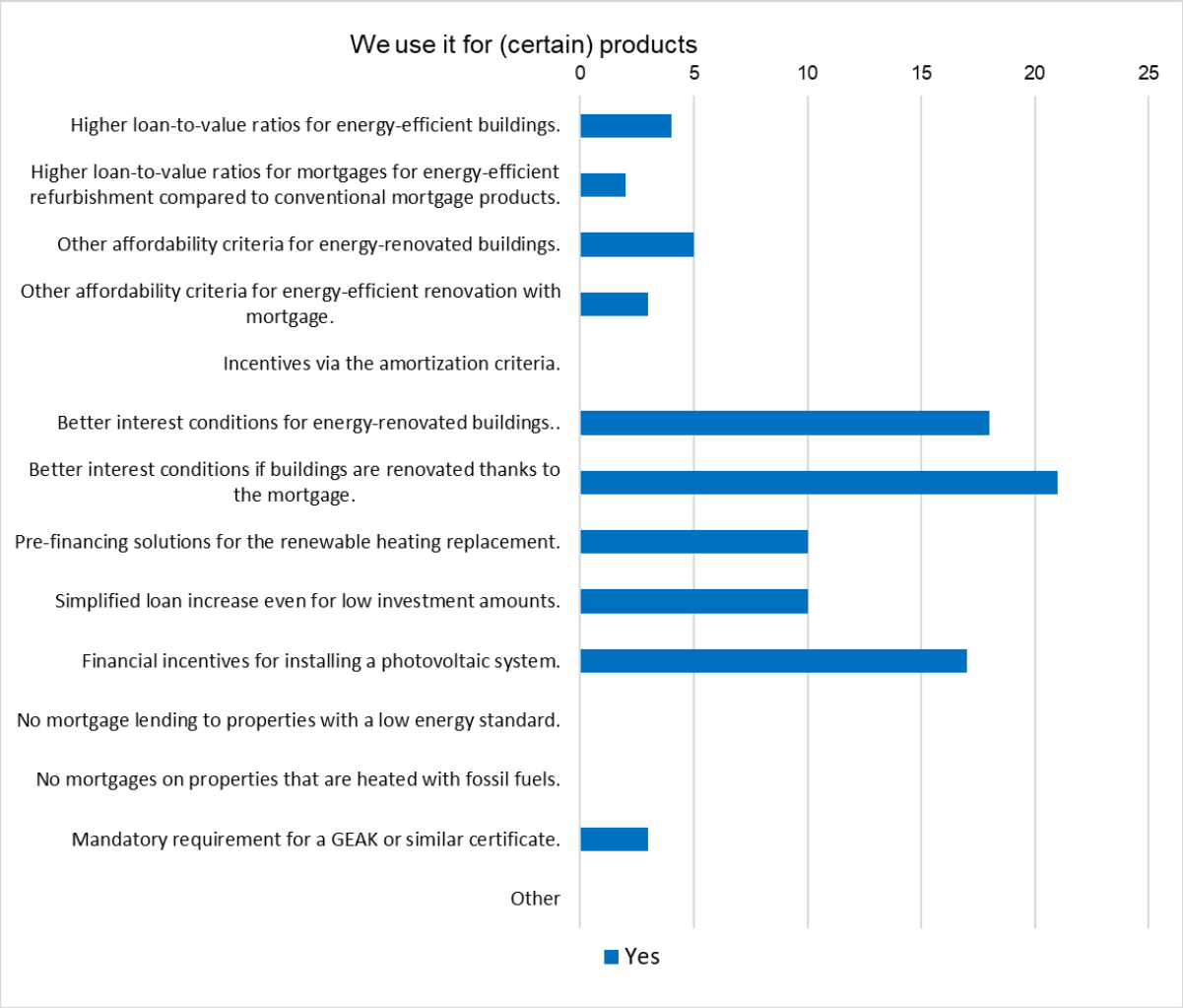
When asked what lenders do for existing mortgages that are not due for immediate adjustment, 11 banks, which is one third of all participating banks, stated that they systematically contact customers directly for all mortgages in their portfolio. 18 banks said they provide financing and advisory options on their website. This represents 53% of all participating banks. No representative from another financial sector answered this question in the affirmative.

4.2.2 Financial incentives

More often than advice, financial incentives are offered primarily through better interest rates as figure 38 shows. This was also the most common response in the 2022 climate test. Lenders were asked to indicate which financial incentives via conditions based on climate and

sustainability performance they apply. Most mortgage lenders stated that they would offer better conditions, if buildings were to be renovated, to make them more energy efficient thanks to the mortgage (21 responses). This approach aims to achieve a real impact on the climate. The second most common financial incentive is granted for buildings that have already been renovated to make them more energy efficient. Although this improves the risk and alignment profile of the mortgage portfolio, it does not contribute to reaching climate goals actively.

Figure 38 Mortgage lenders action via financial incentives, used for (certain) products



In particular, pre-financing solutions for the replacement of fossil fuels with renewable heating systems have increased compared to 2022. 10 mortgage lenders offer such solutions.

Financial incentives for installing a photovoltaic system can help to reduce Scope 2 emissions from electricity production. Such are also applied to (certain) products from 17 mortgage lenders. Only some banks also provide energy consulting services and/or free offers for apartment buildings and/or condominiums. Energy consulting services and/or free offers

to professional customers are practically never offered. Only some banks also offer energy consulting services and/or free offers for apartment buildings and/or condominiums. Energy consulting services and/or free offers for commercial customers are practically never offered.

70% of all participating banks indicated that all their customer advisors are able to implement the requirements of the SBA guidelines. This also means that they are familiar with the interplay between long-term value retention and energy efficiency in real estate. In the other sectors, this is only the case for a few (see chapter 2).

4.2.3 Evidence of impact

In addition, participants were asked about their experiences with the impact of the different measures they had taken – the so-called evidence for impact. They were asked about the number of cases in the last year that led to climate-relevant building improvements, meaning heating replacement or energy-efficient refurbishments as well as the expected number of cases leading to climate-relevant building improvements by 2030.

Although the evidence for impact would be the key criteria, when implementing different incentives, most mortgage lenders did not provide any information on the number of cases they observed or expected. It is therefore difficult to make representative statements about the effectiveness of the individual measures.

However, the information provided reflects the incentives that were mentioned most often: better interest rates appear to have led to the greatest number of climate-relevant building renovations. It is also expected that these will be the most effective by 2030, followed by pre-financing solutions for heating replacement and financial incentives for PV systems. The same applies to the approaches most often mentioned in the advice section. As expected, direct contact with customers seems to have led to climate-relevant building renovations more often than the provision of information on the website.

4.3 Equity and corporate bonds

This section details the key findings of the qualitative survey concerning the listed equity and corporate bond asset class. It highlights the level of ambition, engagement strategies, resource allocation, and climate-specific policies across different financial asset classes.

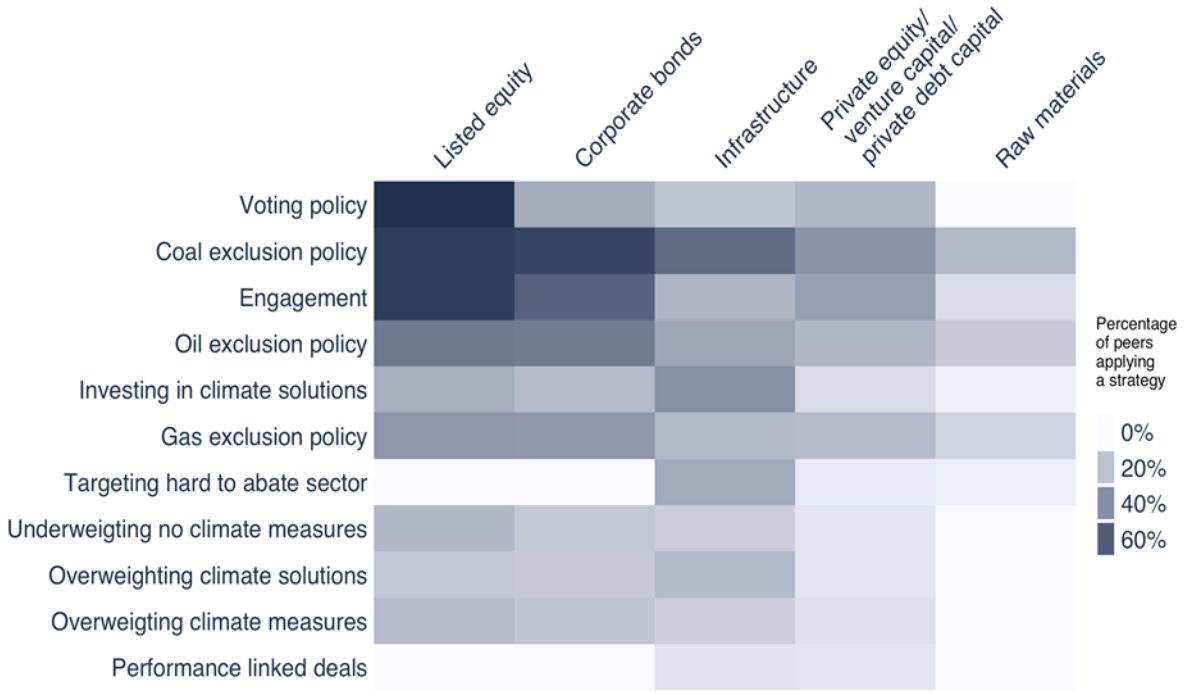
The qualitative survey results indicate that a greater proportion of Swiss financial institutions are implementing climate strategies in the equity portfolios compared to other asset classes such as corporate bonds and private debt capital. This suggests that climate alignment and target-setting efforts are more advanced in listed equity portfolios, likely due to the ability to exert greater influence on companies through shareholder rights, as well as heightened investor pressure in public markets (see figure 39).

The survey results indicate that financial institutions primarily employ voting policies and engagement strategies to influence corporate behaviour in the listed equity asset class. Notably, 60% of the participating institutions reported using voting policies to push for climate-related changes in the companies they invest in, while another 60% reported engagement activities aimed at fostering better climate practices.

For corporate bonds, the second most common asset class, coal exclusion policies were the dominant strategy, with 60% of financial institutions implementing this measure. This reflects a growing awareness of transition risks associated with high-carbon sectors and a focus on reducing exposure to coal companies.

Additional climate strategies reported include oil and gas exclusion policies, investment in climate solutions, and portfolio weight adjustments favouring climate-positive assets. Although these strategies are less common than engagement and exclusion policies, they represent an evolving toolkit of measures aimed at enhancing climate performance and managing climate risks.

Figure 39 Heat map showing common climate strategies applied to different financial asset classes

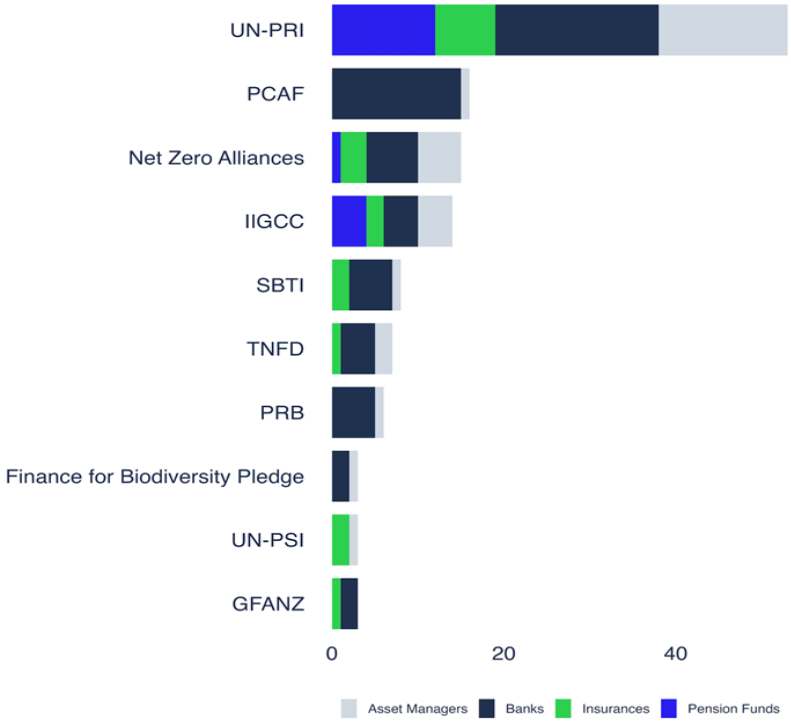


When developing climate strategies and measures, it can be useful to join an international organization. This allows insights to be gained and experiences to be exchanged among like-minded people. Membership also publicly demonstrates that a financial institution is committed to certain goals and strategies. Participants were asked, if their organization is a member of one or more of the different international initiatives. [104]

However, not all international initiatives are equally ambitious regarding climate targets. Some are primarily aimed at knowledge transfer (such as UNPRI), while others require concrete target setting for a membership (such as GFANZ or SBTI). Figure 40 shows that most of the memberships are indicated at UNPRI. There are also financial institutions in all sectors that are members of Net zero Alliances, which are part of GFANZ as well as IIGCC.

[104] The survey asked about memberships in GFANZ (Glasgow Financial Alliance for Net Zero), the Net zero Alliances (Net zero Asset Owner Alliance NZAOA, Net zero Insurance Alliance NZIA, Net zero Banking Alliance NZBA, Net zero Asset Manager Initiative NZAM, IIGCC (Institutional Investors Group on Climate Change), PCAF (Partnership for Carbon Accounting Financials), PRB (Principles for Responsible Banking), SBTi (Science Based Targets Initiative), UN-PRI (UN Principles for Responsible Investment), UN-PSI (UN Principles for Sustainable Insurance), TNFD Adopter or Community (TNFD Forum member, knowledge partner or Taskforce member), SBTN (Science Based Targets for Nature), Finance for Biodiversity Pledge.

Figure 41 Membership in one or more international initiative



Another interesting point of view for equity and corporate bond portfolios can be to look at how many companies within the portfolio have publicly committed to sciened-based targets themselves. To push for such targets can also be an investor's goal for engagement with investees. In the context of the individual test reports, RMI is providing the proportion of companies in the portfolio that are themselves members of the science-based target initiative SBTI for their industry sector and, additionally, the proportion of portfolio investments with such targets.

When looking at the participant's portfolios, the proportion of SBTI committers varies between 13% and almost 20%. Asset managers have the highest share with 19.8% SBTI committers in their portfolios, followed by banks with 17.9%, insurances with 13.8% and pension funds with 13.6%. Only companies that have interim targets in addition to a net zero target were included. This corresponds to the indicator as required by the SCS.

However, the indicator says little about whether the company is engaged in a business activity that has a high or low impact on the climate. Nor does it currently say anything about whether the companies are implementing the targets as communicated. However, the indicator can be supplemented with further information and be particularly useful for engagement and voting.

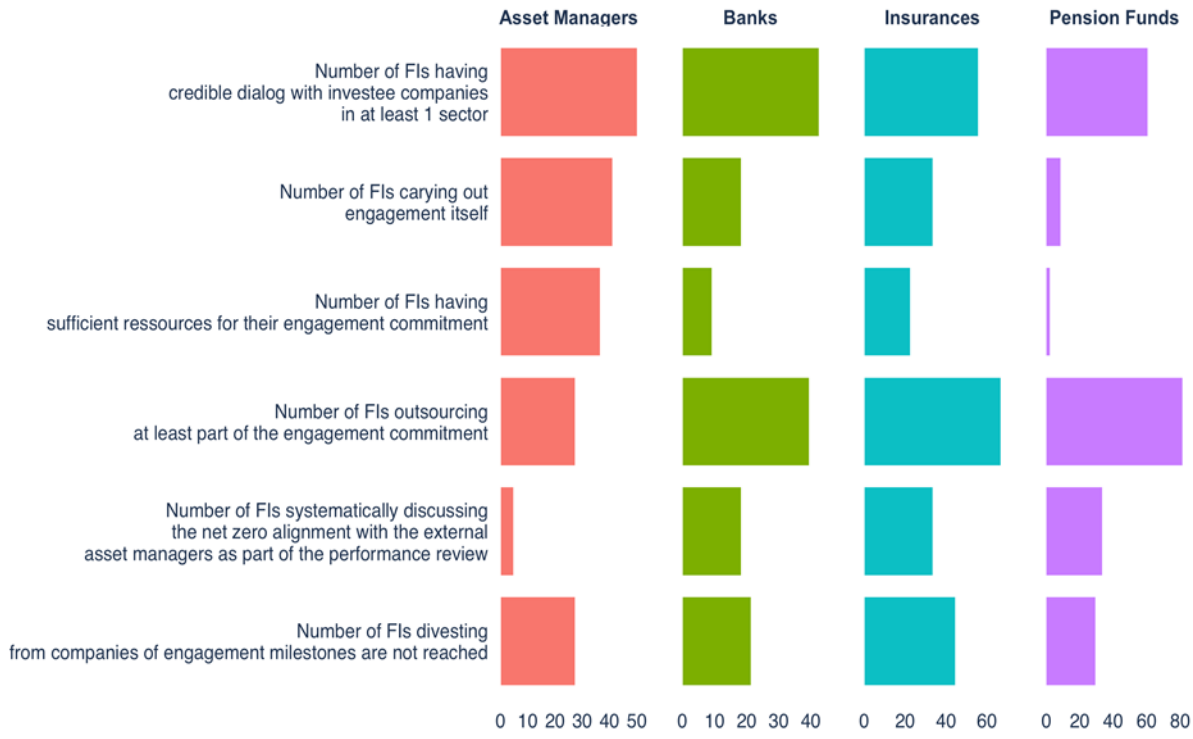
4.3.1 Engagement and Voting Strategies: A Closer Look

Engagement is a critical component of many financial institutions' climate strategies, particularly within listed equity and corporate bond portfolios. Effective engagement entails active dialogue between financial institutions and their investee companies to influence corporate behaviour, support the transition to low-carbon pathways, and reduce the overall emissions of their portfolios. Through direct engagement, financial institutions collaborate with companies to define decarbonization plans and set Key Performance Indicators (KPIs) to track progress. This process can vary widely in terms of scope and depth, depending on the nature of the asset class, the institutional capacity of the financial institution, and the specific climate goals being targeted.

Survey responses reveal significant variations in how financial institutions approach engagement activities, influenced potentially also by the type of institution rather than merely resource allocation. Pension funds emerged as the primary peer group engaging with companies in at least one sector. However, they are also the most likely to rely on external service providers to implement their engagement strategies. According to the survey, 60% of pension funds outsource a significant portion of their engagement activities, compared to 42% of banks and around 65% of insurance companies. This is reflective of the role that many asset owners play in engaging with their asset managers to implement these strategies, rather than directly engaging with investee companies themselves. The outsourcing takes place by membership of a non-commercial, collaborative engagement initiative (e.g. Climate Action 100+, IIGCC Net Zero Engagement Initiative, others) or by awarding climate engagement and/or voting contracts to commercial providers.

In contrast, asset managers are more likely to carry out engagement activities internally. This points to the importance of collaboration between asset owners and asset managers to ensure robust and effective engagement strategies that are aligned with long-term climate objectives. Approximately 40% of asset managers indicated that they conduct direct engagement, which can be attributed to their capacity to engage at the portfolio level and their specialized teams focused on active ownership. This differentiation in roles between asset owners and asset managers is particularly important when it comes to escalation strategies. For example, around 45% of insurance companies and 29% of asset managers indicated that they resort to divestment actions when companies fail to meet agreed-upon climate milestones. This suggests that asset managers, given their role, may have more flexibility to take direct actions when engagement does not yield desired results.

Figure 42 Overview of engagement practices



4.3.2 Challenges in engagement and climate strategy implementation

Despite widespread adoption of climate strategies, financial institutions face several challenges in implementing these policies effectively. Key obstacles could be the lack of sufficient resources to support comprehensive engagement activities as well as defining clear boundaries for the escalation process when companies fail to meet climate targets remains a challenge. This issue is critical, as an effective escalation strategy ensures accountability and incentivizes companies to adhere to their decarbonization commitments. But of those institutions who carry out engagement themselves, some over half report having sufficient resources and also excluding companies if they fail to meet milestones.

However, in all sectors, less than half of those who outsource engagement, report systematically discussing the net zero target with their external asset manager. In terms of the proportion to which listed investments are subject to an engagement strategy, 100% of insurance companies, 94% of banks, 86% of asset managers, indicated that it was below 20%. 75% of the pension funds indicated that it was below 40%, 57% being under 20%.[105] These results, reflect a low adoption of engagement as a climate strategy across Swiss financial institutions at a portfolio level.

Another relevant finding of the qualitative survey was on the question of whether tracking the quality and effectiveness of climate engagement is more important than the size of the share. Asset Managers demonstrated significant variation, with 25% rating this at 8 out of 10

[105] Responses are taking as a baseline the number of financial institutions answering this question.

and responses dispersed across other levels. Banks showed a similar spread with 28% rating as 10, and the rest divided across lower ratings. Insurance companies results displayed an even distribution across the scale from 3 to 10, while pension funds were slightly more aligned, with 21% selecting 5, followed by smaller groups choosing higher ratings. Overall, the results indicate that many institutions prioritize tracking the effectiveness of their engagement strategies over the size of the share involved.

During the data submission process, financial institutions were also asked to indicate whether their uploaded portfolios were subject to engagement strategies. This is only the case for 12% of all uploaded portfolios, although there are significant differences across peer groups. The results show that around 30% of the portfolios submitted by asset managers incorporate engagement strategies, compared to almost 20% for pension funds, and less than 10% for banks and insurance companies. When these findings are compared with the broader survey results, they highlight a relatively low overall implementation of climate engagement strategies across investment portfolios, indicating a gap between stated commitments and actual practices.

60% of participants say they exercise voting rights. However, 79% of them say that they would not systematically vote against the board of directors if the company's board does not act climate friendly. Furthermore, only two-thirds of those who exercise voting rights say that they would systematically vote in favour of resolutions that are compatible with a 2050 net zero target. Together with engagement voting is the most frequently cited climate-related action for equities. However, to be an effective climate measure, it must be exercised credibly and consistently.

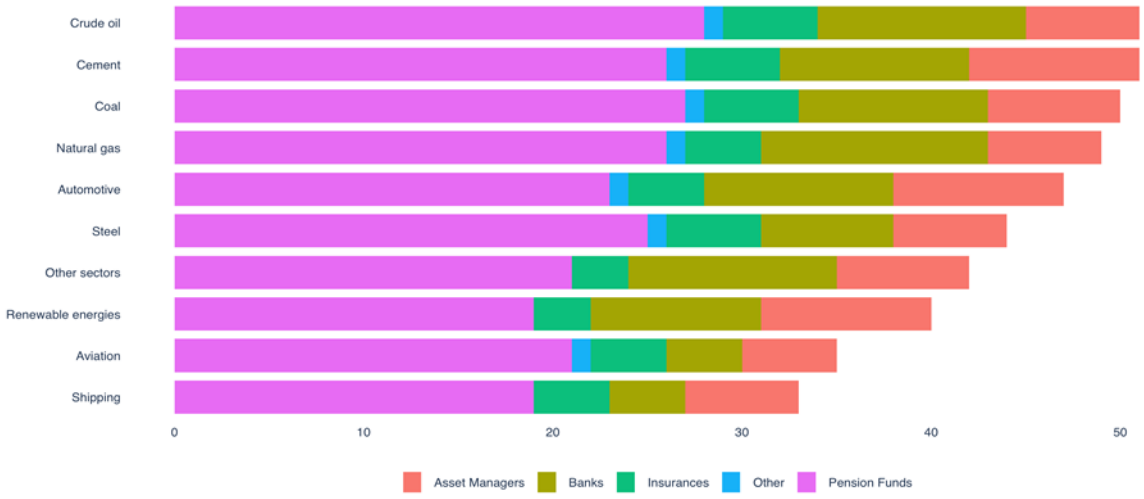
Regarding the proportion of votes on climate resolution over the last year, results from the survey highlight a relatively low level of active voting in alignment with a 2050 net-zero target in some of the peer groups. Among banks, 75% of respondents indicated that they exercised voting rights in line with a net-zero target for only 0%-20% of climate resolutions, while 17% reported exercising such votes for 80%-100% of resolutions. Among Asset managers, 57% reported voting for 0%-20%, while 29% voting on 80% -100% of resolutions. Pension Funds and insurance companies showed the highest level of active voting, with 63% and 75% of respondents indicating they voted on 80%-100% of resolutions.

4.3.3 Sectoral Engagement and Areas of Focus

Financial institutions' engagement efforts vary across sectors. The sectors where Swiss financial institutions are engaging the most include crude oil, cement, coal, natural gas, and automotive, as indicated by the number of institutions reporting engagement in these areas. Figure 43 illustrates the distribution of engagement activities across sectors, revealing that the majority of engagement is concentrated in sectors with high carbon footprints and transition risks.

Engagement in the cement and steel sectors, in particular, reflects the financial sector's growing concern about emissions-intensive industries that lack scalable low-carbon technologies. Engaging with these sectors often involves advocating for greater material efficiency, the use of recycled materials, and adoption of best practices to reduce emissions intensity. In the automotive sector, engagement focuses on encouraging companies to accelerate the shift to electric vehicles and invest in innovative, low-carbon technologies.

Figure 43 Overview of sectoral engagement by type of financial institution



Another challenge highlighted by the survey is the inconsistency in climate policies across asset classes. While coal exclusions are prevalent, policies for other high-carbon sectors are less uniformly applied, potentially creating gaps. Addressing these inconsistencies will be crucial for developing a holistic approach to climate strategy implementation across all asset classes.

The findings of the survey suggest that while significant progress has been made in adopting climate strategies, there is still room for improvement in aligning financial portfolios with long-term climate goals. The high level of ambition in the climate strategy observed in some peer groups, should serve as a benchmark for other institutions to elevate their climate strategies. Furthermore, the widespread adoption of engagement and exclusion strategies indicates a growing recognition of the financial sector's role in driving the transition to a low-carbon economy.

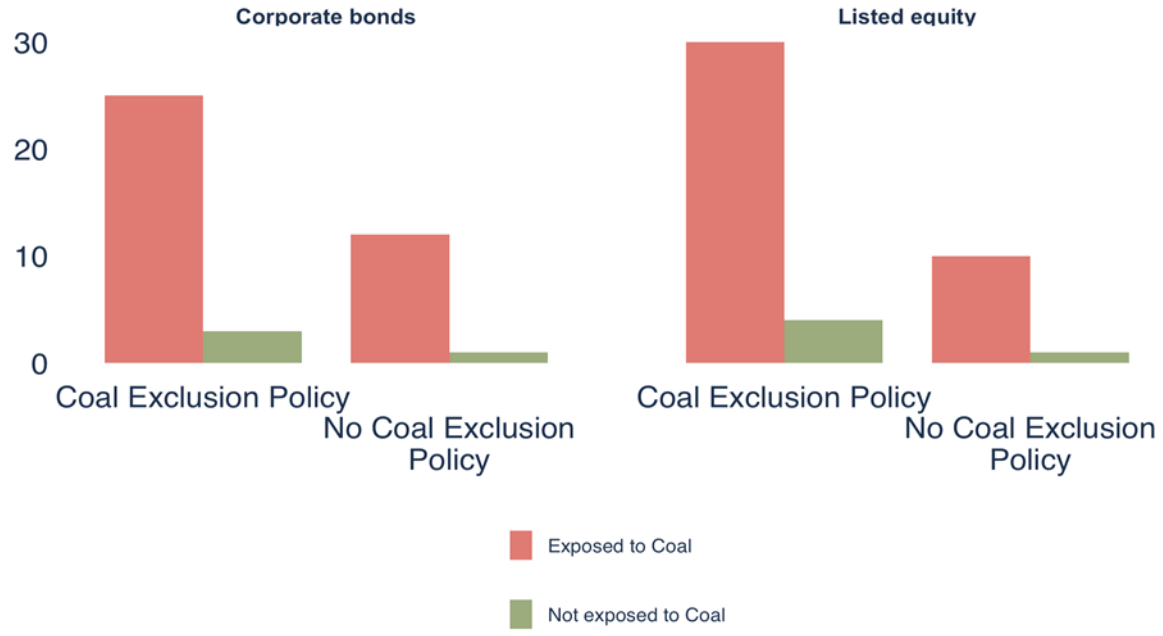
4.3.4 Climate Policies: Coal and Oil & Gas Exclusion

Exclusion policies, particularly around coal and oil & gas, are widespread across various asset classes. This is also a common criterion for passive investment strategies. The survey results indicate that 60% of financial institutions have coal exclusion policies for listed equity and corporate bonds, with an additional 40% implementing such policies for infrastructure investments. These findings suggest that coal exclusion has become a standard practice, reflecting a clear shift away from high-carbon sectors.

But only 24% of them say they use a 0% exclusion limit for coal exclusion. For most of them, the limit is between 0%-5% of revenue or production. This probably explains the contradiction in communication that has remained since 2022: in particular among banks and pension funds, a significant proportion of those who communicate an exclusion strategy for coal still have coal mining or coal-fired power generation companies in their portfolio (see figure 44). This image is much less pronounced in the insurance and asset management sector.

When it comes to oil & gas exclusions, the prevalence of these policies within the peer of financial institutions analysed, is lower compared to coal exclusions, yet still significant, particularly in listed equity and corporate bonds. These strategies aim to reduce exposure to sectors associated with high transition risks, though the exclusion policies' impact on overall portfolio emissions will depend on the proportion of high-carbon assets in each institution's portfolio.

Figure 44 Exposure to coal vs. having coal exclusion policies



5 Commitment in action: how climate strategies reflect in portfolio alignment

The leading question for chapter 5 is, what is actually set to happen. It discusses if portfolios reflect stated net zero goals and transition plans (see chapter 2) as well as stated action (see chapter 4). For directly held real estate the chapter brings shortly together the findings from the previous chapters. This asset class is the only one in which the specific measures were queried directly in the quantitative part. Their 'stated action' could therefore already be analysed in detail in chapter 3 and 4. Then follows the discussion on mortgages. For the equity and corporate bond asset class, the chapter discusses the climate goal alignment for the different PACTA technologies. It also evaluates if there already can be seen an effect of different climate strategies and actions.

5.1 Directly held real estate

Around 40% of asset managers, insurances and pension funds state to have a transition plan for directly held real estate. They also state that the plans are underpinned with concrete measures. This is reflected in their specific heating replacement plans, they uploaded on a individual building level in the quantitative PACTA module. Almost one-third of all properties are scheduled to have their heating system replaced by 2050, but with significant differences between peer groups: banks are planning to replace heating systems in only 15% of the buildings they own, while insurance companies plan a replacement in 44% of their buildings.

When looking at current portfolios, all financial sectors are currently on track on average to meet the climate target for directly held buildings, except asset managers. This is in line with the fact that the number of planned heating system replacements has increased significantly compared to 2022. 15% of the submitted energy reference area of directly held buildings is today heated with renewable energy sources. 29% with district heating and 57% still with fossil fuels.

In other words, participants are on track with their directly held buildings on average until 2030. Afterwards, no financial sector has already planned measures that could bring the entire portfolio to zero emissions. Therefore, plans should be speeded up on a sector level – this can also be achieved, if more institutions set up and implement specific transition plans. Even today, the distribution of carbon intensity by portfolio is still very broad. Furthermore, the planned energy-efficient renovations still can be improved.

By far the most effective action to reduce the CO_2 emissions in the directly held buildings asset class is to replace fossil-fuel heating systems with a renewable one. Regulations and subsidies on the federal, cantonal and municipal level support this transition too. It remains the most important as we need to fully decarbonise the building park in the next 26 years to reach the net zero goal.

Nevertheless, Scope 2 emissions should also be included in the transition plans in the future but reported separately. As the results show, they become more relevant in relation to Scope 1 emissions as soon as the heating system is renewable. Action to reduce Scope 2 emissions are different and therefore a separate reporting category is needed. Actions can include the choice of electricity and heat supply, for example by using own photovoltaic electricity and fossil-free district heating. General electricity and heat consumption can also be reduced through building insulation and other energy efficiency measures. In the case of directly owned buildings, these decisions are with the owner.

The consideration of Scope 3 emissions becomes particularly important for investors when deciding whether a building should be renovated, demolished and rebuilt, and whether the materials should be reused. Scope 3 emissions should not be added directly to Scope 1 and Scope 2 emissions resulting from the operation of a building because they are based on a life cycle approach and require different measures.

There are several specific sources and tools to get more information on Scope 3 emissions at the individual building level, when one of the above-mentioned use cases arise.[106] **Possible action to reduce Scope 3 emissions can include[107]:**

- Incorporate grey greenhouse gas emissions (Scope 3) into the strategic planning phase at an early stage. The earlier decisions are made regarding the reduction of grey greenhouse gas emissions, the less additional work and costs will be incurred.
- Omitting components that are not absolutely necessary and using compact floor plans help to reduce the amount of building materials required and to achieve a high degree of space efficiency.
- Lightweight construction means lower weight and more economical use of materials, which usually leads to lower grey emissions.
- Reusing components or using them beyond their normal lifespan prevents greenhouse gas emissions from replacements.
- Biogenic or minimally processed building materials (e.g. wood, straw insulation) help to temporarily store biogenic carbon in buildings. Natural materials often have a lower emission intensity.
- Closed material cycles help to ensure the recycling of building materials. Non-recyclable materials should be avoided.

[106] For further information about grey energy and Scope 3 emissions refer to e.g.
- SFOE factsheet "Climate-positive construction"
- Factsheets on the grey energy of new and converted buildings
- Ecobau: Grey energy and circular economy
- Swiss Sustainable Construction Standard (SNBS)
- Minergie
- Cantonal Building Energy Certificate (GEAK)Cantonal Building Energy Certificate (GEAK)

[107] Faktenblatt: Klimapositives Bauen: Ein Beitrag zum Pariser Absenkpfad (admin.ch)

- When selecting building materials, those with a low emission intensity should be preferred.

5.2 Mortgages

Around half of the banks – by far the most important peer group for mortgages – already have or plan a net zero transition plan for mortgages, which means that the other half still needs to set up such a plan (or slightly less, if considered that not all the participating banks might have mortgages).

The climate-alignment objective has not yet been fully implemented in the portfolios. Despite a decline in the number of properties heated with oil is observed within the mortgage portfolios, almost all the submitted mortgage portfolios are still well above the reduction path for buildings and are therefore not aligned with the climate targets. However, when interpreting the results for mortgages, the significantly lower data quality of the submitted portfolios compared to the directly held buildings must be considered. Since 2022, data quality improvements can be observed – although it remains unclear, if the improvements are driven by the cantons and communes to update the RBD and/or by banks themselves.

However, awareness-raising, recommendations and self-regulation are slowly beginning to have an effect. Over 70% of participating banks state that they will fully implement the SBA guidelines regarding mortgages by no later than 2024 (see chapter 2)**.** The same amount indicated that all their advisors know about the guidelines (see chapter 4). The guidelines are most important for banks, but a slight spillover effect to the other financial sectors can be observed.

If not yet reflected in the portfolio results, the effect can already be observed in the analysis of actions undertaken. Since 2022, mortgage lenders have been taking a wider range of measures. It is encouraging that the most frequently mentioned measure is to offer better financing conditions for the energy-efficient renovation of a building as a result of the mortgage. By contrast, the second most frequently mentioned measure does not aim to contribute to achieving climate targets, as better financing conditions are only offered for buildings that have already been renovated.

Financial incentives for the installation of PV systems are also increasing and are having (at least a slight) effect. There remains a potential to foster this development to reduce indirect Scope 2 emissions as well as for data collection on PV systems. Banks reported PV systems for around 1% of mortgages. In the other financial sectors, none were reported. The enrichment with SFOE data resulted in a total share of mortgages with PV systems of approximately 5%.

Despite these positive developments, there is still room for improvement:

- Credible net zero transition plans for mortgages should be systematically set up and implemented.
- 18% of banks explicitly stated to not fully implement the SBA guidelines until the end of 2024. Even if taking into account, that maybe not all of the participating banks are active in the lending business, the percentage seems significant.
- Within measures undertaken, the evidence for the impact should increase drastically – for measures for heating replacement, energy-efficiency improvement as well as the increase of solar PV systems. Regulatory developments should be considered.
- Data quality on climate and energy relevant data in RDB and within banks can be further improved.
- This should have an effect and - together with policy and client's action - be reflected in climate goal aligned mortgage portfolios in the future.

5.3 Equity and corporate bonds

5.3.1 About the alignment methodology

PACTA leverages production data to conduct a forward-looking alignment analysis over a five-year horizon, using two distinct metrics depending on the sector. For sectors with defined technological roadmaps, such as power generation and automotive manufacturing, PACTA provides a volume trajectory analysis at the technology level. This analysis allows financial institutions to assess how the future production plans of their investee companies align with multiple climate scenarios, benchmarks, and peers. By identifying potential gaps between current trajectories and expected outcomes defined by climate scenarios, institutions can strategically focus their investment efforts on sectors and technologies most critical to achieving their climate goals.

In sectors where production pathways are not readily available, such as cement, steel, and aviation, PACTA instead offers an analysis based on physical future emission intensity. This metric, derived from production estimates, enables the assessment of companies' progress in reducing their carbon footprint and advancing their decarbonization efforts. The volume trajectory chart and emission intensity results analytics provide granular insights for financial institutions to understand how well companies' plans align with the transition to a low-carbon. By comparing these results against sector-specific decarbonization pathways, such as those outlined by the International Energy Agency, institutions can gain actionable insights to mitigate climate transition risks and ensure their portfolios align with the objectives of the Paris Agreement. This section of the report specifically reflects alignment results compared with the World Energy Outlook 2023 scenario across all analysed peer groups.

PACTA's alignment analysis uses distinct methodologies for listed equities and corporate bonds, reflecting the differences in how these asset classes are structured and managed.

For listed equities, PACTA employs the ownership approach, attributing production outcomes based on the proportion of shares held by investors in the respective companies. This method establishes a direct link between investment and production activities, offering a picture of how an investor's portfolio aligns with climate goals at the company level. In contrast, the analysis of corporate bonds is conducted using the portfolio weight approach. Unlike equities, where ownership is straightforward, corporate bonds represent a form of debt, and bondholders do not equate to ownership of the company. Consequently, PACTA attributes company production to a portfolio based on the relative size of investments in companies within the same sector. This method reflects the influence bondholders may have on a company's operations relative to their level of investment, ensuring that the analysis accurately represents the role of debt financing in supporting the transition to a low-carbon economy.

Given these methodological differences, it is relevant to interpret PACTA's alignment analysis results with caution, particularly when comparing outcomes across listed equities and corporate bonds. While both analyses provide valuable insights, they do so from different perspectives, necessitating careful consideration of the inherent differences in how alignment is assessed. For a more comprehensive understanding of these approaches, the broader PACTA methodology, and information on the underlying scenarios used for the 2024 analysis, please refer to the PACTA website linked [here].

5.3.2 Alignment results of Swiss investors per sector

Power sector

On renewable energy, the analysis reveals that none of the peer groups investments are currently aligned with any WEO climate scenario. The investee companies plan an increase of renewable capacity but not enough build out. In the equity portfolio, peer groups will increase their underlying capacities by 45-55%, yet this growth remains insufficient for alignment. For example, aligning with the APS scenario, would require financial institutions to double their underlying capacities in the upcoming five years, a target that is far from being met. Similarly, in the bonds portfolio, peer groups have seen a 30-37% increase in underlying capacities. However, this increase falls short, as the APS scenario projects a need to multiply these capacities by 3.7 times over the next five years. Some of the change observed in the alignment results compared to the Climate Test 2022 is also due to enhancements in the methodology.[108]

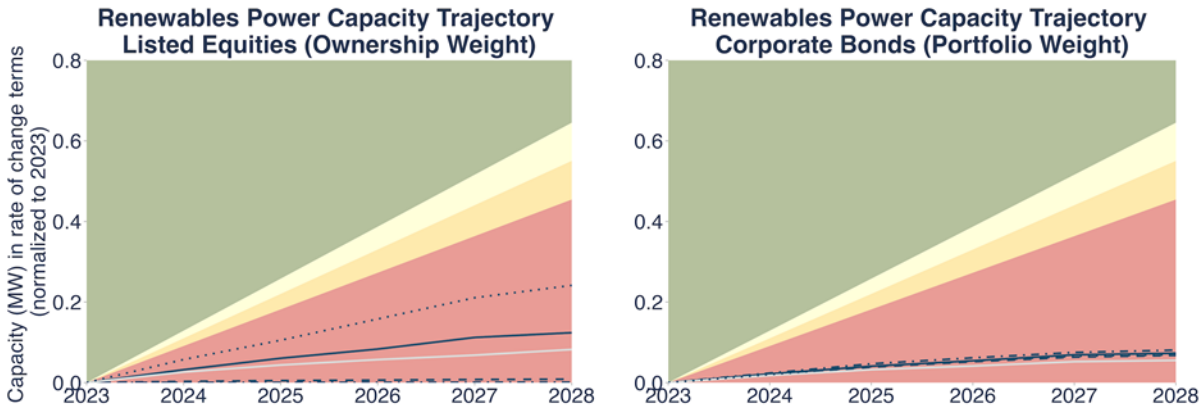
[108] The PACTA alignment methodology for renewables now takes into account the different types of shares – such as common equity, preferred shares and convertibles – when allocating a company's production. This refined approach allows for a more accurate distribution of production based on the various shares issued by the company. For further details on the methodology and the types of shares included in the analysis, please visit: Share Ownership Methodology.

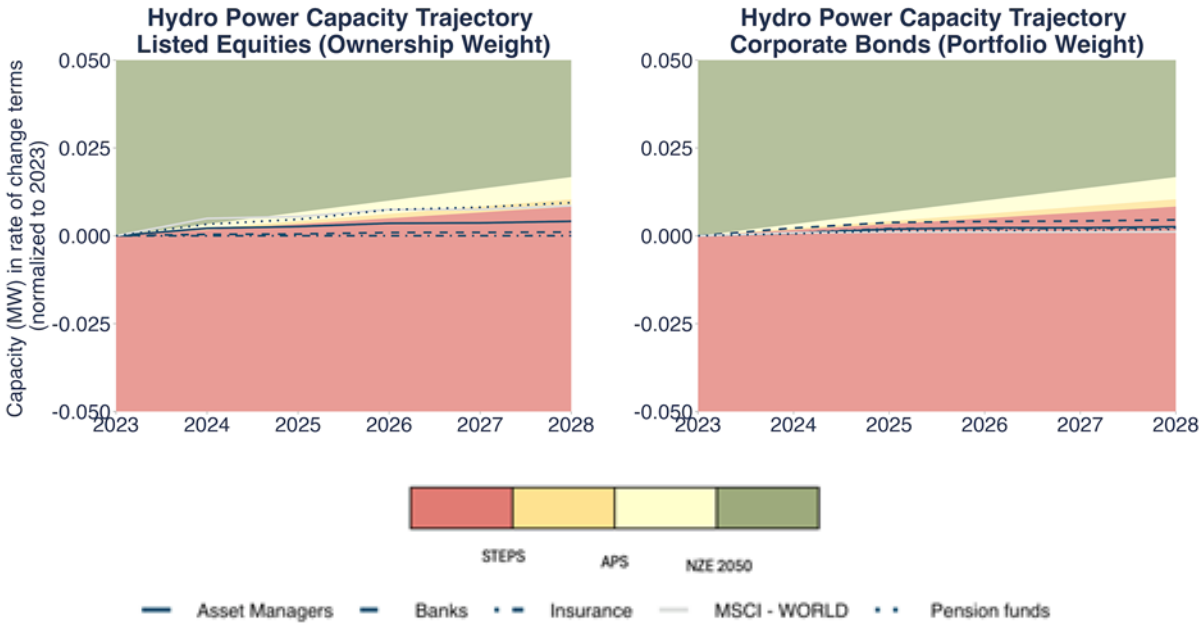
This analysis underscores the substantial effort required to bring financial portfolios aligned with the ambitious targets set by global climate scenarios. On Hydro energy capacities, there are no significant changes in companies' planned production observed for the upcoming five years, with only an 8.7% increase observed in the listed equity aggregated portfolio and a minimal 1.8% increase in the bonds aggregated portfolio. On nuclear energy, the aggregate peer group forecasts a 7% decrease in nuclear production within bonds portfolios and a 13% decrease in equity portfolios over the next five years. This contrasts with the World Energy Outlook (WEO) scenario, which predicts a growing interest in nuclear power and forecasts increased nuclear energy use in the near future.

However, when compared to the ISF 1.5°C scenario, which assumes no new nuclear power plants will be developed, Swiss financial institutions follow the trend of this scenario; although efforts to reduce nuclear capacity should be higher to reach the ISF 1.5°C scenario, where nuclear capacities are expected to decrease by 25% in the upcoming five years.

Changes in volume trajectory charts can stem from various factors, including shifts in the technology mix of power companies, alterations in portfolio allocations within the sector, or updates in scenario models. While comparisons with previous analyses are feasible, ensuring consistency requires maintaining certain variables static during the exercise. By doing so, it becomes easier to pinpoint the specific drivers behind changes in alignment results, enabling a clearer understanding of what is influencing the trajectory shifts.

Figure 45 Alignment of renewable and hydro energy to global decarbonization scenarios in equity and corporate bonds portfolios





On high carbon technologies for the power production, the analysis of coal capacities reveals that all peer groups are exposed to companies that plan to phase down coal production over the next five years at a pace that is compatible with the Net Zero Emissions (NZE) scenario. This reduction, greater than 17%, aligns these portfolios with global climate goals, indicating a strong commitment to phasing out coal in line with the energy transition required to limit global warming to 1.5°C. The consistency across peer groups suggests a broad recognition of the need to reduce reliance on coal, which is a positive signal for aligning financial portfolios with climate objectives.

However, the analysis of oil capacities within the power sector presents a less optimistic picture. The underlying companies in these portfolios do not plan to reduce their oil capacity exposure quickly enough to align any of the peer groups with climate scenarios. Results in this technology are similar to those observed in 2022. As shown in figure 46, In the equity peer group, variations range from a 2% reduction to a 1% increase in oil capacity, while changes in the bonds peer group portfolio range from a 6% decrease to a 3% increase. To be aligned with the NZE 2050 in this technology, the reduction of oil-based energy capacity needs to be more than 30% for both portfolios.

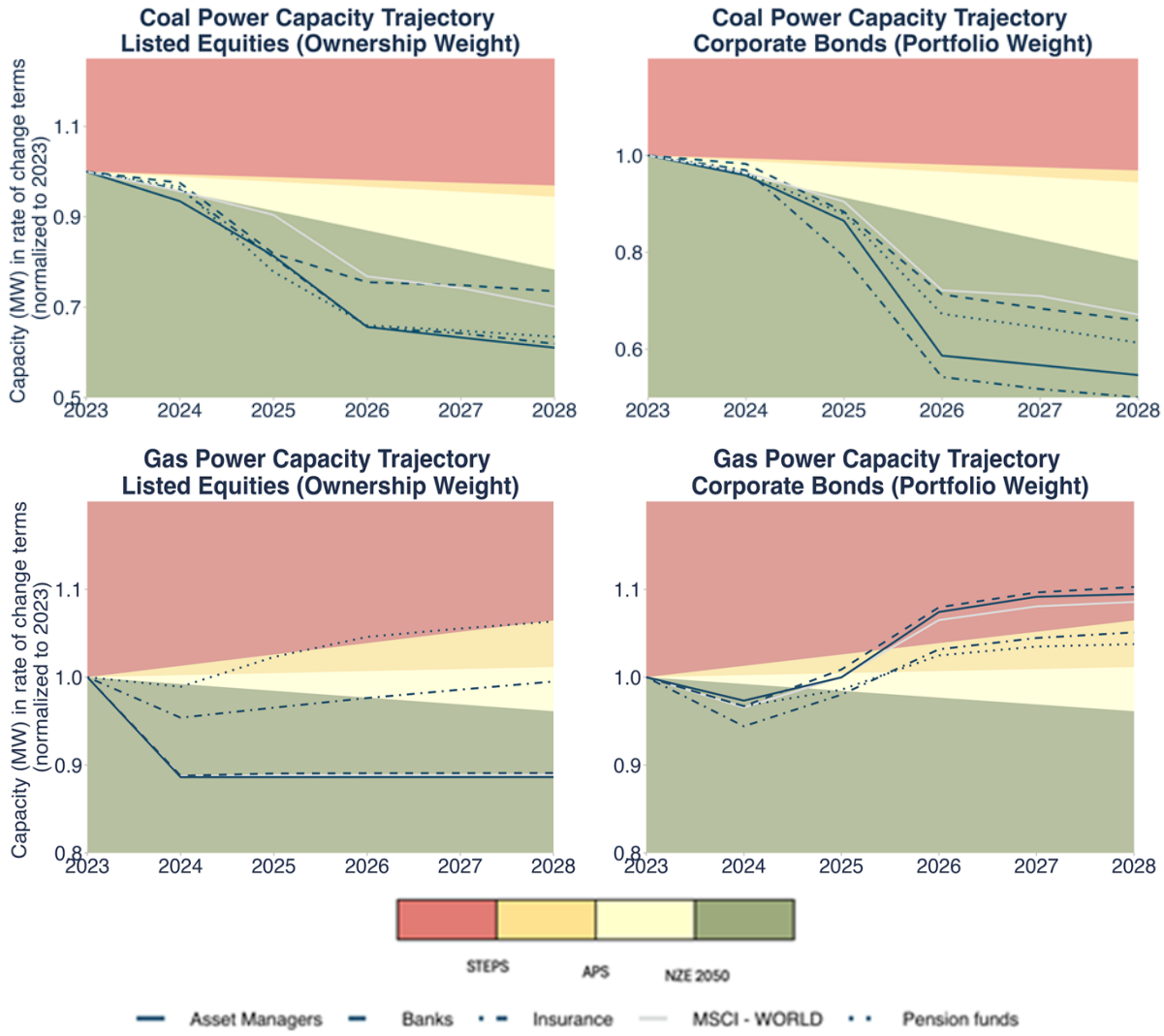
The gas power capacity analysis shows a mixed alignment across different peer groups. In equity holdings, the Bank and Insurance peer groups are aligned with the NZE scenario, with underlying companies planning to decrease their owned gas capacity by 12% and 11%, respectively. The Asset Managers peer group is aligned with the Announced Pledges Scenario (APS), maintaining a flat capacity over the next five years. However, Pension Funds are aligned with the Stated Policies Scenario (STEPS), with underlying companies expanding their owned capacity by 6% in the next five years.

This expansion contrasts with the decarbonization pathways required to meet more ambitious climate targets, suggesting a need for Pension Funds to reassess their investment

strategies in this sector. In contrast, bond holdings across all peer groups show increased exposure to gas power capacities over the next five years, which does not align with any of the WEO climate scenarios. Banks and Insurance peer groups are projected to increase their gas capacities by 10% and 9%, respectively, while Asset Managers and Pension Funds will see increases of 8% and 3%, respectively. This trend suggests a growing reliance on gas power within bond portfolios, positioning them closer to the STEPS scenario.

The results indicate that while there is some movement towards aligning with climate scenarios, particularly in equity holdings, bond portfolios are still expanding their exposure to gas, highlighting an area that requires significant attention for alignment with climate goals.

Figure 46 Alignment of coal, oil and gas power to global decarbonization scenarios in equity and corporate bonds portfolios



Fossil fuels

The analysis of oil extraction in both equity and bonds portfolios reveals that oil production plans of the investee companies has not yet reached its highest level and is not expected to do so before 2028. In the bond portfolios, companies plan to increase their production by 9% to 12%, a trend that is also observed in the MSCI World index (grey line in the chart). Similarly, in the equity portfolios, pension funds and insurance companies are planning to increase their oil production by 7% and 14%, respectively.

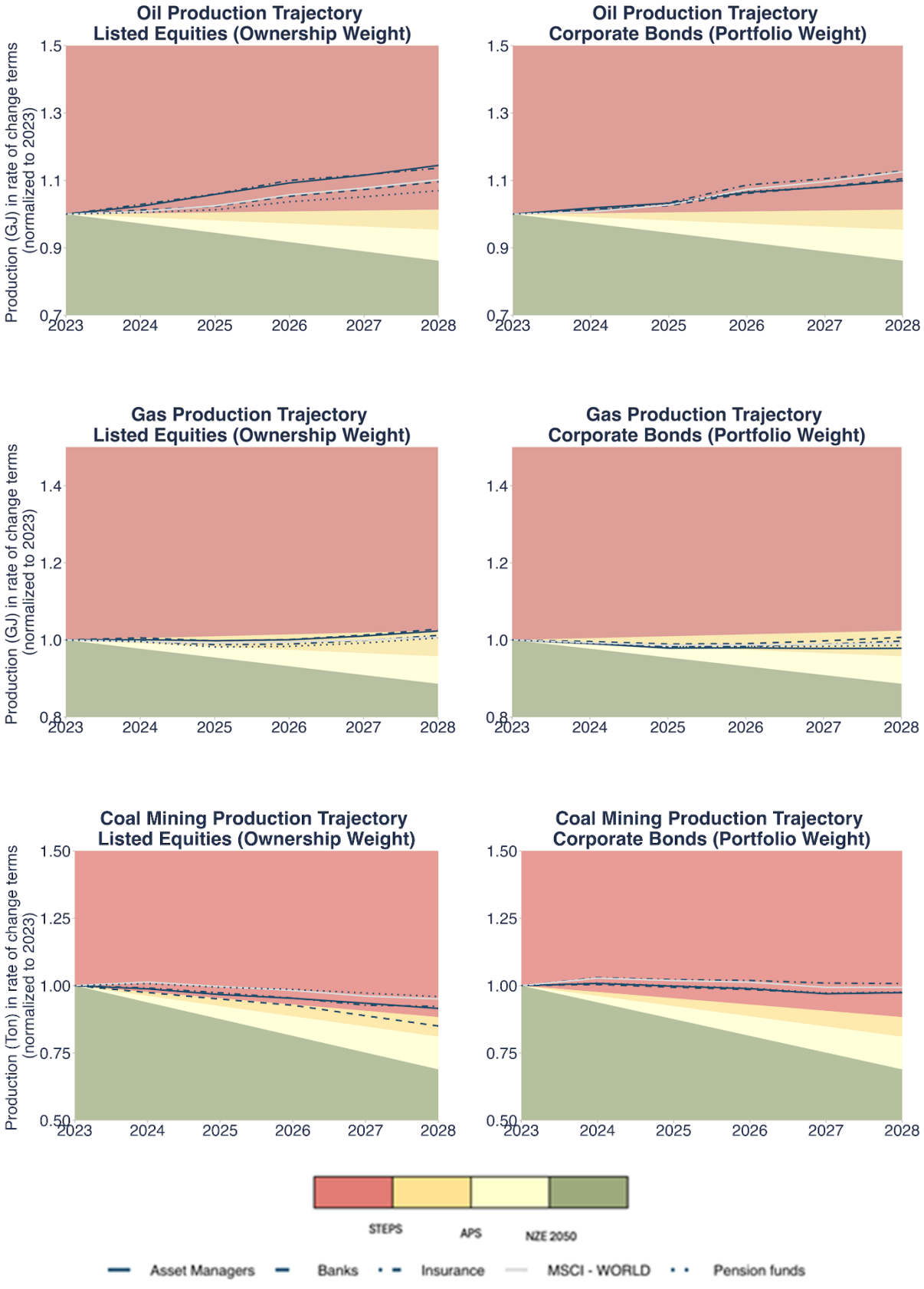
These projected increases are inconsistent with any of the major climate scenarios and indicates a misalignment with the necessary pathways to mitigate climate change. The World Energy Outlook (WEO) anticipates a plateau for the Stated Policies Scenario (STEPS) with a 1% increase over the next five years or a 5% decrease for the Announced Pledges Scenario (APS).

For gas production, the majority of companies in Swiss portfolios are expected to maintain a plateau in production over the next five years. In the equity portfolios, production is projected to increase marginally by 0-2%, while the bonds portfolios are expected to see a slight variation, ranging from a 2% decrease to a slight increase. This stabilization in gas production does not indicate a significant reduction in alignment with climate scenarios, but it also does not reflect the aggressive reductions needed to achieve more stringent climate targets.

The analysis of coal extraction shows a reduction in production across most bonds and equity portfolios. However, these reductions are still insufficient to align with most climate scenarios. In the equity portfolios, this decrease ranges from 5% to 15%, while in the bond portfolios, the reduction ranges from 3% to 1%, with a slight increase observed in the insurance portfolio, who are closer to be aligned with the APS scenario than the 2022 assessment, given changes in planned production of the investee companies. The STEPS scenario forecasts a 12% decrease in coal production over the next five years, and only the asset managers in the equity portfolio are on track to meet this target due to their reduction of energy capacity in this area. While the Swiss equity portfolio shows some alignment with the STEPS scenario, achieving the more ambitious APS scenario, which predicts a 19% decrease, remains a challenge.

Overall, the fossil fuel analysis highlights a significant gap between current production plans of the companies held in the investment portfolios and the reductions required to align with international climate targets. While there are some reductions in coal production and stabilization in gas, the planned increases in oil production, especially in bonds portfolios, underscore the challenges that financial institutions face in aligning their portfolios with the transition to a low-carbon economy. This misalignment signals a need for more robust strategies to reduce fossil fuel exposure and support the global effort to mitigate climate change.

Figure 47 Alignment of oil, gas and coal mining production to global decarbonization scenarios in equity and corporate bonds portfolios



Automotive sector

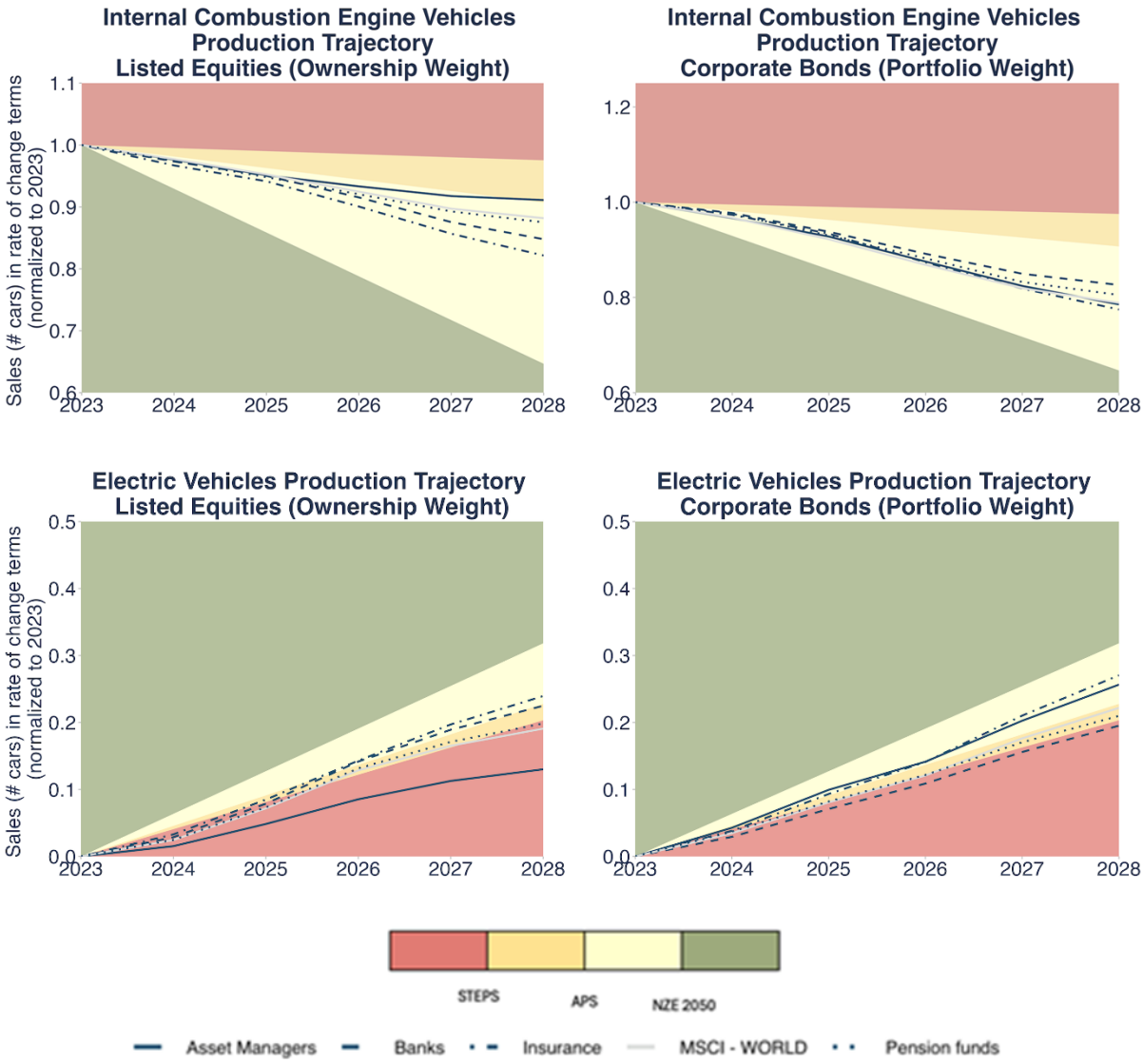
The analysis of the automotive sector reveals a misalignment between current portfolios and the levels of low-carbon technology adoption required to meet climate scenarios as presented above in the tech mix analysis. Both equity and bonds portfolios show a higher exposure to high-carbon technologies, such as internal combustion engine (ICE) vehicles, than what is necessary to align with climate goals. Over the next five years, the gap between the required adoption of low-carbon technologies, like electric vehicles (EVs), and the actual production plans of companies ranges from 10 to 15 percentage points. This disparity highlights the challenges financial institutions face in transitioning their portfolios to support the automotive sector's shift towards low-carbon technologies.

For ICE vehicles, the analysis indicates a decrease in production within both equity and bonds portfolios over the next five years. In equity portfolios, ICE production is expected to decrease by 12-19%, which aligns with the Announced Pledges Scenario (APS) that anticipates an 11% decrease. However, this reduction is not sufficient to meet the more stringent Net Zero Emissions (NZE) scenario, which requires a 35% decrease in ICE production. Similarly, in bonds portfolios, ICE-related production is projected to decrease by 18-22%, which also aligns with the APS scenario but falls short of the reductions needed for the NZE scenario.

When it comes to electric vehicle production, the outlook is more optimistic, yet still inadequate to meet climate targets. Especially because the share of electric vehicles is currently very low in bonds portfolios, the effort required to achieve alignment is significantly greater. In equity portfolios, electric automotive production is expected to increase over the next five years; however, the growth is insufficient to align with the NZE scenario. Asset managers, in particular, are not fully capitalizing on the low-carbon opportunities within the automotive sector. The APS scenario requires a 2.6-fold increase in electric vehicle production to achieve alignment, but this target has yet to be reached. The bonds portfolios show a more substantial increase in electric vehicle production, with expected growth of 5.2 to 6 times during the five-year period analysed.

Overall, the automotive sector's current trajectory in financial portfolios indicates a need for increased investment in low-carbon technologies, particularly electric vehicles, to meet climate scenario requirements. While there are some positive trends, especially in the reduction of ICE production and the growth of electric vehicle production, these efforts are not yet sufficient to align with the more ambitious climate scenarios. Financial institutions must continue to engage with portfolio companies, focusing on accelerating the transition to low-carbon automotive technologies to reduce climate-related risks and support global decarbonization goals.

Figure 48 Alignment of combustion engine and electric vehicles to global decarbonization scenarios in equity and corporate bonds portfolios



Aviation, steel and cement

For sectors like aviation, steel, and cement, climate scenarios do not include detailed technological roadmaps because low-carbon technologies in these industries are either not yet scalable or still in the early stages of development. As a result, the PACTA analysis measures the alignment of the portfolio based on the sector's physical emissions intensity relative to what is expected by the scenario. Using physical emissions intensity as a metric is beneficial for tracking both portfolio climate performance and the progress of companies in their decarbonization journey, as it indicates how efficiently a company can produce goods while minimizing emissions. Companies that increase production while reducing their emissions will see their emissions intensity decline over time, demonstrating improved efficiency.

In sectors with defined low-carbon technological pathways, like power and automotive, a reduction in emissions intensity is typically driven by the increased adoption of low-carbon technologies and a decrease in high-carbon technologies. In contrast, for sectors without established technological roadmaps, improvements in emissions intensity can be achieved through efficiency gains, such as using recycled materials in the cement industry or more efficient fuels in aviation.

It is important to note that PACTA results represent the aggregate performance of companies within a portfolio, reflecting their alignment with the climate scenario. Any improvements in a company's performance due to engagement or other strategies will be visible in the portfolio's overall results.

The charts in figure 49 below compare the emissions intensity of two key steel production technologies: Basic Oxygen Furnace (BOF) and Electric Arc Furnace (EAF). Solid lines represent the current performance of portfolio companies, while the dotted lines show the emissions reduction pathway outlined by the climate scenario. As illustrated, the emissions intensity of both technologies will need to decrease significantly in the coming years to align with climate goals.

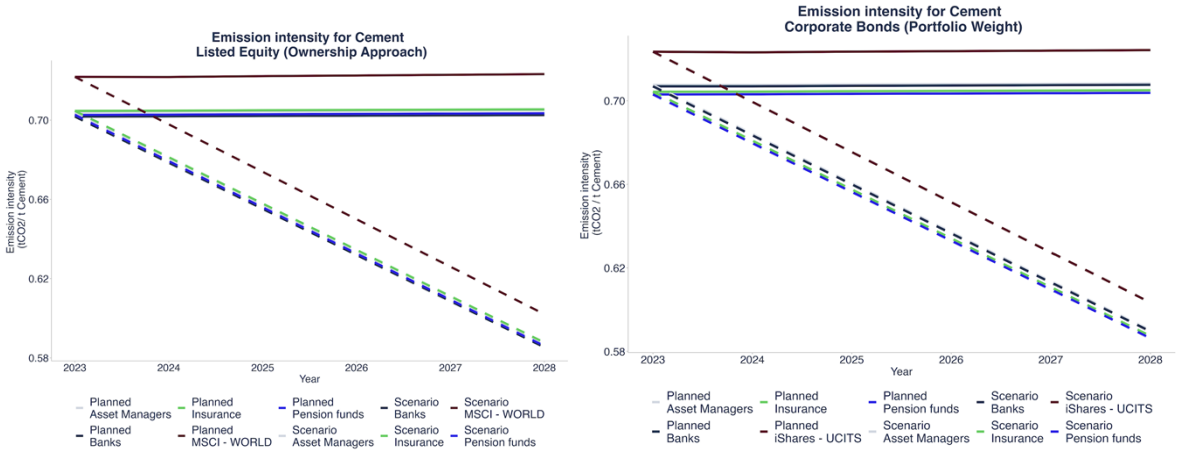
For Basic Oxygen Furnace technology, insurance companies in the equity portfolio have the lowest current emissions intensity compared to other peer groups, indicating higher efficiency in reducing emissions. Banks, on the other hand, show an emissions intensity that is 13.3% higher than that of insurance companies, although it is still comparable to other peer groups and deviates by only 2% from the MSCI World Index's emissions intensity. In the corporate bond portfolio, insurance companies also demonstrate the lowest emissions intensity for BOF technology, while asset managers show the highest.

This highlights an opportunity for financial institutions to engage with companies in the steel sector to support further emissions reductions and lower portfolio emissions in the future which would allow them to potentially align with a 1.5 degrees scenario. In the corporate bond portfolio, insurance companies also demonstrate the lowest emissions intensity for BOF technology, while asset managers show the highest. This highlights an opportunity for financial institutions to engage with companies in the steel sector to support further emissions reductions and lower portfolio emissions in the future which would allow them to potentially align with a 1.5 degrees scenario. Regarding Electric Arc Furnace technology, emissions intensities are naturally lower compared to BOF technology due to EAF's inherent efficiency advantages. In the equity portfolio, companies included in the MSCI World Index have lower emissions intensity in EAF technology compared to companies in Swiss financial institutions' portfolios. This suggests room for improvement in emissions efficiency for steel companies associated with Swiss financial institutions, presenting an opportunity for targeted engagement to achieve better performance.

Figure 49 Emissions intensity of two steel production technologies: Basic Oxygen Furnace (BOF) and Electric Arc Furnace (EAF) in equity and corporate bonds portfolios

Figure 50 shows the alignment results for the cement sector. The solid line indicates the portfolio companies forward looking emissions performance, while the dotted line illustrates the reduction trajectory required by the IEA's Net Zero 2050 scenario. As shown in the figure, the emissions performance for both equity and corporate bond portfolios is relatively similar across peer groups, and all peer groups are currently outperforming the benchmark indexes used for comparison. Over the next five years, emissions in both the equity and corporate bond portfolios are expected to decrease by approximately 17% to stay on track with the scenario pathway.

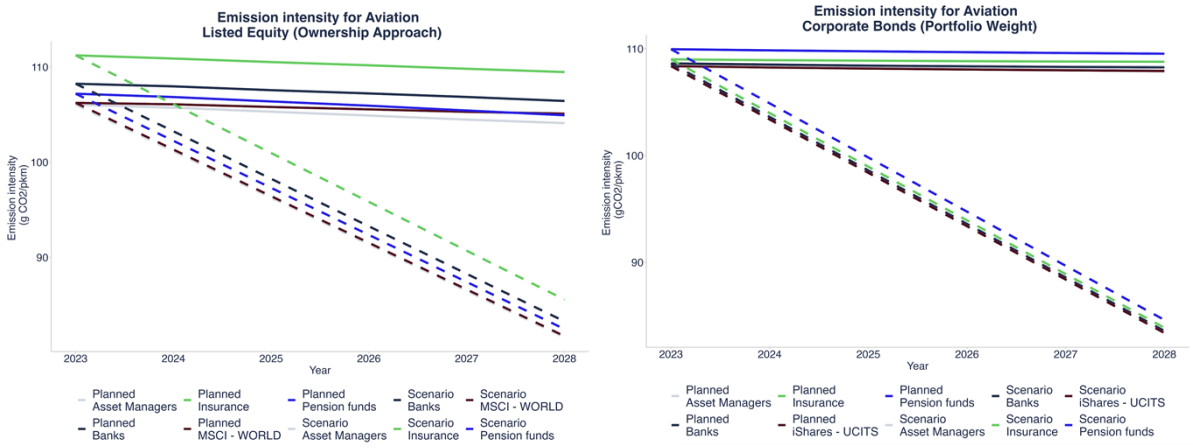
Figure 50 Emissions performance in the cement sector in equity and corporate bonds portfolios



The emission intensity profile showed in figure 51 for the aviation sector shows a similar trend for both corporate bonds and equity portfolios. In the listed equity portfolio, asset managers demonstrate the most advanced performance, with emission intensities closely

aligned to companies within the MSCI World Index. In contrast, the insurance peer group has the highest emission intensity. However, the differences between peer groups are relatively minor. It is important to note that decarbonizing the aviation sector will primarily depend on the adoption of green fuels and improvements in operational efficiency.

Figure 51 Emissions performance in the aviation sector in equity and corporate bonds portfolios



5.3.3 Portfolio climate performance and revealed strategies

The climate compatibility of portfolios was tested for various groups to find out whether certain strategies and measures are already having an effect. This was done for net zero targets, transition plans, engagement and Swiss Climate Scores.

Portfolios of financial institutions that have a net zero target are currently not significantly more climate-aligned than those without. The same applies to financial institutions with transition plans or those that apply the Swiss Climate Scores. This can be explained by the fact that, on the one hand, measures in the secondary market take time and, on the other hand, the measures tend to be of a more overarching nature and therefore do not have a direct effect at the portfolio level. Between 13% (for pension funds and insurance companies), 18% (banks) and almost 20% (asset managers) of the companies held in the portfolios have a science-based net zero target themselves. While it is positive that companies have net zero targets, the progress of corporates needs to be accountable and reviewed periodically to ensure investees are working towards their climate goals.

No significant difference can yet be seen in the climate compatibility of portfolios that are subject to engagement and those that are not. The discrepancy here lies in the number of financial institutions that report engaging at the company level (60%) and the number of portfolios that were indicated as being subject to engagement when uploaded (10).

6 Outlook

This chapter briefly discusses the insights and expectations that can be gained from the PACTA results regarding good practices. These show that the climate-goal alignment of financial flows and an effective climate contribution by financial institutions are possible and important. In addition, regulatory developments that could be relevant for the climate-goal alignment of the Swiss financial market in the near future are highlighted.

The overall conclusions for the PACTA Climate Test 2024 for Switzerland are not elaborated in this chapter, but in the summary. This summary can be found at the beginning of this report in English and as a separate document in German and French[109].

6.1 Net zero goals and transition plans

Almost two-thirds of the participants have already partially anticipated the Swiss net zero target at the company level. Transition plans are becoming more important too, in Switzerland as well as internationally. However, there are still major differences in how the net zero target is anticipated in the different asset classes. The same applies when looking at the transition plans: a large proportion of banks are planning or have a general transition plan, at least for certain asset classes. This shows the significant influence of the binding reporting regulation. For insurance companies, pension funds and asset managers, more than half have yet to take this step.

The PACTA 2024 results show that a minority in all financial sectors already sets specific net zero targets for all climate-relevant sectors and backs them with concrete interim targets and measures. If done so, it strengthens the credibility of the net zero targets and transition plans. Peer learning of these good practices could therefore be a very effective way forward.

To foster comparability of transition plans, minimum requirements for financial institutions will be defined in the 'Ordinance on Climate Reporting' by the end of 2024. They shall ensure the implementation of the climate targets in accordance with the Climate Act.[110] In January 2024, the Federal Council opened the consultation on the Climate Protection Ordinance. This ordinance sets out minimum requirements for transition plans for companies in the real economy (called roadmaps). Because different minimum requirements are needed for the alignment of financial flows - i.e. the climate-relevant business activities of companies in the financial sector - the Federal Council has issued a corresponding mandate to the Federal Department of Finance (FDF).

In addition, the reporting requirement, including net zero transition plans, could also apply to medium-sized companies of the real economy and financial sector in the future. This is

[109] The summary in German is available here www.bafu.admin.ch/klima-finanzmarkt, the French summary can be found here www.bafu.admin.ch/climat-et-marche-financier

[110] Bundesrat eröffnet Vernehmlassung zur Klimaschutz-Verordnung (admin.ch) (in German and French)

because the Reporting Ordinance is based on the rules for non-financial reporting in the Swiss Code of Obligations (Art. 964*a*-964*c* CO). The corresponding articles in the CO are internationally aligned, notably with the EU's sustainability reporting directive. However, the EU has since revised its directive (the so-called *Corporate Sustainability Reporting Directive,* CSRD) and, in particular, extended its scope to more companies as well as introduced the audit of reports by an external auditor. The Swiss Federal Council therefore submitted these alignments for the Swiss provisions to a consultation on July 26, 2024.[111]

Switzerland is tracking international progress in climate target-setting and net zero transition plans. Companies setting targets have increased 10 times since the beginning of 2020. In order to put these into action, these are now being supplemented and supported by net zero transition plans, that find themselves in regulatory standards and private sector initiatives (e.g. GFANZ). As in Switzerland however, there is still a gap between targets and implementation and planning. This puts the onus on creating accountability on progress, including via the use of forward-looking data of the kind used in the PACTA analysis.

The rise in climate targets is accompanying broader progress in climate policy. According to the International Energy Agency, the climate ambition of stated policies has reduced the 'baseline' climate temperature outcome by the end of the century from 3.6°C to 2.4°C warming over the last decade.[112] The Principles for Responsible Investment PRI commissioned Inevitable Policy Response[113] forecasting consortium now predicts that the Paris Agreement 'well-below 2°C' goal is in reach. As climate policy is ratcheting and accelerating, they are supporting private sector climate targets. At the same time, the Swiss people recognize the need for financial flows – consistent with Art 2.1c of the Paris Agreement – to align with the Paris Agreement goals if climate policy goals are to be achieved.

6.2 Transparency

Greater transparency and disclosure should lead to better-informed investment decisions by clients and other financial institutions. However, this only applies if the information is material, as comprehensive as possible, comparable and forward-looking. A climate-positive impact is thus particularly likely if the influence of the investment decision on the climate is as easy to understand as possible. To put this into context, financial institution annual emissions disclosure in many cases relies on data that is 1-2 years old.

The PACTA Climate Test 2024 shows, that mandatory reporting requirements have been effective in increasing transition planning, although the regulation only applies to larger companies. The numerous self-regulatory measures and recommendations cover the most

[111] Nachhaltige Unternehmensführung: Bundesrat schlägt strengere Regeln für Berichterstattung vor (admin.ch)
[112] https://theiafinance.org/wp-content/uploads/2023/12/Theia_makeorbreak_temps_v1.pdf
[113] PRI | Inevitable Policy Response (unpri.org)

important financial sectors and are asset class specific. This addresses many different aspects but makes it more difficult to maintain an overview.

Comparability between financial products and financial portfolios remains difficult for customers. For real estate funds and portfolios material, quantitative indicators are required, which allows for more comparability. However, basic key figures are only published by a minority up to half of the participants in each sector (AMAS, ASIP, KGAST). Standardized e.g. 'Swiss Climate Scores for real estate' could be effective when broadly implemented. They could be based on the existing industry recommendations and enriched with a comparison to the Swiss buildings target.

These findings are consistent with that of other recent studies, like the SSF market study from 2024[114] and the overview of sustainability of pillar 3a products[115]. The SSF market study states: *"With regard to the financial sector, however, the Swiss regulatory landscape remains fragmented and does not provide binding sustainability-related provisions that apply to all areas of the financial sector."* The overview of pillar 3a products shows that, on the one hand, clients' investment motives usually do not match the products offered, as clients usually understand 'sustainable investment' means a concrete and effective climate 'impact'. On the other hand, although many products are labelled as sustainable, green, climate-friendly, etc., it is impossible to objectively compare products from different providers.

For financial products with listed equities and corporate bonds, it would be clear and easy to understand for customers, if the climate aim of the product would be made transparent by default. This initial question on the financial product's aims for climate-goal alignment, climate impact or both is optionally required in the extended Swiss Climate Scores. However, so far only very few providers seem willing to voluntarily publish these goals. In order to support customers, the ZHAW is currently developing a new open-source tool on behalf of the FOEN. This tool asks about financial and sustainability preferences in an integrated and playful way, based on the alignment and impact logic. Product providers could also use this tool in clients advise.

The Swiss Federal Council has also stated, among other things, that unresolved issues remain with regard to compliance with the self-regulatory provisions by applying EU law and regarding the permissible reference framework for sustainability targets and enforceability. Therefore, the Federal Council has instructed the FDF to re-evaluate the need for action with regard to the full implementation of the Federal Council's position on preventing greenwashing in the financial sector once the European Union publishes any amendments to its SFDR, but by the end of 2027 at the latest.[116]

[114] SSF Swiss Sustainable Investment Market Study 2024 (sustainablefinance.ch)
[115] Nachhaltigkeit in der Säule 3a - Studie der ZHAW im Auftrag des BAFU (only German)
[116] Federal Council notes financial sector's progress in preventing greenwashing (admin.ch)

Another important question is to what extent transparency requirements actually lead to climate-friendly decisions. The OECD is addressing this question in a review that will be published in October 2024.[117] To date there is little evidence as to the impact of climate disclosure requirements by financial institutions on their climate performance. However, as demonstrated in previous PACTA Climate Tests, the test, while not focused on individual disclosures but analysis, drives climate action by participants. The climate alignment of financial portfolios has overall consistently improved over time, although the scale of the challenge has similarly increased.

6.3 Real estate and mortgages

The PACTA 2024 report shows good practice: a complete decarbonisation of the whole portfolio by 2050 at the latest by replacing heating systems with renewable energies to reduce Scope 1 emissions. As many in-house PV systems as possible produce renewable electricity and reduce Scope 2 emissions. Energy-efficient renovations help to reduce overall energy consumption and thus also reduce emissions. Scope 3 emissions should be given consideration in early stages of the strategic planning, e.g. when deciding whether to demolish or renovate a building.

Various incentives are already being offered for mortgages. However, there has to be more evidence for climate impact. In the case of directly held real estate, investors control the decision and thus have a direct influence on the climate impact. There is also potential for learning from industry pioneers when it comes to drawing up specific transition or renovation plans, improving transparency (see above) and the data availability situation (in particular by keeping the RBD up to date).

To provide customers with a comparable overview of the climate compatibility of real estate and mortgage portfolios, "Swiss Climate Scores" could be established. A set of indicators of this kind already exists for financial products of shares and corporate bonds and is recommended by the Swiss Federal Council for use with all products. These could be based on the existing self-regulation and recommendations of AMAS, KGAST and ASIP, and could include a comparison with the net zero target path.

At the regulatory level, there is a close link with the Swiss climate policy. To assess their transition risks and their contribution to the transition, it is useful for financial market actors to be aware of these developments. To reach the Swiss interim target for the building sector with an emission reduction of 82 % by 2040 compared to 1990 and 100% by 2050, various instruments on the federal, cantonal and municipal levels are in place. Interesting for lenders and real estate holder could be the temporary incentive program for heating replacement anchored in the Climate and Innovation Law. In addition, the Conference of

[117] Assessing the alignment of finance with climate goals (oecd.org)

Cantonal Energy Directors (EnDK) is discussing a ban on replacing fossil fuel heating systems with fossil fuel heating systems.

Regarding renewable electricity, the Federal Act on a Secure Electricity Supply supplements the existing funding instruments and regulations with new measures. Overall, the volume of solar power should increase almost fivefold over the next 10 years with continued financial contributions for photovoltaic installations on roofs and facades.

Regarding Scope 3 emissions of the building sector, the EnDK recently proposed, that the cantons introduce a limit value for grey energy for the construction and demolition of new buildings as part of its consultation on the MuKEn 2025.[118] Renovations, extensions or conversions should be exempt from this obligation. Grey energy from self-generated energy and geothermal probes are also excluded from the limit value. The proposed basic limit value for new buildings is 12 kg CO2-eq/m²EBF for apartment buildings (11 kg CO2-eq/m²EBF applies for Minergie 2024) and 13 kg CO2-eq/m²EBF for single-family homes (12 kg CO2-eq/m²EBF applies for Minergie 2024). The methodology and limit values of the MuKEn are based on Minergie's empirical values. However, they seem rather unambitious, even compared to previous values[119].

6.4 Equity and corporate bonds

In recent months, RMI has been actively enhancing the PACTA tool to ensure it meets the evolving needs of financial institutions. Based on feedback from investors internationally, we identified a need for greater understandability and user-friendliness in our interactive reports. To address this, we conducted consultations to gather insights directly from users, leading to the development of a new interactive dashboard. This dashboard will enable users to easily identify available sectoral and technological insights, as well as available scenarios and market indexes, for benchmarking their portfolio results.

Additionally, RMI is creating a comprehensive guide on how to effectively use PACTA results for reporting targets under the Net-Zero Asset Owners Alliance Target Setting Protocol (NZAOA TSP).)[120]This guidance will help users navigate the interactive report, providing clarity on where to find critical information and how to interpret it. PACTA also plays a vital role in helping financial institutions to shape their climate strategy and assess their climate performance compared to various climate change scenarios. It is an invaluable resource for developing climate strategies in alignment with various frameworks and regulation, including

[118] Opening of consultation on the overall revision of model regulations (MuKEn) - Energiehub Gebäude (energiehub-gebaeude.ch) (German)
[119] See SIA 390 climate path (12.2 kg/m2.a)
[120] NZAOA TSP – Net Zero Asset Owners Alliance Target Setting Protocol

but not limited to the EBA Pillar 3[121], International Financial Reporting Standars (IFRS S2),)[122], GFANZ[123] and the NZAOA TSP.

To maximize the benefits of PACTA, and include the outcomes of the analysis as part of the climate strategy, financial institutions should focus on understanding their portfolios' climate performance through the following key questions that are answered through the report:

- **What are the most critical sectors for my portfolio?** Understanding the materiality of sectors in terms of assets under management and CO2 emissions is essential. Even smaller investments in high-emission sectors can have a significant impact. For detailed insights, refer to Sections 2.2 and 2.3 of the interactive report.

- **How are investee companies performing compared to their sector targets?** Evaluate sector performance by examining the physical emission intensity of the most significant sectors. Section 3.3 of the interactive report provides a comprehensive analysis. Additionally, assessing the technology mix can shed light on investee companies' exposure to low-carbon technologies, crucial for transition efforts (see Section 3.1 for more).

- **How can investee companies transition to reduce future CO2 emissions?** Identifying technology gaps within sectors is key to aligning with necessary scenarios and determining the pace at which these gaps should be addressed. This insight will form a critical foundation for engaging with corporations. For more in-depth information, refer to Section 3.2 of the interactive report.

RMI will continue collaborating with governments and financial supervisors to assess the alignment of their financial markets with global climate goals, utilizing the PACTA methodology, which has proven to be successful in providing consistent and comparable results as financial and company-level data used as an input is homogeneous for all participants in this type of exercises.

6.5 Looking beyond climate

FINMA is currently finalizing a new circular on nature-related financial risks[124], which will apply to banks and insurance companies and enter into force by 2026. The circular will incorporate the current recommendations of international standard setters relevant to the banking and insurance sector. FINMA shares the assessment of the Network on Greening the Financial System NGFS of central banks and supervisors, that an integrated approach to climate risks and other nature-related risks such as the loss of biodiversity makes sense.

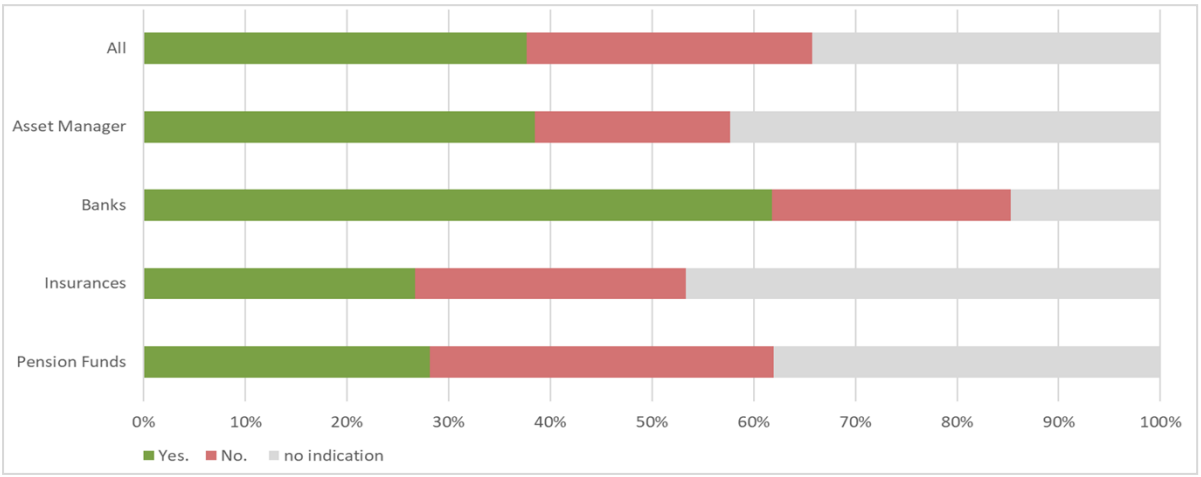
[121] EBA – European Banking Authority – Pillar 3 (Disclosure Framework)
[122] IFRS S2- International Financial Reporting Standars – S2 (Climate related disclosures)
[123] GFANZ - Glasgow Financial Alliance for Net Zero – Measuring Portfolio Alignment
[124] Nature-related financial risks: FINMA launches consultation on new circular | FINMA

Climate change and biodiversity loss are closely linked and represent drivers of potentially relevant financial risks for financial institutions. As an important basis for fulfilling FINMA's reporting obligation on climate risks as envisaged by Parliament in the CO2 Act, FINMA will also collect data to assess climate risks at larger institutions (supervisory categories 1 to 3).

The 2024 PACTA climate test also included other nature-related issues for the first time in a small section of the survey. It asked whether other components than climate, such as deforestation, water, pollution or biodiversity are already relevant to the participant's business. A follow-up question wanted to find out, whether those who take the topic into account have already undertaken an assessment of the risks, dependencies and impacts, and/or include nature-related components in their engagement dialog with portfolio companies. Those who do not yet take the other nature-related components into account were asked, whether they would be interested to undertake such an assessment and/or to integrate such components in their company engagement in the future or not.

Overall, almost 40% of all participants state that they already take nature-related topics into account as figure 52 **shows.** The differences between the sectors are considerable. While over 60% of banks already do so, the figure is just under 40% for asset managers and only around a quarter for insurances and pension funds.

Figure 52 Do you consider other components of nature-related issues such as deforestation, water, pollution or biodiversity to be relevant to your business?



Of those who already consider such other components of nature-related issues to be relevant to their business, around 15%-20% in all sectors say that they include environmental issues in their dialog with portfolio companies. This approach is likely to be the most promising for achieving a positive environmental impact, depending, of course, on how seriously engagement efforts are taken (see also chapter 5). Only 5%-10% indicate conducting an assessment of the risks, dependencies and impacts.

Of those who do not consider yet other components of nature-related issues, only 10% of asset managers stated to have no further interest at all, no other institution in the other

sectors did so. Around a third are interested in assessing the risks, dependencies and impacts in the future, while the figure raises to two thirds within banks. Around 20% are interested to engage on the topic in the future. However, interest varies between sectors: while around 40% of banks report an interest in future nature-related engagement, the figure is around 15% for asset managers and pension funds, and around 7% for insurances.

These initial results suggest that all financial sectors have a broad interest in other nature-related topics, such as deforestation, water, pollution or biodiversity, where they can have a positive influence through investments and financing action. To take account of this trend, FOEN is working with international, external partner organizations to develop a concept for a quantitative assessment tool. The aim is to offer participants in the Swiss Climate Test 2026 such an additional module.

While not the focus of this test, it is also worth flagging that the climate risk agenda is increasingly taking into account the links between climate and social risks. According to UNHCR, weather-related events already displace over 20 million people per year. World Bank analysis suggests that over 140 million people may become 'climate refugees' over the next decades, with the most pessimistic forecasts suggesting +1.2 billion climate refugees by the middle of the century.[125] On the other hand, the transition to the low-carbon economy must be considered in light of the social impacts of the economic transformation under way. The social dimension of this transition, typically captured by the concept of a 'just transition', is a key policy priority and should be considered in the development of climate target-setting, transition plans, and their implementation by the private sector.

6.6 Next Climate Test in Switzerland foreseen in 2026

The PACTA Climate Test 2024 provided a comprehensive and detailed assessment of the Swiss financial market in terms of its climate-friendly orientation and contribution to the climate target. It highlights good practices in a range of areas, from overarching net zero targets and transition plans to detailed climate-related strategies in various asset classes and a range of measures for achieving the targets. At the same time, it highlights gaps and challenges as well as opportunities for targeted progress.

This overall report shows the progress at industry and financial market level, but not the individual results of individual financial institutions. Almost no financial institution has indicated that it has published its individual PACTA results**.** There is also still great potential for deriving concrete climate-relevant measures from the results. In contrast to commercial offers, however, the design of the climate test does not allow for individual advice to be provided to the individual institutions by the authors or FOEN. Associations, NGOs, researcher

[125] Global health, climate change and migration: The need for recognition of "climate refugees" – J Glob Health (2023) (jogh.org)

and service providers as well as consulting companies could play a role here, particularly through peer learning of good practices.

Encouraging are the answers on the survey questions regarding the theory of change of financial institutions. Most financial institutions indicate to focus in particular on those areas where they can make the most direct contribution to climate targets (e.g. real estate, primary market investments) and less on areas where measures have a more indirect effect there, even if they have the larger investment volume there (e.g. equities/corporate bonds) or financing volume (e.g. mortgages). Only very few believe it is not possible for their organization's business activities to make a contribution to the climate target.

To make a difference, a lot of participants state that it's expedient to join together in larger groups and coordinate activities in a targeted manner. The requirements for reporting and transparency seem to be of moderate importance. On a scale of 1 to 10, most participants answered between 5 and 7. From a climate point of view, it also seems more expedient to use limited resources for actual, effective measures than to report as accurately as possible to the outside world on climate issues.

The goal of FOEN and the authors is to ensure that the Climate Test not only provides transparency on the progress but also serves as a catalyst for meaningful climate action within the financial sector. The FOEN and its partners are therefore also striving to offer developments that are as relevant as possible for the market as a whole. The planned anchoring of the regular, voluntary climate test in the Climate Protection Ordinance will provide a solid basis for discussion, so that the federal government can ensure that the Swiss financial market makes an effective contribution to climate targets in accordance with the Climate Protection Act. To ensure that the climate test offered by the federal government does not distort the market, a method must be used that is available unlicensed. Attention is paid to international comparability and the science-based further development of the methodology. The FOEN ensures that the completeness of the entries can be verified. Based on the results of the climate test, it determines the status of the climate-goal alignment of the financial flows and the effective contribution to achieving the climate targets.

By the 2026 Climate Test, it is particularly expected that

- transition plans will have been widely set up and implemented;
- These plans will be credible for all climate-relevant asset classes and backed by concrete, sector-specific measures;
- The broader commitment to net zero targets in the future should also be more strongly reflected in the targets for the individual financial portfolios in the next climate test;
- Credibility will be fostered, if communication at the institutional level and actions such as the exercise of voting rights, engagement and exclusion policies is consistent throughout the financial market.

- In two years, more evidence should emerge for the measures that are effective;
- This is particularly true in areas where this is less clear today, i.e. in the mortgage sector and regarding transparency requirements;
- The comparability of information is also expected to increase by 2026, with a focus on what is most important to make a different regarding climate.

Action is the key to transition. The next step for the Swiss financial market as a whole is *"walking the walk*" and translate its comprehensive commitment to net zero in climate-effective, credible action all areas.

Annex I Reduction pathway for the Swiss building sector

Methodology and data sources

The Scope 1 emissions for directly held buildings and mortgages determined in the PACTA climate test 2024 are compared with the reduction pathway for CO_2 emissions from the Swiss building stock in terms of their target achievement.

In its Climate and Innovation Act, Switzerland has set an interim target for 2040 and the zero-emissions target for 2050 for the entire building sector. The ordinance to the CO_2 Act for the period after 2024 also sets an interim target for 2030 for the sector. These targets are in line with Switzerland's Energy Strategy 2050 and the long-term climate strategy, which Switzerland has submitted to the UNFCCC as an NDC.

For portfolios and buildings, however, it is expedient to convert the overarching target of the building sector to the targets per energy reference area. This is done in PACTA. The CO_2-emissions reduction pathway by square meter of reference area of a building is a combination of publicly available data sources with historical and prospective data on emissions and energy reference areas, taking into account defined prospective target values.

In terms of methodology, the reduction path can be divided into two parts:

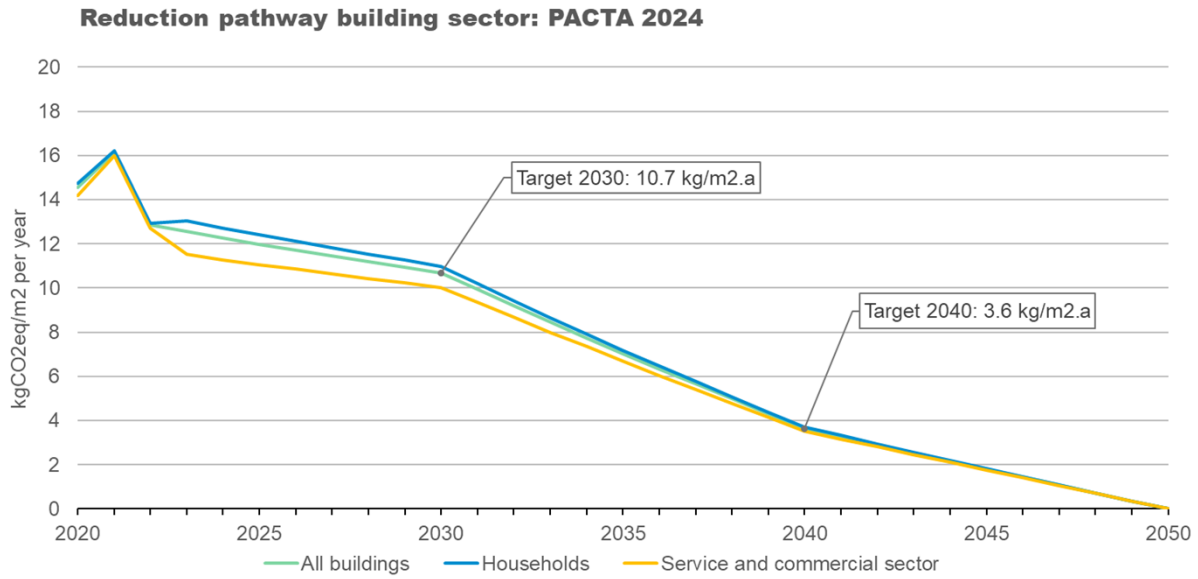
- The historical section for the years 2000 to 2022 is based on the measured emissions from the current FOEN greenhouse gas inventory[126] as well as the reference area for Switzerland.
- The prospective section, covering future emissions from 2023 to 2050, is based on the interim CO_2-emission targets for 2030 for the Swiss building sector (-50% compared to 1990)[127] and 2040 (-82% compared to 1990)[128] as well as the target for 2050 (-100% compared to 1990)[128] and on the development of the energy reference areas from the Energy Perspectives 2050+[129].

For the PACTA climate test 2024, the reduction pathway was recalculated with current data and the planned interim targets for 2030 and 2040 as they were only defined by law during the current PACTA test round. For the prospective values, a linear interpolation was carried out between the defined target values from 2023 to 2050.

[126] BAFU Treibhausgasinventar (April 2024), Entwicklung der Treibhausgasemissionen der Schweiz seit 1990 (admin.ch)
[127] Entwurf der CO2-Verordnung, Art. 3 (admin.ch)
[128] Bundesgesetz über die Ziele im Klimaschutz, die Innovation und die Stärkung der Energiesicherheit (KlG), Art. 4 (admin.ch)
[129] BFE Energieperspektiven 2050+ / EP2050+ Szenarienergebnisse ZERO Basis (admin.ch)

In addition to the common reduction pathway for all buildings, separate reduction pathways for households and services/trade can also be calculated from the available data sources. Since the differences between the separate reduction pathways are negligible, the common reduction pathway was used for all buildings for the climate test in 2024.

Figure 53 Comparison of the reduction pathways for "households", for the "service and commercial sector" and both combined for "all buildings" (as used in the PACTA Climate Test 2024)



There are small deviations compared to the reduction pathway used in the PACTA Climate Test 2022, because at that time the interim target for 2030 (50% below 2030) that has now been proposed by the Federal Council could not yet be considered in the calculation (see section 3.1).

Scope 1 emissions reduction pathway for the Swiss building sector

Year	Target relative to 1990	CO2-Emissions [kg-CO2eq./m2.a] "All buildings"
2020		14.5 *
2021		16.1 *
2022		12.9 *
2023		**12.6** **
2024		12.3 **
2025		12.0 **
2026		11.7 **
2027		11.5 **
2028		11.2 **
2029		10.9 **
2030	**-50%**	**10.7** **
2031		9.9 **
2032		9.2 **
2033		8.5 **
2034		7.7 **
2035		7.0 **
2036		6.3 **
2037		5.7 **
2038		5.0 **
2039		4.3 **
2040	**-82%**	**3.6** **
2041		3.3 **
2042		2.9 **
2043		2.5 **
2044		2.2 **
2045		1.8 **
2046		1.4 **
2047		1.1 **
2048		0.7 **
2049		0.4 **
2050	**-100%**	**0.0** **

* Value according to recorded emissions from greenhouse gas inventory ** Prospective value (linear interpolation)