Climate-consistency of finance flows: iGST case study series

# Consistency case study: actions supporting Article 2.1c of the Paris Agreement in Switzerland

Julia Anna Bingler, Stephan Kellenberger, Steffen Kolberg and Charlene Watson

ODI WWF iGST Independent Global Stocktake

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**About the iGST initiative and the Finance Working Group**

**The Independent Global Stocktake** (iGST) is a consortium of civil society actors working together to support the Global Stocktake (GST), the formal process established under the Paris Agreement to periodically take stock of collective progress toward its long-term goals.

The iGST aligns the independent community — from modellers and analysts, to campaigners and advocates — so we can push together for a robust GST that empowers countries to take greater climate action. www.independentgst.org

**The Finance Working Group** (FWG) is an open partnership bringing together expert perspectives from the global north and south on the progress made towards financing climate action. Considering the provision of support to developing countries to mitigate and adapt to climate change and the consistency of finance flows with climate objectives, the FWG aims to support the UNFCCC GST process as well as independently benchmark the official GST. The group is co-chaired by Charlene Watson of ODI and Courtnae Bailey of Imperial College London.

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Disclaimer: The views and opinions expressed in this study are those of the authors and do not necessarily reflect the views of the reviewers.

## Contents

## Acronyms

| | |
|---|---|
| **CBI** | Climate Bonds Initiative |
| **CHF** | Swiss franc |
| **DFI** | development finance institution |
| **ETS** | emissions trading scheme |
| **ESG** | environmental, social and governance |
| **EU** | European Union |
| **FINMA** | Swiss Financial Market Supervisory Authority |
| **FOEN** | Federal Office for the Environment |
| **GDP** | gross domestic product |
| **GHG** | greenhouse gas |
| **GST** | Global Stocktake |
| **IEA** | International Energy Agency |
| **NDC** | nationally determined contribution |
| **NGFS** | Network for Greening the Financial System |
| **NGO** | non-governmental organisation |
| **PACTA** | Paris Agreement Capital Transition Assessment (2° Investing Initiative) |
| **SERV** | Swiss Export Risk Insurance |
| **SIF** | State Secretariat for International Finance |
| **SIFEM** | Swiss Investment Fund for Emerging Markets |
| **SMEs** | small and medium-sized enterprises |
| **SNB** | Swiss National Bank |
| **TCFD** | Task Force on Climate-related Financial Disclosures |
| **UNFCCC** | United Nations Framework Convention on Climate Change |

## + Executive summary

One of the three main goals of the Paris Agreement is to 'mak[e] finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development', as stated in Article 2.1c (UNFCCC, 2015). This long-term goal recognises that, complementary to an increase in finance that supports climate action, there needs to be redirection of finance, both public and private, that is locking countries into high-emission, low-resilience futures. Otherwise, the two other long-term goals of the Paris Agreement, on adaptation and mitigation, will be missed. Article 2.1c applies to developing and developed countries alike, but developed countries are also obligated to provide and mobilise climate finance for mitigation and adaptation to countries that have not historically contributed to climate change (Article 9, UNFCCC, 2015).

Given that Article 2.1c is still to be fully operationalised, this case study on the progress towards implementing Article 2.1c in Switzerland is a first attempt to provide a comprehensive analysis framework for assessing progress towards Article 2.1c. The case study pursues two main goals: (1) to identify a set of relevant themes and categories for assessing the status of measures that have been implemented, the level of climate ambition of those measures and the availability of data required to enable state and non-state actors to track progress against their own targets and against the fulfilment of the Paris Agreement goals; and (2) to identify sources of relevant information and data that are available today and can be used to conduct the assessment.

This case study has been released alongside a developing country party case study on Colombia. We strongly encourage the application of the analysis framework to other countries. Eventually, this study aims to inform the UNFCCC's Global Stocktake (GST) on progress towards achieving the goals of the Paris Agreement.[1]

### Switzerland's financial sector impacts the consistency of financial flows worldwide

Switzerland is a relatively small country. However, it has a large financial sector. The banks in Switzerland alone manage about one-quarter of private global assets cross-border, and had assets under management of 7.9 trillion Swiss francs (CHF) ($8.9 trillion) at the end of 2019. This is more than the $6.9 trillion (CHF 6.15 trillion) that would be required annually to finance the global infrastructure investment needs under a 2°C pathway. As a result, the Swiss financial sector is estimated to finance greenhouse gas (GHG) emissions of roughly 1,100 million tonnes of $CO_2$ equivalents ($CO_2$eq) per year, more than 20 times the amount of Switzerland's domestic emissions, making up around 2% of global GHG emissions. Given the global significance of its financial sector, Switzerland presents an interesting case through which to consider how financial flows might align with low-emission, climate-resilient development pathways or climate-related 'consistency' of financial flows.

[1] Note that, in the absence of a globally agreed accounting framework across all finance-related aspects for all sectors and policy areas, this case study relies on third party definitions and data. For example, we use the referenced sources' definitions of climate finance, climate-aligned finance or any related terms. This also applies to the coverage (what counts towards domestic finance, what towards private finance leveraged, etc.) and the scope (e.g. whether investments in carbon capture storage or utilisation would be accounted as Paris Agreement aligned).

Overall, we find that the country largely follows a strategy of enabling and encouraging voluntary action, but that this does not yet translate into significant, measurable success in aligning climate finance flows.

Furthermore, private actors tend to claim that they follow an investment strategy that takes climate transition risks into account. Yet the data[2] clearly show that the Swiss financial sector remains considerably misaligned with the long-term goals of the Paris Agreement. Adaptation-related activities are not well documented and not assessed against specific goals. Mitigation-related financial flows are, for the vast majority of current investments, on a 3–4°C pathway.

**Public levers for aligning financial flows can be expanded and do not yet match climate targets**

Accountability under the Paris Agreement will fall on governments. As such, there is a rationale for focusing on the incentives and disincentives that public actors create for finance flows, both public and private, to ensure flows are climate aligned. Switzerland has relatively detailed climate strategies for most economic sectors, which is important for steering investments to achieve the domestic climate mitigation goals as outlined in the Swiss nationally determined contribution (NDC). In addition, all three goals of the Paris Agreement are anchored as purposes of Switzerland's totally revised $CO_2$ Act. So that climate is considered as a financial risk for investors more systematically, the supervisory authorities have to regularly measure and report on the micro- and macroprudential climate-related financial risks (Article 66 of the revised $CO_2$ Act). However, the Swiss government is yet to fully align its climate legislation with the goals set out in its net-zero strategy. Domestic and global investments are not yet sufficiently guided towards the level of ambition that would be required to achieve the 1.5°/<2°C limits agreed upon in the Paris Agreement.

With regards to the financial sector, the Swiss government is keen to promote Switzerland as a leading green finance hub. It has also started to strengthen international visibility and cooperation to this end, for instance in the context of the Task Force on Climate-related Financial Disclosures (TCFD) and the central banks and financial supervisors' Network for Greening the Financial System (NGFS). The Swiss sustainable finance strategy, published in June 2020, aims at increasing transparency and improving the competitiveness of the Swiss financial sector while at the same time contributing to the achievement of climate and environmental goals. The concrete actions foreseen, however, are not specifically targeted to a full climate alignment of financial flows.

The Swiss government considers itself to be primarily an enabler to align financial flows with the climate targets. As such, the government hosts and supports a dedicated Green Fintech Network to position Switzerland as a leading location for sustainable financial services. In addition, Switzerland has started to track the climate alignment of financial flows by assessing the Swiss financial sector's compatibility with climate goals via the 2° Investing Initiative's (2°ii) Paris Agreement Capital Transition Assessment (PACTA) tool. With this voluntary assessment, first conducted in 2017, and recently repeated in 2020 for Swiss pension funds, insurance companies, banks and asset managers, a representative share of all Swiss financial market actors' portfolios has been analysed using the same methodology, rendering the analysis comparable across institutions. The results show there has been progress in some areas, but overall they confirm that Swiss financial institutions are still considerably misaligned

[2] For this case study, we have factored in developments and data up to January 2021.

with what would be required to limit global warming to well below 2°C. Prompted by these outcomes, the Swiss Parliament has tasked the Swiss government with identifying, by autumn 2021, possible measures to better align financial flows with the Paris Agreement.

Given the Swiss authorities' overall focus on voluntary action and enabling activities and their reluctance to implement binding rules that target financial market players, it remains unclear how the alignment of the Swiss financial sector with the Paris Agreement goals is going to be achieved.

In sum, we find:

- **Overall strategies and targets** are defined, but more ambition and specific operationalisation of the Paris alignment goals is required.
- **Financial policy and regulation** discuss mandatory climate-related risk disclosure obligations for the nine largest financial institutions, but fall short of factoring in climate impact considerations.
- **The central bank and financial supervisors** will have to consider climate-related financial risks in micro- and macroprudential supervision once the revised $CO_2$ Act has been implemented, but further monetary policy activities have, to date, been decisively rejected.
- **Fiscal policy and carbon pricing** are key features of the Swiss climate mitigation policy, but their scope needs to be expanded and climate-misaligned fiscal incentives should be assessed.
- **The public budget** is not climate-aligned, and international climate finance requires ratcheting-up.
- **Public financial institutions** such as the Swiss Export Risk Insurance (SERV) or the Swiss Investment Fund for Emerging Markets (SIFEM) do not yet have a comprehensive, target-aligned climate strategy or mandate, but some progress is noticeable in the updated SIFEM strategy.
- **Information instruments for climate-aligned investment planning** at the national level are well defined, for example in the energy, buildings, transport and agricultural strategies, but the ambition of these strategies needs to be ratcheted up to reflect the net-zero target.
- **Further information instruments** such as certified labelling or financial data repositories have not been implemented and discussions on a taxonomy of sustainable economic activities have been postponed.

**Private sector activities focus on green finance competitiveness, while investments are misaligned**

The Swiss financial market still invests in the expansion of oil production and coal mining, and the share invested in high-carbon power capacity is still four times as high as the share invested in renewable capacity.

Sustainable finance is viewed as a business opportunity by the majority of Swiss financial market participants. The financial centres of Zurich and Geneva and the Swiss Stock Exchange actively promote and advertise themselves as a globally leading sustainable finance marketplace. These promotional activities do not, however, translate into effective climate alignment of investment, lending and underwriting decisions. All market segments, other than directly held real estate (excluding mortgages), are – in line with global markets – still considerably misaligned with the global 1.5/<2°C climate targets and with the domestic targets as communicated in the Swiss NDC. Cross-cutting activities of individual financial institutions, such as retail client consultation, lobbying efforts and tracking real emission impacts, are equally misaligned with what would be required to achieve the global and national climate targets.

In sum, we find:

- **Most market segments** are considerably misaligned with the targets of the Paris Agreement.
- **Cross-cutting private sector activities** focus on developing a competitive green finance marketplace, but fall short on measures to support and implement the climate targets.

**Implications for Switzerland and the GST: financial sector climate targets and data availability**

Based on the present analysis, we identify the following key next steps and lessons learnt for Switzerland:

- Switzerland should consistently adopt a holistic approach to sustainable finance by equally valuing (i) the financial risks and opportunities related to climate change and (ii) the climate impacts (double materiality). This entails defining clear adaptation and mitigation finance targets that are in line with the adaptation goals, the national net-zero target and the global 1.5°/<2°C target.
- The PACTA assessment should become mandatory and be conducted regularly, at least every two years. The analysis has proven to be a very useful source of comparable, forward-looking information for assessing the degree of alignment of the financial sector.
- Switzerland should update the national sector climate strategies to be in line with the national net-zero strategy, and to ensure that the sector strategies provide the right information for domestic investment decisions. This also includes the definition of binding interim targets, decarbonisation pathways and transition plans for all sectors, including the financial sector, to reduce the risk of assets becoming stranded.
- The imposition of mandatory TCFD-based disclosure requirements for the financial sector and the real economy will require the preparation of clear risk and impact assessment guidance and standardised disclosure templates. These should include the key indicators to be reported, both for climate risks and climate impacts, as well as for mitigation, adaptation and resilience investments.
- The Swiss government should assess and report the climate consistency of the Swiss federal budget and spending plans, net climate finance, and the net effective carbon price for various sectors.

- Switzerland should introduce a binding labelling requirement and verification mechanism, to ensure that financial products are consistent with the climate goals and to prevent 'greenwashing' of investment products.
- Switzerland should establish a public green investment bank to utilise all possible public levers, send important market signals and reduce investment risks. The bank would support market developments at the scale and speed required to fulfil the Paris Agreement goals and to exploit the full potential of innovative financial instruments.

Based on the present analysis, we also identify the following recommendations for the GST in general:

- The GST should look at the public measures and activities undertaken to implement or support the implementation of Article 2.1c, while also assessing private sector activities. This includes a critical assessment of the level of ambition of the measures taken or planned, and the availability and quality of data required to track progress against the targets.
- Assessing the degree of alignment and misalignment of private financial flows with a comparable, scenario-based and forward-looking methodology should be a key priority.
- Collecting data on both climate-aligned and climate-misaligned public financial flows and budget plans, net climate finance and net carbon pricing should be another priority for the GST.
- The availability and quality of qualitative and quantitative data on public domestic and private climate adaptation and climate resilience finance have to be significantly improved.

Overall, the analysis framework as laid out in this study can be used as a foundation for comprehensive reporting and tracking of the alignment of public and private sector activities towards implementing Article 2.1c in the lead-up to the GST.

**Summary tables**

The following tables present the first summary of Switzerland's progress towards Article 2.1c. The tables reflect the key findings from the detailed assessment tables in the main body of this study.

**How to read the tables**

For the public levers table, if a cell in the implementation column is grey, it means that no action on this measure is being taken. If a cell in this column is green, it means that the measure has been implemented or will be implemented in due course.

For both the public levers table and the private sector activities table, if a cell in the Paris alignment column is yellow or red, it means that the measure does not sufficiently support progress towards the Paris goals because it lacks ambition or clearly defined targets.

If a cell in a data availability column is green, it means that the government provides the data necessary to assess whether and to what degree the measure contributes to aligning financial flows with the Paris Agreement.

The public levers table might also show a measure as under discussion (yellow) or rejected (red). In these cases, the Paris alignment column is either grey (no ambition) or yellow (ambition falls short of what would be required for Paris alignment). Data to assess the degree of alignment of a measure could still be available, even if the measure is not implemented. In such cases, data could also be government-provided (green) or partially available at high search costs (yellow): for example, to assess the climate alignment of the COVID-19 recovery package, or to assess the degree to which financial institutions voluntarily disclose their climate risks and impacts.

## Table 1 Public levers for pursuing consistency of finance flows with climate objectives: implementation status, climate action focus, geographic focus, level of ambition and data availability for individual measures

### Legend

| | Implementation status | Paris alignment | Data availability to assess consistency status and progress[i] |
|---|---|---|---|
| 2 | Implemented or to be implemented | In line with scientific 1.5°/<2°C scenario or Climate Action Tracker[ii] fair share target | Government-provided data |
| 1 | Under discussion by government | Progress in right direction, but not sufficient | Data partially available, search costs high[iii] |
| 0 | Rejected or disregarded by government | Misaligned without considerable progress towards alignment | Data not publicly available or search costs prohibitively high |
| . | Measure not yet on governmental agenda | Measure not yet on governmental agenda | Data probably available once measure is implemented |

*i Data availability is very important for tracking the progress and effectiveness of implemented measures. Given that the GST relies to a large extent on accessible data for evaluating progress against Article 2.1c effectively, data availability is assessed in the summary tables using the same colour-coding as used for implementation status and Paris alignment.*

*ii Climate Analytics and NewClimate Institute (2021a).*

*iii For some measures, data on the level of voluntary action or inaction could be available, despite the fact that the measure has not been introduced on a mandatory basis. If this is the case, details on the present status are displayed in the detailed tables in the main body of the document.*

| Measure | Implementation status (0 / 1 / 2) | Climate action focus: Mitigation | Climate action focus: Adaptation | Geographic focus: Global | Geographic focus: Domestic | Paris alignment (0 / 1 / 2) | Data availability (0 / 1 / 2) |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| National net-zero target defined | 2 | ✓ | × | × | ✓ | 1 | 2 |
| National net-zero target legally binding | 1 | ✓ | × | × | ✓ | 1 | 2 |
| NDC explicitly includes Article 2.1c measures | . | | | | | . | . |
| Government tracks climate alignment of financial flows | 2 | ✓ | × | ✓ | ✓ | 2 | 2 |
| Climate alignment of COVID-19 recovery package | 0 | × | × | × | ✓ | 0 | 1 |
| National sustainable finance strategy | 2 | ✓ | × | ✓ | ✓ | 0 | 1 |
| International cooperation | 2 | ✓ | ✓ | ✓ | ✓ | 1 | 1 |
| Other activities: 2030 Sustainable Development Strategy | 2 | ✓ | ✓ | ✓ | ✓ | 1 | 0 |
| **Financial policy and regulation** | | | | | | | |
| Disclosure requirements on climate risks | 2 | ✓ | ✓ | ✓ | ✓ | 0 | 1 |
| Climate risk analysis principles defined and disclosure templates standardised | . | | | | | . | 1 |
| Disclosure requirements on climate impacts | . | | | | | . | 1 |
| Climate impact analysis principles defined and disclosure templates standardised | . | | | | | . | 1 |
| Retail disclosure duties include climate risks | 1 | ✓ | ✓ | ✓ | ✓ | 0 | 1 |
| Retail disclosure duties include climate impacts | 1 | ✓ | × | ✓ | ✓ | 0 | 1 |
| Fiduciary duty requires consideration of climate risks | 1 | ✓ | ✓ | ✓ | ✓ | 0 | 1 |
| Fiduciary duty requires consideration of climate impacts | . | | | | | . | 1 |
| Accounting standards include climate risk-adjusted financial metrics | . | | | | | . | . |
| Financial market levies reflect climate components | 1 | ✓ | ✓ | ✓ | ✓ | 0 | . |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Central bank and financial supervision** | | | | | | | |
| Macroprudential supervision considers climate risks | 2 | ✓ | ✓ | ✓ | ✓ | 0 | . |
| Microprudential supervision considers climate risks | 2 | ✓ | ✓ | ✓ | ✓ | 0 | . |
| Central bank interest rates reflect climate impact (green supporting factor) | 0 | | | | | . | 0 |
| Central bank interest rates reflect climate risks (brown penalising factor) | 0 | | | | | . | 0 |
| Central bank monetary policy portfolios are climate-aligned | 1 | ✓ | × | ✓ | × | 0 | 1 |
| Non-monetary policy portfolios are climate-aligned | 0 | | | | | . | 0 |
| **Fiscal policy and carbon pricing** | | | | | | | |
| Carbon pricing | 2 | ✓ | n/a | n/a | ✓ | 1 | 2 |
| Climate misaligned tax incentives and subsidies phase-out plan | . | | | | | . | . |
| Other activities: $CO_2$ compensation obligation for petrol and diesel importers | 2 | ✓ | n/a | ✓ | n/a | 1 | 2 |
| **Public budget** | | | | | | | |
| Provision of international support | 2 | ✓ | ✓ | ✓ | n/a | 1 | 2 |
| Public budget and spending climate alignment plan | 1 | ✓ | - | (✓) | ✓ | 2 | 0 |
| Sovereign green bonds issuance | 0 | | | | | . | . |
| Subnational entities' green bonds issuance | 2 | ✓ | × | × | ✓ | 1 | 1 |
| Other activities: public low-carbon R&D net support | 2 | ✓ | × | ✓ | ✓ | 1 | 1 |
| **Public financial institutions** | | | | | | | |
| Presence of public climate finance institution | 2 | ✓ | ✓ | × | ✓ | 1 | 1 |
| Climate bank or public development bank with dedicated climate finance strategy | . | | | | | . | . |
| Public export credit agency exclusively supports climate-aligned activities | . | | | | | . | 1 |
| State development finance institution has climate-aligned investment portfolio and focuses on climate-aligned development strategies | 1 | ✓ | ✓ | ✓ | × | 1 | 1 |
| Public pension funds follow climate-aligned investment approach | 1 | ✓ | × | ✓ | ✓ | 0 | 1 |
| **Information instruments** | | | | | | | |
| Information instruments for climate-aligned investment planning | | | | | | | |
| Energy sector-specific climate strategy | 2 | ✓ | ✓ | n/a | ✓ | 1 | 1 |
| Transport sector-specific climate strategy | 2 | ✓ | × | n/a | ✓ | 1 | 1 |
| Buildings sector-specific climate strategy | 2 | ✓ | ✓ | n/a | ✓ | 1 | 1 |
| Industry sector-specific climate strategy | 2 | ✓ | × | n/a | ✓ | 1 | 1 |
| ICT sector-specific climate strategy | . | | | | | . | . |
| Services sector-specific climate strategy | 2 | × | ✓ | n/a | ✓ | 0 | 0 |
| Agriculture and forestry sector-specific climate strategy | 2 | × | ✓ | n/a | ✓ | 1 | 1 |
| Further information instruments | | | | | | | |
| Mandatory government labelling and/or taxonomy to be applied to classify climate-aligned investments | 1 | ✓ | ✓ | ✓ | ✓ | . | 1 |
| Climate-aligned projects–investor matchmaking hub | . | | | | | . | . |
| Public company-level climate and financial data repository | . | | | | | . | . |

*Note: This table is a first attempt to collect information on measures most prominently discussed. Other activities could be added over time.*

## Summary table: private sector financial activities to make finance flows consistent with the Paris Agreement

**Legend**

| | Paris alignment | Data availability to assess consistency status and progress[i] |
|---|---|---|
| 2 | Aligned with science-based or Climate Action Tracker fair share approved target | Government-provided data |
| 1 | Aligned with NDC International Energy Agency-based pathways or other target | Data partially available, search costs high |
| 0 | Not aligned | Data not publicly available or search costs prohibitively high |
| . | No information available | – |

[i] *Data availability is very important for tracking the progress and effectiveness of implemented measures. Given that the GST relies to a large extent on accessible data for evaluating progress against Article 2.1c effectively, data availability is assessed in the summary tables using the same color-coding as used for implementation status and Paris alignment.*

*Alignment information = information on the degree of alignment of financial activities with the Paris Agreement.*

*Misalignment information = information on the degree of explicit misalignment of financial activities with the Paris Agreement.*

*Activities informatio**n** = information on whether alignment and misalignment information is available for mitigation and/or adaptation activities.*

## Table 2 Consistency of private sector financial activities with climate objectives: overall Paris alignment, availability of alignment information, availability of misalignment information, the focus of activities on which information is available and overall degree of data availability

| Activities | Paris alignment (0 / 1 / 2) | Alignment information | | Misalignment information | | Activities information | | Data availability (0 / 1 / 2) |
|---|---|---|---|---|---|---|---|---|
| | | Qualitative | Quantitative | Qualitative | Quantitative | Mitigation | Adaptation | |
| **Market segments** | | | | | | | | |
| Bank lending and mortgages | 0 | ✓ | ✓ | × | ✓ | ✓ | × | 2 |
| Real estate | 1 | ✓ | ✓ | × | ✓ | ✓ | × | 2 |
| Bond markets | 0 | ✓ | ✓ | × | ✓ | ✓ | × | 2 |
| Listed equity | 0 | ✓ | ✓ | ✓ | ✓ | ✓ | × | 2 |
| Private equity | . | | | | | | | 0 |
| Insurance provision | . | | | | | | | 0 |
| Investment decision-making | 0 | ✓ | × | ✓ | × | ✓ | × | 2 |
| **Cross-cutting aspects** | | | | | | | | |
| Retail client consultation on climate-aligned investments | 0 | ✓ | × | ✓ | × | ✓ | × | 2 |
| Real emission reduction impact | 0 | ✓ | × | ✓ | × | ✓ | n/a | 2 |
| Financial sector lobbying activities | 0 | ✓ | × | ✓ | × | ✓ | × | 2 |
| Stock exchange activities | 1 | ✓ | × | × | × | ✓ | × | 2 |
| Financial centre activities | 1 | ✓ | × | × | × | ✓ | × | 2 |

*Note: This table is a first attempt to collect information on measures most prominently discussed. Other activities could be added over time.*

## + 1. Why collate country actions supporting Article 2.1c of the Paris Agreement?

The third long-term goal of the Paris Agreement, if operationalised, stands to have tremendous impact. Article 2.1c commits to ‘making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development’ (UNFCCC, 2015). This long-term goal recognises that we not only need an increase in finance that supports climate action, but we must also redirect both public and private finance that is locking countries into high-emission, low-resilience futures. It is only through meeting this third long-term goal that we can also deliver on the two other long-term goals of the Paris Agreement, on adaptation and mitigation. This goal is universal and can be pursued by developing and developed countries alike, though this should not detract from the obligation of developed countries to provide and mobilise climate finance for mitigation and adaptation to countries that have not historically contributed to climate change (Article 9, UNFCCC, 2015).

The long-term goal towards consistency of finance flows with a pathway towards low GHG emissions and climate-resilient development is neither defined nor fully articulated under the UNFCCC process. Nor is there a place in the negotiations to discuss and develop the concept of consistency of finance flows (Bodle and Noens, 2018). Despite this, commitments to ‘align’ with the Paris Agreement are increasingly being made by both public and private institutions.

Unpacking how to fully operationalise these commitments towards Paris alignment remains work in progress. There are many sources of capital involved, which are employed through a variety of intermediaries. The result is a large number of investment modalities and financial instruments, making this task complex (Carter, 2020). Emerging initiatives towards the alignment of finance flows with the Paris Agreement are, to date, largely based on guiding statements (MDBs, 2018; Cochran and Pauthier, 2019).

Accountability under the Paris Agreement will fall on governments. As such, there is a rationale for focusing on the incentives and disincentives that public actors create for finance flows, both public and private, to be climate aligned. These public levers include financial policy and regulation, fiscal policy, public investment and information instruments (Whitley et al., 2018; Watson and Schindler, 2017; GGKP, 2014) (Table 3). However, public financial flows alone are not sufficient to transition to low-emission, climate-resilient pathways.

Article 14 of the Paris Agreement obliges signatory countries to assess progress toward the purpose and long-term goals of the Paris Agreement, including Article 2.1c. The first of these Global Stocktakes (GSTs) is to be completed in 2023. There are, however, no further requirements for Parties to the Paris Agreement to report on consistency under the UNFCCC.[3] Furthermore, the foundations of the GST do not have highly detailed provisions and, so far, allow ample flexibility and leeway for interpretation by Parties, including on how to take stock of collective progress towards Article 2.1c (Watson and Roberts, 2019). Developing a discussion on how to operationalise Article 2.1c can create useful lessons and encourage

[3] It has, however, been suggested that countries could voluntarily choose to do so in their biennial transparency reports (Whitley et al., 2018).

further action, and it may also support a meaningful discussion at the first of the GSTs (UNFCCC, 2015).

**Table 3 Government-led tools to encourage the consistency of finance flows with climate ambitions**

| **Financial policies and regulations**<br>(primarily influence behaviour through force of law) | **Fiscal policy levers**<br>(primarily influence behaviour through price) | **Public finance**<br>(primarily influence behaviour by shifting financial risk) | **Information instruments**<br>(primarily influence behaviour through awareness) |
|---|---|---|---|
| • lending requirements<br>• accounting systems<br>• mandates of supervisory authorities<br>• standards<br>• plans and strategies<br>• disclosure requirements<br>*(where mandatory and enforced)* | • taxes<br>• levies<br>• royalties<br>• price support or controls<br>• public procurement<br>• budget support<br>*(including for establishment of public funds and finance institutions and state-owned enterprises)* | • grants<br>• debt<br>• equity<br>• guarantees<br>• insurance<br>*(from public pension funds, sovereign wealth funds and public finance institutions)* | • certification and labelling<br>• transparency initiatives<br>• corporate strategies<br>• awareness campaigns<br>• statistical services<br>• scenario analysis and stress testing<br>• standards<br>• plans and strategies<br>• disclosure requirements<br>*(where voluntary)* |

*Source: Whitley et al. (2018)*

The Independent Global Stocktake (iGST) (Box 1) can use its independence to work with a diversity of actors across political and technical challenges. In this case, the challenge relates to the progression of discussions on the consistency of finance flows with low-emission, climate-resilient development pathways. This case study of action towards consistency of finance flows in Switzerland includes the concise and high-level early mapping of government-led policy levers and, where feasible, private initiatives. Building on a framework to operationalise consistency (Whitley et al., 2018), this case study identifies the financial policy and regulation, fiscal policy, public finance and information levers relevant to climate action that are already present in Switzerland. It also highlights future challenges for the country's pursuit of consistency. The case study is intended to be a thought-provoker and conversation starter.

**Box 1 What is the iGST and the Finance Working Group?**

The Independent Global Stocktake (iGST) is a data and advocacy initiative, led by the Climate Works Foundation, that brings together climate modellers, analysts, campaigners and advocates to support the Paris Agreement. The iGST is structured into four working groups (covering adaptation, mitigation, finance and equity) with additional activities undertaken by an umbrella group of iGST partners. The objective of the iGST is to positively influence the official GST, by supporting information collection, technical assessment and political consideration, as well as bolstering national, regional and subnational relevance in the process.

The Finance Working Group (FWG) of the iGST is an open partnership that brings together a wide range of expert perspectives from its members from the global north and south. Focusing on the finance-related aspects of the Paris Agreement, 'finance' as used by the working group encompasses two core, interrelated topics. It considers both the provision of support to developing countries to mitigate and adapt to climate change (Article 9) and the consistency of all finance flows with climate objectives (Article 2.1c).

The ultimate goal of the FWG is to support more ambitious country pledges and domestic actions by 2025, which will lead to substantial progress towards meeting all three of the long-term goals of the Paris Agreement. To achieve this goal, the FWG's long-term objective is to have direct influence of the UNFCCC GST process, through the production of knowledge, outreach and support for appropriate data inputs, and to support a benchmarking of the official GST through the assessment of progress on financing the commitments to the Paris Agreement. It will also support an active, independent civil society on the issues surrounding the financing of climate action.

## + 2. Country and market context

The Paris Agreement has shifted multilateral negotiations away from a top-down target-setting approach. Based on the Agreement's bottom-up approach, the Annex 1 countries themselves define their own pathways to becoming low-emission, climate-resilient economies. For the operationalisation and pursuit of consistency of finance flows, this suggests there will be nationally driven interpretations, which in turn necessitates transparency, whereby each country's interpretation of 'consistency' can be scrutinised to give the process legitimacy. This further allows country progress to be acknowledged in light of their 'common but differentiated responsibilities and respective capabilities, in the light of different national circumstances' (UNFCC, 2015).

This section outlines relevant country and market contexts within which Switzerland will need to make finance flows consistent with low-emission, climate-resilient development pathways (see also Box 2).

**Box 2 Switzerland at a glance**

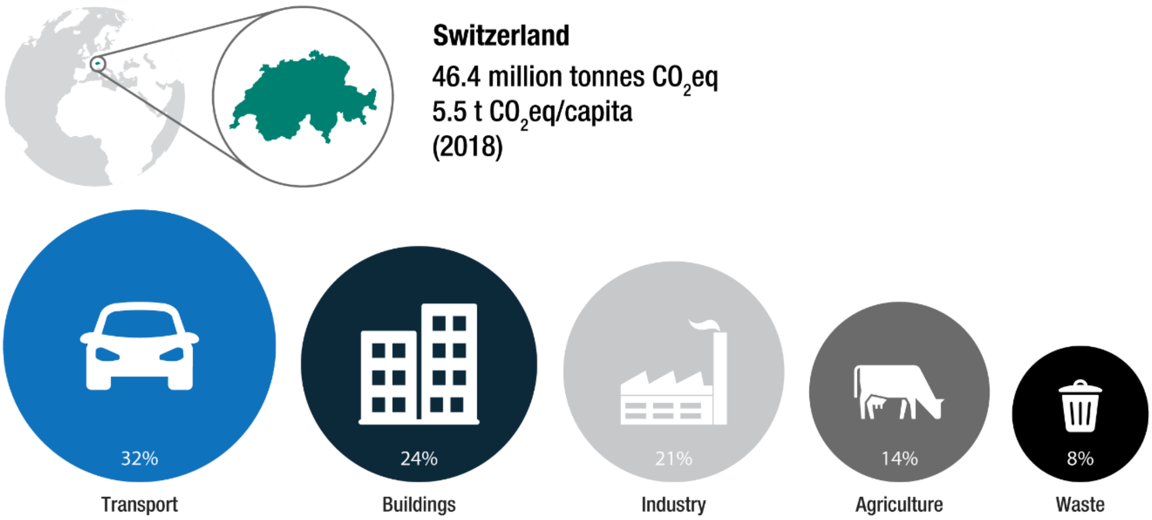
**UNFCCC country grouping:** developed country party/Annex 1
**World Bank classification**: high-income country
**Gross domestic product (GDP):** $708 billion (nominal, 2020 est.)
**GDP per capita:** $81,867 (nominal, 2020 est.)
**Inflation:** 0.4% (2019)
**Foreign direct investments:** outward flows: $11,097 million (2019)
**UN Human Development Index:** 0.946 (= very high), ranked 2nd worldwide
**World Bank ease of doing business score:** 76.6 (= very easy), ranked 36/190
**Public budget:** Budget surplus: 1.1% (of GDP) (2017 est.); revenue: $242.1 billion (2017 est.); expenditure: $234.4 billion (2017 est.)
**Public debt:** 41.8% of GDP (2017 est.)
**Taxes and other revenues:** 35.7% (of GDP) (2017 est.)
**Sovereign credit rating:** AAA; outlook: stable (across all major credit rating agencies)
**Share of financial sector activities in GDP:** 10%

*Sources: SwissBanking, 2020; UNDP, 2020; World Bank, 2020; CIA, 2021; Federal Statistics Office, 2021; IMF, 2021; UNCTADstat, 2021; UNFCCC, 2021*

## 2.1 Private sector and Switzerland's market structure

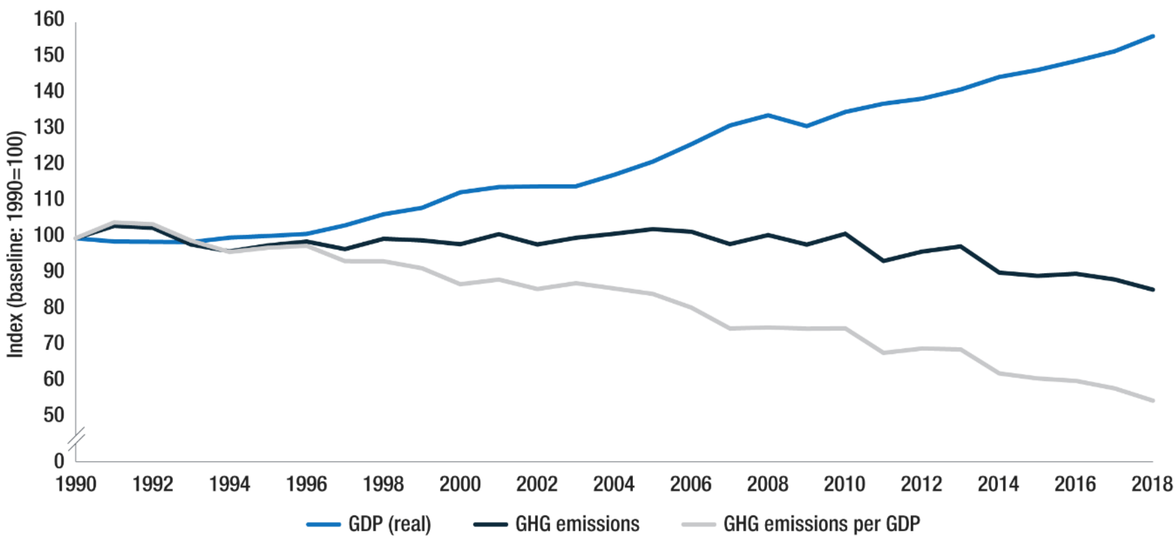
In terms of domestic GHG emissions, transport (32%) and buildings (24%) are the most emitting sectors in Switzerland, closely followed by industry (21%). Agriculture (14%) and waste (8%) account for most of the remaining GHG emissions. Overall, the emissions trajectory shows a clear downward trend, with a reduction of 14.3% between 1990 and 2018 (Figures 1 and 2).

**Figure 1 Switzerland's GHG emissions in 2018**



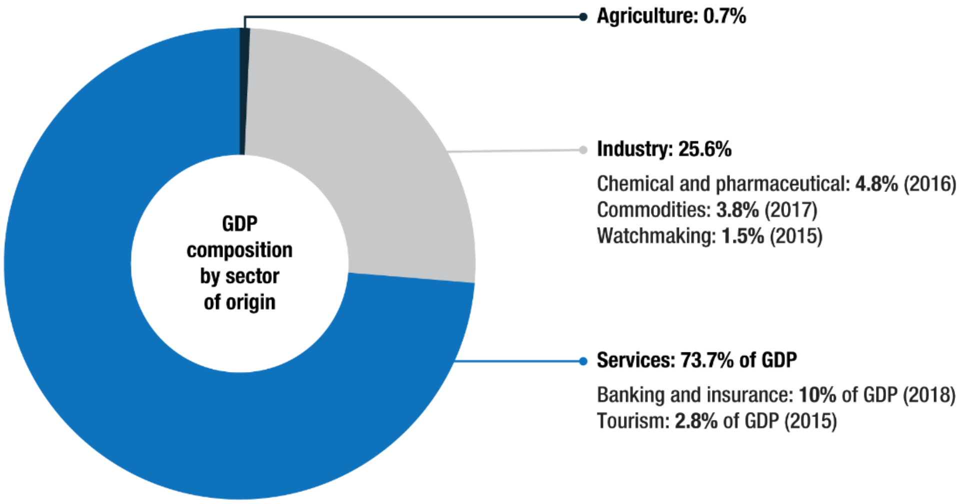

*Source: FOEN (2020a)*

**Figure 2 Switzerland's GHG emissions total and per GDP 1990 to 2018**




*Source: FOEN (2020a)*

**Figure 3 Key economic sectors in Switzerland**




*Source: CIA Factbook*

Despite its small size (41,285 km$^2$) and its small population (8.5 million), Switzerland boasts one of the strongest financial sectors worldwide, accounting for roughly 9.2% of Swiss GDP in 2019 (CHF 64 billion/$72 billion). The financial sector is Switzerland's third-largest sector and is therefore an important pillar of the Swiss economy (Figure 3). It generates higher value added than the pharmaceutical and retail industries combined. Hosting a raft of national and international banks, re/insurance companies, asset managers and service providers, the Swiss financial market ranks among the largest financial markets globally. According to the Swiss Banking Association, the banks in Switzerland manage about one-quarter of private global assets cross-border, and had assets under management totalling CHF 7,893.4 billion ($8792.40 billion) at the end of 2019 (SwissBanking, 2020). This is more than the $6.9 trillion (CHF 6.15 trillion) that would be required annually to finance the global infrastructure investment needs under a 2°C pathway (OECD, 2017). At the same time, an impressive surge in sustainable investments has been recorded in Switzerland, reaching a total of CHF 1,163 billion ($1,304 billion) in 2019 (SSF and UZH CSP, 2020). Sustainable funds make up a 38% share of the total funds market in Switzerland (SSF and UZH CSP, 2020).

While Switzerland's domestic GHG emissions are relatively modest (at around 46 million tonnes $CO_2$eq per annum in 2018)[4] and decreasing slowly, the share of emissions financed by the Swiss financial sector is many times higher. According to estimates by Swiss non-governmental organisations (NGOs), the Swiss financial sector accounts for roughly 1,100 million tonnes $CO_2$eq per annum, more than 20 times the amount of Switzerland's domestic emissions and around 2% of global GHG emissions (Klima-Allianz Schweiz, 2020a). A recently conducted climate compatibility test using the PACTA methodology further revealed that the Swiss financial sector still falls short of being aligned with the goals of the Paris Agreement (Spuler et al., 2020). In particular, the results showed that the Swiss financial market still invests in the expansion of oil production and coal mining, and that the share invested in high-carbon power capacity is four times as high as the share invested in

[4] The picture changes slightly if indirect GHG emissions embedded in imported goods and services are incorporated. According to official figures, Switzerland's total carbon footprint is 119 million tonnes $CO_2$eq, of which 66% (or 78 million tonnes $CO_2$eq) is attributable to import-related emissions (FOEN, 2020b).

renewable capacity. These findings indicate that, through its financial sector, Switzerland has a key role and responsibility in the fight against climate change. Prompted by these results, the Swiss Parliament has tasked the Swiss government to come up with possible measures to better align financial flows with the Paris Agreement (Kommission für Umwelt, Raumplanung und Energie UREK-S, 2019).

## 2.2 Key economic climate-related risks in Switzerland

Research suggests that Switzerland is hit particularly hard by climate change and that the impacts of climate change on natural systems, society and the economy are becoming more and more visible. As noted by the latest status report on climate change in Switzerland, the average temperature in Switzerland has increased by around 2°C since pre-industrial times, about twice the average global temperature rise. If GHG emissions continue to rise unabated, Switzerland could be 4.8–6.9°C warmer by the end of the century, compared with pre-industrial levels (FOEN et al., 2020).

In its assessment of climate-related risks and opportunities facing Switzerland up to the year 2060, the Swiss Federal Office for the Environment (FOEN) concludes that the priority risks, such as greater heat stress, increasing levels of drought and greater risk of flooding, clearly outnumber the opportunities of climate change (FOEN et al., 2020). However, certain impacts of climate change, such as the rising snowline and changes in habitats, species composition and landscapes, include both risks and opportunities. Consequently, the effects on agriculture, energy and tourism can be mixed and are not straightforward to assess. A study quantifying the costs and benefits of climate change in Switzerland, however, projects welfare to decrease by 0.37–1.37% in 2060, relative to a reference without climate change (Vöhringer et al., 2017). To increase Switzerland's adaptive capacity to climate change, the Swiss government has therefore adopted, in August 2020, a revised action plan for climate adaptation for the years 2020 to 2025, containing 75 measures at the federal level (Schweizerische Eidgenossenschaft, 2020).

## 2.3 Nationally relevant targets for the consistency of finance flows

The main basis for emission reduction measures in Switzerland is the $CO_2$ Act. The Swiss Parliament adopted a revised version of the $CO_2$ Act in September 2020, which contains an emissions reduction target of at least 50% relative to 1990, to be achieved by 2030. The Swiss government has committed to reach 75% of that target through domestic reductions, an increase from the previously agreed 60% share. The revised Act includes a number of measures that may accelerate emissions reduction, including increasing the $CO_2$ levy[5] if emissions reduction goals are not met, an application of the levy to air travel, and increased funding for energy efficiency measures in the buildings sector. In contrast, there are very few provisions that specifically target the financial sector. The revised Act adopts as one of its purposes the third long-term goal of the Paris Agreement (Article 2.1c), and it requires the Swiss National Bank and the financial regulator to assess and report on climate-related financial risks. A number of additional proposals related to the financial sector were floated in

[5] At CHF 96 ($106) per tonne of $CO_2$, it is already among the highest prices for carbon in the world. The recent $CO_2$ Act amendment allows Switzerland to further increase the levy to a maximum of CHF 210 ($231) per tonne, should emissions not be on the trajectory required to meet the emissions reduction goal.

the Parliamentary deliberations, but in the absence of a political majority most of them did not prevail. Before entering into force, the revised $CO_2$ Act still needs to be accepted through a public vote, which is scheduled to take place in June 2021.

To avoid a legal vacuum pending the entering into force of the revised $CO_2$ Act, in November 2020 the Swiss government adopted the revised $CO_2$ ordinance, which extends the existing climate protection instruments until the end of 2021. In parallel, a further revision of the $CO_2$ ordinance is currently under preparation, which will implement the latest revision of the $CO_2$ Act and is supposed to enter into force in 2022. In addition to these pieces of legislation, the Swiss government has adopted, in August 2019, the goal of achieving net-zero GHG emissions by 2050 (Federal Council, 2019). However, unlike the $CO_2$ Act, the goal of carbon neutrality is not legally binding.

## 2.4 The potential impact of COVID-19 on Switzerland's climate objectives

Unlike the European Union (EU), Switzerland has not formulated a specific COVID-19 recovery plan alongside its green policy objectives.[6] In response to the COVID-19 crisis, the Swiss government and Parliament have approved spending packages totalling over CHF 70 billion ($79 billion) in 2020, of which CHF 32 billion ($35 billion) was dispersed/engaged by the end of 2020, primarily aimed at cushioning the economic fallout of the pandemic. However, this spending is not targeted to activities in line with the climate targets, but is granted without considering political side-objectives. In the fight against the pandemic, the Swiss financial sector has garnered positive feedback for its contribution to supporting the Swiss economy by rapidly providing bridging loans to struggling companies. The principal beneficiaries were, among others, the Swiss airlines.

[6] The Swiss government typically rejected related requests from the Green Party by arguing that linking stabilisation measures with other political goals, such as climate policy, could result in conflicting goals and severely limit the Federal Council's room for manoeuvre. See for instance Motion Grüne Fraktion 20.3385 (Ryser, 2020).

# + 3. Public levers

With solid climate change legislation and a sustainable finance strategy in place, complemented by the political goal of carbon neutrality by 2050, Switzerland has set its direction of travel for the coming years. In addition, it has started to track the climate alignment of financial flows by assessing the Swiss financial sector's compatibility with climate goals via the PACTA methodology. Despite these positive elements, there are presently no specific or binding climate targets for the financial sector, and it remains unclear how the Swiss financial sector's alignment with the Paris Agreement goals is going to be achieved.

## 3.1 Overall strategies and targets

With the aim of guaranteeing a future-proof and globally leading Swiss financial sector, Switzerland's financial market policy as defined by the Swiss government in December 2020 is guided by three main strategic thrusts: (1) innovative, for excellence in financial services, (2) interconnected, for a strong Swiss financial centre in the world, and (3) sustainable, for qualitative growth (SIF, 2020a). More generally, the Swiss financial market policy is based on the primacy of market-based solutions, the subsidiarity of government action and the role of transparency and a long-term focus, as defined by the Swiss government in 2016 (SIF, 2016). This overall strategy also shapes Switzerland's approach to climate alignment of the financial sector.

Unlike the EU, Switzerland does not have a dedicated, stand-alone sustainable or green finance policy. Rather, sustainability considerations are part and parcel of the financial market policy and are therefore integrated into a broader framework. With this understanding, the Swiss government formulated the ambition of making Switzerland a leading location for sustainable financial services (FOEN, 2020c). A closer look at the strategy paper that was published by the Swiss government in June 2020 reveals, however, that the aim of safeguarding and expanding the interests and competitiveness of the Swiss financial centre internationally trumps the ambitions of enhancing the financial sector's sustainability impact and ensuring the sector's consistency with the climate targets (Federal Council, 2020a). This appraisal of the Swiss policy approach to sustainable finance is reinforced by the reluctance of the Swiss authorities to take strong regulatory action, as is the case in the EU, for instance, leaving it mainly to the market participants to promote sustainability within their services and operations. One particular area where the Swiss government sees a great potential is the combination of sustainable financial services and digital technology (green fintech).[7]

[7] To promote green fintech, a new Green Fintech Network, encompassing various industry players, was launched by the State Secretariat for International Finance in November 2020 (SIF, 2020b).

FOEN commissioned the development of the PACTA methodology to enable financial institutions to make free-of-charge assessments of the alignment of financial portfolios with the Paris Agreement targets (FOEN, 2020c). This is in line with the Swiss approach of supporting and enabling voluntary action. Market alignment reports were released in 2017 and 2020, and are planned to be continued for subsequent years (Federal Council, 2020a). The assessment is voluntary for financial institutions, yet participation has been strongly encouraged by FOEN and the State Secretariat for International Finance (SIF). The 2020 report has a market coverage of 80% (179 financial institutions participated). Its results show that there is still significant misalignment, and that most institutions have plans for financing expansion in emission-relevant sectors, which is incompatible with the 2°C climate scenario (FOEN, 2020c). An open-source stress-test module is planned to be available in 2021 (FOEN, 2020c). Additional countries are expected to adopt the PACTA method to assess their financial sectors, which would enable international comparability across the assessments. Furthermore, additional research and activities has been commissioned by FOEN to identify the link between financial activities and real emission reductions (FOEN, 2021a).

The assessment table (Table 4) shows: **Overall strategies and targets have been defined, but require more ambition and specific operationalisation of the Paris alignment goals.**

**Table 4 Overall strategies and targets assessment: status of measure implementation and qualitative and quantitative information on the status of mitigation- and adaptation-related Paris alignment**

**Legend**

| Implementation status | Paris alignment status |
|---|---|
| Implemented or to be implemented | In line with scientific 1.5°/<2°C scenario or Climate Action Tracker fair share target (Climate Analytics and NewClimate Institute, 2021a) |
| Under discussion by government | Progress in right direction, but not sufficient |
| Rejected or disregarded by government | Misaligned without considerable progress towards alignment |
| Not yet on government agenda | No information available |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | **Qualitative information** | **Quantitative information** | **Qualitative information** | **Quantitative information** |
| National net-zero target defined | The Federal Council adopted a 2050 net-zero target commitment in 2019.<br><br>In January 2021, the Federal Council adopted Switzerland's long-term climate strategy, setting out climate policy guidelines up to 2050 and establishing strategic targets for key sectors (Federal Council, 2021).<br><br>The $CO_2$ Act revision process does not include a net-zero target. | The Swiss target is still classified as 'Insufficient' (leading to 2–3°C temperature increase) by Climate Action Tracker: 'While adopting the $CO_2$ Act amendment and the policies included within it would result in Switzerland being projected to meet its 2030 emissions reduction goal, reducing domestic emissions by only 37.5% remains well below the level of action needed for Swiss emissions to be on a Paris Agreement compatible 1.5°C pathway' (Climate Analytics and NewClimate Institute, 2021b). | NDC: 50% reduction in GHG emissions by 2030, compared with 1990.<br><br>Updated NDC aim: net-zero emissions by 2050 (official submission will be communicated after adoption of revised $CO_2$ Act).<br><br>Revised $CO_2$ Act: Switzerland's overall 2030 target of at least 50% reduction below 1990 levels. Parliament also committed to reach 75% of that target through domestic reductions, an increase from the previous 60% share (Climate Analytics and NewClimate Institute, 2021a).<br><br>As the national targets are tied to offsetting activities, Climate Action Tracker rates the Swiss climate ambition as insufficient (Climate Analytics and NewClimate Institute, 2021b).<br><br>The long-term climate strategy from January 2021 projects that Switzerland can reduce its GHG emissions from the transport, buildings and industry sectors by almost 90% by 2050, that the building and transport sectors can become emission-free by 2050, and that emissions from industrial energy consumption can be virtually eliminated. The remaining GHG emissions from industry, waste management and agriculture will amount to around 12 million tonnes $CO_2eq$ per year. These will have to be offset by carbon capture and storage and negative emission technologies (NETs). | None in the Swiss NDC. The Swiss Adaptation Strategy is the tool Switzerland chose to communicate adaptation action and targets. Some additional measures (mainly for the agriculture sector) are included in the revised $CO_2$ Act. | Not applicable. |
| National net-zero target legally binding | Net-zero target is not included in the revised $CO_2$ Act and so is not legally binding, but it is a political commitment. | *See above.* | *See above.* | *See above.* | *See above.* |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | **Qualitative information** | **Quantitative information** | **Qualitative information** | **Quantitative information** |
| NDC explicitly includes Article 2.1c measures | The Swiss NDC focuses on the 2030 mitigation target. | Switzerland did not include specific mitigation-related Article 2.1c measures in its NDC. | Not available because measures not included in NDC. | Switzerland did not include specific adaptation-related Article 2.1c measures in its NDC (adaptation is, in general, not part of the Swiss NDC). | Not available because measures are not included in the Swiss NDC. |
| Government tracks climate alignment of financial flows | PACTA alignment tool and reports in 2017 and 2020 commissioned by FOEN. | Overall investment and investment-related activities' misalignment status, current and projected. | PACTA study: **80% of investors hold companies that mine coal** in their portfolios and most support expansion of international coal and oil production. The Swiss financial centre invests **four times more funds in companies that generate electricity from fossil sources than it does in producers of renewable electricity** (Spuler et al., 2020).<br><br>*(Additional information is provided in the private sector section and Annex 3.)* | Not considered: report focuses on mitigation/emission-relevant sector investments. | Not considered. |
| Climate alignment of COVID-19 recovery package | Switzerland has not formulated a specific COVID-19 recovery plan to date. Instead, it is implementing individual actions that lack a green focus (Climate Analytics and NewClimate Institute, 2021a).<br><br>Examples of recovery assistance include: unemployment assistance, government-guaranteed loans, the Swiss National Bank's SNB COVID-19 refinancing facility. | Climate-alignment principles not considered.<br><br>The Federal Council put special provisions in place to protect the development of renewable energy projects during the crisis, shortening waiting times for subsidies for solar photovoltaics.<br><br>Alignment discussed by interest groups. | No dedicated climate-alignment data are available.<br><br>The Federal Council and the Parliament approved spending packages totalling CHF 70 billion ($77 billion) in 2020, of which CHF 32 billion ($35 billion) was dispersed/engaged by the end of 2020, primarily targeting job preservation, especially in the services sector, and preventing corporate bankruptcies.<br><br>The aviation industry received bank guarantees of almost CHF 2 billion (Federal Council, 2020b). These were tied to non-binding environmental requirements (Climate Analytics and NewClimate Institute, 2021a).<br><br>Data on measures: government-guaranteed bridging loans of **CHF 40 billion (equivalent to 2020 $45 billion) available for SMEs**; total amount used: CHF 17 billion ($19 billion) at 31 July 2020.<br><br>*(For further details, see 'COVID-19 support' pie chart in Annex 2.)* | Not considered by government or interest groups. | *See mitigation.* |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | **Qualitative information** | **Quantitative information** | **Qualitative information** | **Quantitative information** |
| National sustainable finance strategy | In June 2020, the Federal Council issued a report on possible measures to be implemented, which were adopted by the Federal Council in December 2020 (Federal Council, 2020c). | The measures are 'designed to improve transparency, strengthen risk analysis and expand Switzerland's international commitment. The aim is to continue to consolidate Switzerland's position as a leading location for sustainable financial services' (Federal Council, 2020c).<br><br>*(Individual measures are analysed in the respective sections.)* | No quantitative targets have been defined. | Not considered. | Not considered. |
| International cooperation | Engagements usually occur around six months after the launch of an initiative. Second follower, not leader or first follower.<br><br>The Federal Council announced the strengthening of international cooperation as part of its sustainable finance strategy decisions in December 2020 (Federal Council, 2020c). | Member of:<br>– NGFS (FINMA and Swiss National Bank)<br>– Coalition of Finance Ministers for Climate Action<br>– International Platform on Sustainable Finance.<br><br>The Swiss government is an official supporter of the TCFD (Federal Department of Finance, 2021) and is committed to strengthening international cooperation, through focusing on the disclosure of environmental information and the internalisation of environmental costs (Federal Council, 2020c). | No action quantifications are available. | *See mitigation.* | No action quantifications are available. |
| Other activities: 2030 Sustainable Development Strategy | This strategy sets out the principles for how the Federal Council intends to implement the 2030 Agenda for Sustainable Development over the next 10 years.<br><br>Public consultation is ongoing (until February 2021). | The strategy includes commitments to achieve net-zero emissions by 2050 and alignment of public and private financial flows with climate goals. | No quantitative targets have been defined. | The strategy considers adaptation as a cross-cutting issue, requiring close coordination between all actors and state levels, and recognises the importance of strengthening prevention of natural disasters and risk management systems. | *See mitigation.* |

*Note: The measures assessed have been selected by the authors of this study, building on Whitley et al. (2018) and Bingler et al. (2018).*

## 3.2 Financial policy and regulation

While the risks and opportunities of climate change have been recognised in Switzerland's financial market policy and start to be factored in by individual financial market participants, the measures taken by the government to make the Swiss financial sector more sustainable can be characterised, at best, as selective and incomplete. The prevalent approach of Swiss authorities and regulators focuses mainly on enhancing transparency in the sustainable finance market and strengthening the risk analysis of market participants. However, neither are the emerging disclosure requirements fleshed out through detailed guidance nor is there a common understanding of what sustainability in the financial sector actually means. Restraint is also exercised by the government when it comes to specifying the scope and content of financial market participants' fiduciary duties with respect to climate change.

The assessment table (Table 5) shows: **Financial policy and regulation entail climate-related risk disclosure obligations for the nine largest financial institutions, but fall short of factoring in climate impact considerations.**

**Table 5 Financial policy and regulation assessment: status of measure implementation and qualitative and quantitative information on the status of mitigation- and adaptation-related Paris alignment**

**Legend**

| Implementation status | Paris alignment status |
| --- | --- |
| Implemented or to be implemented | In line with scientific 1.5°/<2° scenario or Climate Action Tracker fair share target (Climate Analytics and NewClimate Institute, 2021a) |
| Under discussion by government | Specific progress in alignment direction, but not sufficient |
| Rejected or disregarded by government | Misaligned without considerable progress towards alignment |
| Not yet on government agenda | No information available |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| Disclosure requirements on climate risks | The Swiss Financial Market Supervisory Authority (FINMA) launched a regulation proposal and public consultation in November 2020 (consultation closed January 2021).<br>Aim: Microprudential regulation.<br><br>The Federal Council adopted a focus on TCFD disclosure in December 2020 (Federal Council, 2020c). Aim: Enhance market transparency.<br><br>In January 2021, the Swiss government announced it is officially becoming a supporter of the TCFD (Federal Department of Finance, 2021). | FINMA proposal scope: if implemented as proposed, it would apply to nine large Swiss financial institutions (large banks and insurers).<br><br>Federal Council decision: 'The authorities are to prepare the binding implementation of the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) by Swiss companies in all sectors of the economy' (Federal Council, 2020c). | There is a lack of standardised quantitative disclosure requirements or quantitative targets that can be used as benchmarks for climate-risk disclosure analysis or for assessing progress against targets.<br><br>Climate risks are only very partially considered by market participants in their voluntary disclosures. Data are not comparable across institutions.<br><br>Systematic data on disclosures and disclosure quality are not available as regulation is not yet implemented. | *See mitigation.* | *See mitigation.* |
| Climate risk analysis principles defined and disclosure templates standardised | Not defined in FINMA regulation proposal. | FINMA proposal so far: TCFD framework should be systematically applied, but no climate risk or climate impact analysis principles have been defined, and no disclosure templates to ease information access for third parties are planned. | The current FINMA proposal (without standardisation) hinders the availability of comparable data in the future. | FINMA proposal so far: TCFD framework should be systematically applied, but no climate risk or climate impact analysis principles have been defined, and no disclosure templates to ease information access for third parties are planned. | The current FINMA proposal (without standardisation) hinders availability of comparable data in the future. |
| Disclosure requirements on climate impacts | Climate impact disclosures are not considered in the FINMA regulation proposal (risk focus) or in the revised $CO_2$ Act Article 66 (micro- and macroprudential climate risks supervision requirements for FINMA and SNB). | Not on the agenda so far, but requested by some interest groups. | Only very partially considered by market participants in their voluntary disclosures. | Not on the agenda so far. | Only very partially considered by market participants in their voluntary disclosures. |
| Climate impact analysis principles defined and disclosure templates standardised | Climate impact disclosure is not considered in the FINMA regulation proposal (risk focus).<br><br>Note: impact can be on climate change or on climate resilience. | Not on the agenda, no comparable information available. | Only very partially considered by market participants in their voluntary disclosures. | Not on the agenda, no comparable information available. | Only very partially considered by market participants in their voluntary disclosures. |
| Retail disclosure duties include climate risks | Discussed as an effective and efficient measure to reduce information asymmetry in the Federal Council's sustainable finance report issued in June 2020, adopted by the Federal Council in December 2020 as a focus measure. | Legal opinion commissioned by FOEN: current legislation requires material climate risks to be taken into account and clients to be consulted on climate risks. Reporting of investment and financing climate impacts is voluntary (Eggen and Stengel, 2019). | The PACTA alignment study shows that a large majority do not systematically take climate risks in account (Spuler et al., 2020)<br><br>No quantitative targets or quantitative information that can be used as benchmarks for analysis or for overall | *See mitigation.* | *See mitigation.* |

| **Measure implementation** | **Context** | **Mitigation Paris alignment** | | **Adaptation Paris alignment** | |
|---|---|---|---|---|---|
| | | **Qualitative information** | **Quantitative information** | **Qualitative information** | **Quantitative information** |
| | For material risks already covered by fiduciary duties, according to legal opinion commissioned by FOEN (Eggen and Stengel, 2019).<br><br>Stakeholder groups such as WWF advocate for effective measures to avoid greenwashing of financial products, notably by adopting a comprehensive taxonomy of sustainable and unstainable economic activities (based on the EU taxonomy). | Federal Council decision: 'The Federal Council recommends that financial market players publish methods and strategies for taking account of climate and environmental risks when managing their clients' assets, in accordance with the existing legal duties of loyalty and diligence. The State Secretariat for International Finance (SIF) will inform the Federal Council by the end of 2022 whether and how this recommendation is followed' (Federal Council, 2020c). | progress assessments have been defined. | | |
| Retail disclosure duties include climate impacts | Discussed as an effective and efficient measure to reduce information asymmetry in the Federal Council's sustainable finance report issued in June 2020. Adopted as a key measure to prevent greenwashing and maintain competitiveness with EU regulation by the Federal Council in December 2020.<br><br>Stakeholder groups such as WWF advocate for an extension of fiduciary duty such that financial institutions are requested to take account of climate impacts in their risk management decisions and customer advisory processes. | Federal Council decision: 'SIF, in close cooperation with the FOEN, for instance, has until autumn 2021 to propose to the Federal Council any necessary amendments to financial market legislation to prevent so-called greenwashing, i.e. feigned sustainable business activity in terms of environmental impact. International developments, especially in the EU, have to be taken into account to ensure that Swiss financial products remain exportable' (Federal Council, 2020c). | The PACTA alignment study found that 30% of institutions consult end clients or beneficiaries on climate and sustainability objectives, usually if clients bring up the topic. Only 5% reported having a standardised and systematic approach in this area (Spuler et al., 2020). | Not considered. | Not considered. |
| Fiduciary duty requires consideration of climate risks | Already covered by fiduciary duties, according to legal opinion commissioned by FOEN (Eggen and Stengel, 2019).<br><br>An additional explicit duty has been discussed as a possible measure in the Federal Council's sustainable finance report issued in June 2020, adopted as a key measure by the Federal Council in December 2020.<br><br>Some NGOs such as WWF ask for an explicit legal requirement to consider climate-related risks as part of fiduciary duties. | Legal opinion commissioned by FOEN: current legislation requires material climate risks to be taken into account and that clients are consulted on climate risks. Reporting of investment and financing climate impacts is voluntary (Eggen and Stengel, 2019).<br><br>Federal Council decision: 'The Federal Council recommends that financial market players publish methods and strategies for taking account of climate and environmental risks when managing their clients' assets, in accordance with the existing legal duties of loyalty and diligence. SIF will inform the Federal Council by the end of 2022 whether and | No data are available, but some industry activities exist on a voluntary basis. | *See mitigation.* | *See mitigation.* |

| **Measure implementation** | **Context** | **Mitigation Paris alignment** | | **Adaptation Paris alignment** | |
|---|---|---|---|---|---|
| | | **Qualitative information** | **Quantitative information** | **Qualitative information** | **Quantitative information** |
| | | how this recommendation is followed' (Federal Council, 2020c). | | | |
| Fiduciary duty requires consideration of climate impacts | Not required, but possible on a voluntary basis, according to legal opinion commissioned by FOEN (Eggen and Stengel, 2019).<br><br>An additional explicit duty has been rejected by the Federal Council in its measures report from June 2020 (to avoid a 'green bubble').<br><br>Stakeholder groups such as WWF advocate for an extension of fiduciary duty such that financial institutions are requested to take account of climate impacts in their risk management decisions and customer advisory process. | Not required (Eggen and Stengel, 2019).<br><br>Voluntarily applied by financial institutions that have a dedicated sustainable investment approach.<br><br>Non-sustainable financing institutions might offer sustainable products if customers explicitly ask for one, but they reject requests for structural consideration of sustainability along with other investment criteria in their overall investment approach for, e.g., bank account savings. | No data are available, but some industry activities exist on voluntary basis. | *See mitigation; however, legal opinion mainly focuses on climate impacts in general (which are widely understood as emissions or emission mitigation) and not explicitly on supporting or endangering climate resilience.*<br><br>Sustainable investment strategies and products mostly focus on climate mitigation and do not explicitly consider climate resilience. | *See mitigation.* |
| Accounting standards include climate risk-adjusted financial metrics | Not discussed by the Federal Council in its measures report from June 2020. | Not discussed. | Not considered in standard accounting. | Not discussed. | Not considered in standard accounting. |
| Financial market levies reflect climate components | In December 2019 the Council of States (Ständerat) accepted Ruedi Noser's motion on exempting green financial products from two financial taxes and levies (Stempelabgabe and Verrechnungssteuer). A decision by the Federal Council is outstanding. The measure was discussed as possible in the Federal Council's sustainable finance report issued in June 2020, but the report stated that the focus should be on internalising external costs directly within the real economy via the $CO_2$ levy etc. | 'Green financial products' have not been further defined.<br><br>Stakeholder groups such as WWF argue that, before talking about tax benefits or exemptions, one must be clear about the sustainability content of the offered financial product. | No quantitative targets or assessment data for 'green financial products' have been defined. | Adaptation is not mentioned, and it is unclear whether it is covered by the term 'green financial products' at all. | It is unclear whether the measure applies to adaptation. |

*Note: The measures assessed have been selected by the authors of this study, building on Whitley et al. (2018) and Bingler et al. (2018).*

## 3.3 Central bank and financial supervision

While the revised $CO_2$ Act requires the Swiss National Bank and the financial market authority (FINMA) to assess and report on climate-related financial risks at the macro- and microprudential levels, respectively, both institutions are only slowly reacting to the changing realities that their peer institutions abroad have already incorporated. This is especially true for the Swiss National Bank, which has so far resisted any demands for considering climate aspects in its monetary policy and/or portfolio management, arguing that doing so would violate the principle of market neutrality. However, the Bank's decision at the end of 2020 to adjust its investment policy by excluding from its portfolios all companies primarily active in the mining of coal may signal some willingness to adapt its strategy. As assessed in the preceding sections, the Swiss supervisory authorities participate in the Network for Greening the Financial System (NGFS) and recently announced the implementation of mandatory disclosure requirements in line with the guidelines issued by the Task Force on Climate-related Financial Disclosures (TCFD).

The assessment table (Table 6) shows: **Central bank and financial supervision will have to consider climate-related financial risks in micro- and macroprudential supervision when the revised $CO_2$ Act is implemented, but further monetary policy activities have, to date, been decisively rejected.**

**Table 6 Central bank and financial supervision assessment: status of measure implementation and qualitative and quantitative information on the status of mitigation- and adaptation-related Paris alignment**

**Legend**

| Implementation status | Paris alignment status |
|---|---|
| Implemented or to be implemented | In line with scientific 1.5°/<2°C scenario or Climate Action Tracker fair share target (Climate Analytics and NewClimate Institute, 2021a) |
| Under discussion by government | Progress in right direction, but not sufficient |
| Rejected or disregarded by government | Misaligned without considerable progress towards alignment |
| Not yet on government agenda | No information available |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| Macroprudential supervision considers climate risks | Amendments to the $CO_2$ Act. Due to come into force in 2022, after a referendum in June 2021. | The Swiss National Bank (SNB) will have to assess and report macroprudential climate risks (Article 66.1 and 66.3 of $CO_2$ Act). | No climate targets or equivalent as comparable benchmark for the assessment of transition risks specified. | *See mitigation.* | No climate targets or equivalent for the assessment of physical risks specified. |
| Microprudential supervision considers climate risks | Amendments to the $CO_2$ Act. Due to come into force in 2022, after a referendum in June 2021. | The financial market authority (FINMA) will have to assess and report microprudential climate risks (Article 66.2 and 66.3 of $CO_2$ Act). | No climate targets or equivalent as comparable benchmark for the assessment of transition risks specified. | *See mitigation.* | No climate targets or equivalent for the assessment of physical risks specified. |
| | A voluntary, PACTA-based stress test has been part of FOEN-commissioned alignment report 2020. | Open-source PACTA-based stress-test tool commissioned by FOEN, planned to be available in 2021 (focus on transition risks). | Stress-test tool is not yet available.<br><br>Structural data are missing.<br><br>PACTA alignment report voluntary stress-test module for equity and corporate bond portfolios: overall loses are limited, but distribution of losses varies a lot (up to 10% losses) (Spuler et al., 2020). | PACTA stress-test tool will focus on transition risks. Additional analysis of physical risks might be required. | Data not available. |
| Central bank interest rates reflect climate impact (green supporting factor) | Explicitly rejected in the Federal Council's sustainable finance report from June 2020. | The possibility of a 'green bubble' is considered an issue to be avoided. Strict market neutrality is the key principle of central banking, and risk diversification is considered to be key for financial stability. | There are no available data on the impact of central bank interest rates on mitigation and overall emissions.<br><br>The SNB's market-neutrality approach means that its current policies do not increase climate-alignment of investments. | Not considered. Focus on climate mitigation aspects in discussion. | There are no available data on the impact of central bank interest rates on adaptation financing.<br><br>The SNB's market-neutrality approach means that its current policies do not increase climate-resilience of investments. |
| Central bank interest rates reflect climate risks (brown penalising factor) | Rejected by the SNB (market-neutrality and political independence arguments) (Maechler and Moser, 2019; SNB, 2020a, 2020b). | Not considered. | There are no available data on the impact of central bank interest rates on mitigation and overall emissions.<br><br>The SNB's market-neutrality approach means that its current policies do not decrease climate-misalignment of investments. | Not considered. Anyways focus on climate mitigation aspects in discussion. | There are no available data on the impact of central bank interest rates on mitigation and overall emissions.<br><br>The SNB's market-neutrality approach means that its current policies do not increase climate-resilience of investments. |
| Central bank monetary policy portfolios are climate-aligned | The SNB holds a small amount of corporate bonds in its portfolio (10%), but the programme is much smaller than at the European Central Bank. The rest is sovereign bonds (60%) and equity (20%). Note that holding equity is peculiar to the SNB as most central banks do not buy equity. | The Federal Council was asked by the Parliamentary Committee for Economic Affairs and Taxes in February 2020 to provide a report on how the SNB could support the Federal State to achieve the climate targets (Kommission für Wirtschaft und Abgaben NR, 2020).<br><br>The SNB monitors climate risks internally as part of its portfolio risk | Climate Alliance estimate: the SNB, with its overall investments of CHF 900 billion, still finances more GHG emissions than Switzerland's domestic emissions (Klima-Allianz Schweiz, 2020b).<br><br>The SNB's recent coal mining exclusion announcement is considered to be insufficient: no data are available for the full portfolio, but for the 10% US reserves, | *See mitigation.* | No data on climate resilience are available.<br><br>The market-neutrality argument means that the current policies do not decrease climate-non-resilience of investments. |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| | The SNB proclaims market neutrality in its investment decision and insists on political independence (Maechler and Moser, 2019; SNB, 2020a, 2020b). | management. In December 2020 it announced the exclusion of investments in coal mining companies in its CHF 900 billion foreign exchange reserves portfolio (Jordan, 2020). | data are available. At the end of 2019, the SNB held $5.9 billion in 148 fossil energy companies in its US portfolio. The Climate Alliance estimates that only five of these were coal companies, with a very low value of $4.7 million. The SNB continues to invest in coal-fired power plants as well as in oil and gas companies such as Chevron, Exxon, Shell and BP. Some of the largest coal producers, such as Glencore, for which coal mining accounts for only a fraction of their business, will also remain in the portfolio, according to the SNB's formulations (Klima-Allianz Schweiz, 2020c). | | |
| Non-monetary policy portfolios (e.g. own pension portfolios) are climate-aligned | | No information available. | No data available.<br><br>The SNB's market-neutrality approach means that its current policies do not decrease climate-misalignment of investments. | No information available. | No data available.<br><br>The SNB's market-neutrality approach means that its current policies do not increase climate-resilience of investments. |

*Note: The measures assessed have been selected by the authors of this study, building on Whitley et al. (2018) and Bingler et al. (2018).*

## 3.4 Fiscal policy and carbon pricing

Switzerland has a long track-record of using carbon pricing as a way to help reduce its $CO_2$ emissions. This is exemplified by one of the highest carbon levies in the world – currently CHF 96 ($106) per tonne $CO_2$ on fossil thermal fuels – and the successful linking between the Swiss and the EU's emissions trading schemes (ETSs). However, with many possibilities for exemption and resistance from some stakeholders, raising the $CO_2$ levy has proven increasingly difficult in recent years. In addition, the realised emissions reduction gains in the industry and real estate sectors have been partly offset by stagnation of emissions from the transport sector.

The assessment table (Table 7) shows: **Fiscal policy and carbon pricing are key features of the Swiss climate mitigation policy, but their scope needs to be expanded and climate-misaligned fiscal incentives should be assessed.**

**Table 7 Fiscal policy and carbon pricing assessment: status of measure implementation and qualitative and quantitative information on the status of mitigation- and adaptation-related Paris alignment**

**Legend**

| Implementation status | Paris alignment status |
|---|---|
| Implemented or to be implemented | In line with scientific 1.5°/<2°C scenario or Climate Action Tracker fair share target (Climate Analytics and NewClimate Institute, 2021a) |
| Under discussion by government | Progress in right direction, but not sufficient |
| Rejected or disregarded by government | Misaligned without considerable progress towards alignment |
| Not yet on government agenda | No information available |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| Carbon pricing | Internalising external costs is considered by the Federal Council, in its sustainable finance strategy of June 2020, as an appropriate way to correct market failure and steer climate-aligned investments. | $CO_2$ levy: implemented in 2008 under the $CO_2$ Act.<br><br>$CO_2$ levy on the production, generation, extraction and importing of fossil fuels (revised $CO_2$ Act, Article 34).<br><br>Ratcheting-up mechanism: if interim thermal fossil climate goals are not achieved, the $CO_2$ levy can be increased up to CHF 210 ($231) per tonne $CO_2$ (revised $CO_2$ Act, Article 34). | **Partial $CO_2$ levy: CHF 96 ($106)** per tonne $CO_2$ on fossil thermal fuels, **ratcheting up to CHF 210 ($236) possible** – among the highest prices for carbon in the world (although on thermal fuels only – a comprehensive ecological tax reform was rejected by Parliament in 2017) (Der Bundesrat, 2015).<br><br>**Annual revenue: CHF 1.2 billion ($1.35 billion).** Redistribution to population, economy and climate projects (revised $CO_2$ Act, Articles 54 and 60)<br><br>*(For further details, see Annex 2.)* | Not targeted by carbon pricing. | Not targeted by carbon pricing. |

| | | | | | |
|---|---|---|---|---|---|
| | | ETS: implemented since 2008.<br><br>Coverage: 10% of total Swiss GHG emissions (all GHG types covered).<br><br>Sectoral scope: industry installations, fossil-fuel thermal power plants, aviation.<br><br>Suffers from over-allocation, low investment incentives.<br><br>*(For additional information, see Annex 2, Box A2.)* | Linear reduction factor: –1.74% from 2017 to 2020, –2.2% from 2021 (as in EU-ETS).<br><br>Net carbon price is not assessed.<br><br>*(For additional information, see Annex 2.)* | | |
| | | Air ticket levy: likely to be implemented soon (revised $CO_2$ Act, Article 42). | Suggested levy per ticket: min. CHF 30 ($34), max. CHF 120 ($135) (revised $CO_2$ Act Article 44). | | |
| Climate misaligned tax incentives and subsidies phase-out plan | Switzerland has been a member of the Friends of Fossil Fuel Subsidy Reform group since 2010 (FFFSR, 2021), but specific steps and a concrete strategy are lacking and are currently not on the political agenda. | Effective steering effect of Swiss net carbon pricing not assessed. | Financial data not available.<br><br>Net carbon price not quantified. | Effective steering effect of Swiss net carbon pricing not assessed. | Financial data not available. |
| Other activities: $CO_2$ compensation obligation for petrol and diesel importers | $CO_2$ emissions from fossil motor fuels must be partially offset. | Importers of petrol, diesel, natural gas and kerosene that exceed the threshold of 1,000 tonnes $CO_2$ are required to compensate for their emissions.<br><br>Compensation costs may not exceed CHF 0.05 per litre of motor fuel (FOEN, 2020d).<br><br>The revised $CO_2$ Act provides for a compensation rate of up to 90%. At least 15%, rising to at least 20% in 2025, must be offset with domestic reductions. Furthermore, at least 3% must be offset with transport measures through the promotion of alternative drive technologies and sustainable fuels. | Financial data not available. | Not targeted by compensation measure. | Financial data not available. |

*Note: The measures assessed have been selected by the authors of this study, building on Whitley et al. (2018) and Bingler et al. (2018).*

## 3.5 Public budget

In accordance with its obligations under the UNFCCC, as an Annex 1 Party, Switzerland has been providing public financial, technological and capacity-building support at scale for years, both through bilateral and multilateral contributions, including official development assistance (ODA). However, only a small share of the public budget is earmarked for climate finance activities, and there is no systematic assessment of the climate compatibility of public budgeting and spending. Switzerland has also refrained from issuing sovereign green bonds at the federal level, although some cantons have tested these fixed-income instruments at the subnational level.[8]

The assessment table (Table 8) shows: **The public budget is not climate-aligned, and international climate finance requires ratcheting-up.**

**Table 8 Public budget assessment: status of measure implementation and qualitative and quantitative information on the status of mitigation- and adaptation-related Paris alignment**

**Legend**

| Implementation status | Paris alignment status |
|---|---|
| Implemented or to be implemented | In line with scientific 1.5°/<2°C scenario or Climate Action Tracker fair share target (Climate Analytics and NewClimate Institute, 2021a) |
| Under discussion by government | Progress in right direction, but not sufficient |
| Rejected or disregarded by government | Misaligned without considerable progress towards alignment |
| Not yet on government agenda | No information available |

[8] Note that we count sovereign green bonds as part of the public budget, because they are typically used to finance public expenditure and are repaid from general revenues. However, they are also an important vehicle for crowding in private finance.

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | **Qualitative information** | **Quantitative information** | **Qualitative information** | **Quantitative information** |
| Provision of international support[i] | Most important vehicles: Green Climate Fund (GCF), multilateral development banks.<br><br>The largest share (ca. 75%) comes from public sources, mainly from the budgets of the Swiss Agency for Development and Cooperation (SDC) and the State Secretariat for Economic Affairs (SECO). | The dispatch on International Cooperation 2021–2024 mentions that resources for international cooperation in this field [climate change] should gradually increase from CHF 300 million per year (2017–2020) to about CHF 400 million per year by the end of 2024, i.e. about 15% of resources for international cooperation.<br><br>NGOs' critique of the reported increase: only a minor share has been additional public finance that is separate from development aid budgets. The increase is mostly effected by changes in accounting and because private flows mobilised for climate finance have only recently been taken into account.<br><br>*Further details are given in Annex 2 (Box A3) and in Switzerland's Fourth Biennial Report, 2020, Chapter 5 (FOEN, 2020d).* | CHF 443 million ($498 million) in 2018 (official reports: tripled since 2011), of which CHF 330 million ($371 million) from public sources. (Total public climate finance: $59.5 billion per year in 2017/18 (Oxfam International, 2020).)<br><br>Oxfam 2020 shadow report: Swiss bilateral public climate finance total as reported (2017–2018 annual average) $221 million (99% grants) (Oxfam International, 2020).<br><br>Government target from 2020 onwards: CHF 450–600 million ($674 million) per year.<br><br>Official figures for public climate finance using Rio marker system: 40–45%.<br><br>**Net climate finance** not reported.<br><br>**GCF contribution** 2015–2017: $100 million; pledge for 2020–2023: $150 million.<br><br>**Private finance mobilised** reported for mitigation: $14.1 million (2017); $93.9 million (2018) (Oxfam International, 2020).<br><br>*Further details are given in Annex 2 (Box A3) and in Switzerland's Fourth Biennial Report, 2020, Chapter 5 (FOEN, 2020d).* | *See mitigation.*<br><br>NGOs' critique: the reported public adaptation finance share hides a significantly lower actual amount of overall adaptation finance. | *See mitigation.*<br><br>Official reports: 35–40% of overall Swiss climate finance, using the Rio marker system: 27% of projects have an adaptation focus.<br><br>Oxfam shadow report for 2020: 39% of Swiss climate finance ($133 million) was allocated to adaptation projects, rising to 56% ($194 million) if half of cross-cutting finance is also included (Oxfam International, 2020).<br><br>**Private finance mobilised** reported for adaptation: $9.5 million (2017); $18.3 million (2018) (Oxfam International, 2020). |
| Public budget and spending climate alignment plan | A parliamentary initiative to consider environmental risks was submitted by the Green Party in September 2020. | The initiative refers to the public budget's important role and role model function in achieving the climate targets, and to the 1.5°C and Swiss 2050 net-zero targets.<br><br>Public procurement strategy considers climate. | No data on:<br>– public spending climate-aligned share<br>– public spending climate-misaligned share<br>– net budget climate spending. | No strategy defined. | No data on:<br>– public spending climate-aligned share<br>– public spending climate-misaligned share<br>– net budget climate spending. |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| Sovereign green bonds issuance | Rejected in the Federal Council's sustainable finance report of June 2020. Reason: based on some environmental, social and governance (ESG) ratings, the Swiss sovereign bonds are sustainable, but interest rates and costs would be relatively high. | No information is available on the climate-alignment of Swiss sovereign bonds. | No information is available on the climate-alignment of Swiss sovereign bonds | No information is available on the climate-alignment of Swiss sovereign bonds. | No information is available on the climate-alignment of Swiss sovereign bonds. |
| Subnational entities' green bonds issuance | Issuance of green bonds is supported in principle in the Federal Council's sustainable finance report of June 2020, with a focus on private actors. | Bonds certified under the Climate Bonds Initiative (CBI) have been issued by two of Switzerland's 26 cantons (Basel-Stadt and Geneva). There is no information on how the proceeds have been used (whether for mitigation or for adaptation). | Canton Basel-Stadt: as of January 2021, the amount outstanding is CHF 0.43 billion ($0.48 billion).<br><br>Canton Geneva: as of January 2021, the amount outstanding is CHF 0.82 billion ($0.91 billion). | *See mitigation.* | *See mitigation.* |
| Other activities: public low-carbon R&D net support | No official strategy is available. | Although a significantly larger share of R&D funding is allocated to low-carbon technologies, there is still some funding of fossil fuel energy technologies. In addition, it is not clear to what extent the low-carbon technologies that are being funded are aligned with the climate targets, or whether they are just lower carbon than current technologies and so won't contribute significantly to decarbonisation by 2050 at the latest. | Spending in 2019 (IEA, 2020):<br>– **renewable energy: $105 million**<br>– **fossil fuels: $8 million**<br>– nuclear: $46 million<br>– energy efficiency: $77 million<br>– hydrogen and fuel cells: $21 million<br>– other power and storage technologies: $48 million<br>– other cross-cutting research: $29 million. | No information available. | No information available. |

*Note: The measures assessed have been selected by the authors of this study, building on Whitley et al. (2018) and Bingler et al. (2018).*

[i] *Collective commitment to mobilising $100 billion per year from public and private sources to support climate action in developing countries, Article 9 of the Paris Agreement.*

## 3.6 Public financial institutions

With regard to public financial institutions, some positive momentum can be observed regarding Switzerland's development finance institution, the Swiss Investment Fund for Emerging Markets (SIFEM), whose strategy for the period 2021 to 2024 includes a more ambitious focus on climate change and the mobilisation of private climate finance. Swiss Export Risk Insurance (SERV) still lacks a comprehensive climate strategy. Unlike various other countries, Switzerland does not have a state investment bank with a green mandate, and it is likely that this will not change any time soon as the issue proves highly controversial. Furthermore, most of Switzerland's pension schemes (public and private) still fall short of being Paris-aligned (see Chapter 4 on private sector activities). As a cornerstone of its climate policy, Switzerland's Technology Fund is a well-established instrument, providing loan guarantees to innovative companies whose products contribute to climate protection. Following the entry into force of the revised $CO_2$ Act, presumably in 2022, the Technology Fund will be integrated into the newly established Climate Fund, whose mandate and sources of revenue are significantly broader.

The assessment table (Table 9) shows: **Public financial institutions such as the Swiss Export Risk Insurance (SERV) and the Swiss Investment Fund for Emerging Markets (SIFEM) do not yet have a comprehensive, target-aligned climate strategy or mandate, but some progress is noticeable in the updated SIFEM strategy.**

**Table 9 Public financial institutions assessment: status of measure implementation and qualitative and quantitative information on the status of mitigation- and adaptation-related Paris alignment**

**Legend**

| Implementation status | Paris alignment status |
|---|---|
| Implemented or to be implemented | In line with scientific 1.5°/<2° scenario or Climate Action Tracker fair share target (Climate Analytics and NewClimate Institute, 2021a) |
| Under discussion by government | Progress in right direction, but not sufficient |
| Rejected or disregarded by government | Misaligned without considerable progress towards alignment |
| Not yet on government agenda | No information available |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| Presence of public climate finance institution | The Technology Fund provides loans for low-carbon technology investments. It will be incorporated into the Climate Fund (revised $CO_2$ Act, Article 53.1). | Climate mitigation funding comes from $CO_2$ levy revenues (one-third of annual revenues, up to CHF 450 million ($506 million) per year since 2010). Climate Fund receives additional funding from aviation ticket levy and general aviation fee (revised $CO_2$ Act, Article 53.2).<br><br>Explicit focus on R&D, including aviation (revised $CO_2$ Act, Article 54.4).<br><br>Fund is managed financially by the Federal Finance Administration (but no climate-alignment fund management guidelines defined) (revised $CO_2$ Act, Article 54) | Technology Fund loan guarantees: **CHF 163 million** ($181 million) **for 100 Swiss companies** (guarantees outstanding as of Q4/2020) to facilitate access to attractive bank loans (Technologiefonds, 2020). | The Technology Fund focuses on low-carbon technologies.<br><br>The Climate Fund will explicitly include adaptation finance.<br><br>The funding will come from ETS auctions and further measures (revised $CO_2$ Act, Article 53.2). | The Technology Fund was set up for mitigation technologies.<br><br>The Climate Fund will also finance adaptation measures (revised $CO_2$ Act, Article 53.1). |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | **Qualitative information** | **Quantitative information** | **Qualitative information** | **Quantitative information** |
| Climate bank or public development bank with dedicated climate finance strategy | In 2019, the Social Democratic Party proposed that the PostFinance bank be transformed into a climate bank. In November 2020, the industry association Swiss Sustainable Finance proposed a green state investment bank to finance the low-carbon transition. | Public climate bank does not exist.<br><br>The debate currently focuses on mitigation. | Public climate bank does not exist. | Public climate bank does not exist.<br><br>Adaptation plays a minor role in the public debate around the climate bank. If implemented, adaptation finance might be considered. | Public climate bank does not exist. |
| Public export credit agency exclusively supports climate-aligned activities | Swiss Export Risk Insurance (SERV) is owned by the Swiss Confederation. The Federal Council supervises SERV, appoints its board of directors and defines its strategic goals for four-year periods. SERV is self-financed, through risk-adjusted premium revenues. | No dedicated climate-alignment strategy for all activities has been defined.<br><br>SERV supports Swiss exporters' involvement in renewable energy and climate protection by offering special terms on the basis of OECD agreements. These may include credit periods of up to 18 years with flexible repayment terms to provide feasible project financing. | No data on climate alignment of projects available.<br><br>SERV must notify the OECD of the $CO_2$ emissions (or equivalent) or the relevant carbon intensity (e.g. in grams $CO_2$ per kWh) of projects if $CO_2$ emissions (or equivalent) are more than 25,000 tonnes annually (applies for deliveries to new projects and significant changes and if the necessary information is available). The exporter must provide this data to SERV.<br><br>The $CO_2$ emissions data are not publicly available. | No explicit activities. | No explicit activities. |
| State development finance institution (DFI) has climate-aligned investment portfolio and focuses on climate-aligned development strategies | The Swiss Investment Fund for Emerging Markets (SIFEM) is the DFI of the Swiss Confederation. It provides financial support to economically viable SMEs and fast-growing enterprises.<br><br>However, SIFEM is a member of the Association of European Development Finance Institutions (EDFI), which in 2020 issued the joint European DFI statement on climate change (EDFI, 2020). | The Federal Council has set strategic objectives for SIFEM for 2018–2020 and 2021–2024: one of three focus goals is climate change and the mobilisation of private climate finance. The investment provisions regarding climate change have been sharpened considerably in the strategic objectives for 2021–2024, with a number of measurable targets and performance indicators (SIFEM, 2020).<br><br>EDFI announcement: phase out fossil fuels and mobilise private sector climate finance, aligning with Paris Agreement and high disclosure standards.<br><br>*For further details, see Annex 2.* | Climate-alignment of activities is not assessed.<br><br>Project portfolio for possible manual assessments documented online. | The Federal Council's strategic objectives for SIFEM for 2018–2020 and 2021–2024 include: 'promotes the development of sustainable business in developing and emerging countries, based on internationally recognized environmental, social, and governance standards'.<br>In the updated strategy for 2021–2024, one of three focus goals is climate change and the mobilisation of private climate finance. | Climate-resilience of activities is not assessed.<br><br>Project portfolio for possible manual assessments documented online. |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| Public pension funds follow climate-aligned investment approach | Decentralised pension funds system: some funds claim to undertake some climate-alignment activities, but the majority do not have a climate-alignment policy. | The cantons of Geneva and Vaud require their respective pension funds to comply with sustainable development and responsible investment objectives.<br><br>Pension funds that take voluntary climate alignment action include: Migros pension fund (Migros-Pensionskasse, 2019), Lucerne pension fund (Luzerner Pensionskasse, 2020) and PUBLICA (state employees' pension fund) (PUBLICA, 2020). Climate guidelines have also been produced by the largest Swiss pension schemes' association (SVVK-ASIR, 2020b). | Analysis by Swiss NGO Klima-Allianz reveals:<br>– 92% of pension capital is invested by institutions that largely ignore climate risks<br>– only 8% of the investment volume comes from pension funds that align their goals with the Paris Agreement (Klima-Allianz Schweiz, 2020d). | No explicit information available. | No explicit information available. |

*Note: The measures assessed have been selected by the authors of this study, building on Whitley et al. (2018) and Bingler et al. (2018).*

## 3.7 Information instruments for climate-aligned investment planning

Overall, investments in the Swiss economy are still considerably misaligned with the climate targets. This is despite the fact that Switzerland has at least some climate mitigation and adaptation strategies for all but one of its sectors, the exception being the information technology and communications (ICT) sector. The mitigation strategies are, in most cases, specified with concrete targets and measures, which helps investors to assess whether their activities are in line with the national targets. Such strategies are therefore very important information instruments for climate-aligned investments, as long as the targets are properly defined and sufficiently ambitious. This is especially relevant in a context like Switzerland's, where the government promotes a market-led, voluntary approach to sustainability. The targets of the individual sector strategies are, however, considered to be not ambitious enough. In addition, Switzerland does not prepare specific capital provision plans, to show how the country intends to achieve the targets set out in the sectoral strategies. Such capital raising plans could ease crowding-in of private capital for the required investments. The adaptation strategy is, to a large extent, not supported by quantifiable targets and is much less detailed and prescriptive. Investors are well advised to prepare their own physical risk resilience strategies for their investments in Switzerland.[9]

[9] Note that the assessment table (Table 9) just serves as a general overview of the measures being taken in respect to informing investment decisions. It would be beyond the scope of this report to elaborate on details, targets and progress against targets. The most up-to-date information and further details are available in *Switzerland's Fourth Biennial Report under the UNFCCC*, Chapter 3 (FOEN, 2020a).

The assessment table (Table 10) shows: **Information instruments for climate-aligned investment planning at the national level are well defined, for example in the energy, buildings, transport and agriculture strategies, but the ambition of these strategies needs to be ratcheted up to reflect the net-zero target.**

**Table 10 Information instruments for climate-aligned investment planning assessment: status of measure implementation and qualitative and quantitative information on the status of mitigation- and adaptation-related Paris alignment**

**Legend**

| Implementation status | Paris alignment status |
|---|---|
| Implemented or to be implemented | In line with scientific 1.5°/<2° scenario or Climate Action Tracker fair share target (Climate Analytics and NewClimate Institute, 2021a) |
| Under discussion by government | Progress in right direction, but not sufficient |
| Rejected or disregarded by government | Misaligned without considerable progress towards alignment |
| Not yet on government agenda | No information available |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| Energy sector-specific climate strategy | Energy Strategy 2050: many of the measures were included in the amended Energy Act that entered into force in January 2018 (Climate Analytics and NewClimate Institute, 2021a).<br><br>Swiss National Adaptation Strategy 2014–2019 and 2020–2025 (FOEN, 2018). | The Energy Strategy has three strategic objectives:<br>– to increase the energy efficiency of buildings, transport, industry and appliances<br>– to increase the use of renewable energy, through promoting renewables (new feed-in remuneration with direct marketing) and improving the legal framework (shortening and streamlining; acceleration of licensing procedure for networks)<br>– to withdraw, step-by-step, from nuclear energy.<br>Environmental NGOs broadly support the stated goals of the strategy, but request more and stronger measures, as well as safeguards for protecting nature and biodiversity. | Swiss financial institutions: build-out of renewable energy capacity not sufficient to be in line with the International Energy Agency's (IEA) Sustainable Development Scenario (SDS), and current investments in expansion of coal mining and coal power capacity and in companies with oil expansion plans are not in line with the IEA's SDS.<br><br>The Energy Strategy also includes an increase in the network surcharge from CHF 0.015 to 0.023 per kWh in order to promote electricity from renewable energy and energy efficiency. | Swiss National Adaptation Strategy (FOEN, 2018): provides a framework to assist federal offices to improve knowledge and adopt a coordinated course of action in response to adverse climate effects – energy is included as one of the most important areas for action.<br><br>Energy demand adaptation in response to temperature increases, via better insulation: the Swiss Confederation and individual cantons are currently supporting the refurbishment of houses to improve energy performance (Buildings Programme) (Vöhringer et al., 2017).<br><br>Energy supply: hydropower and thermal power plants are expected to be affected (Vöhringer et al., 2017). | No data available. |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| Transport sector-specific climate strategy | Regulation on $CO_2$ emissions from new passenger vehicles (passed in 2012).<br><br>Roadmap for Electric Mobility 2050 (adopted in 2018).<br><br>Some measures in revised $CO_2$ Act.<br><br>(Swiss National Adaptation Strategy 2020–2025.) | **Regulation on $CO_2$ emissions from new passenger vehicles**: all newly registered cars are subject to the overall average $CO_2$ emissions value of 130 g $CO_2$/km by 2015. If the average emissions from a passenger car fleet exceed the emission standards, the vehicle importer must pay a fee. Regulations also apply to commercial vehicles (Grantham Research Institute, 2021a).<br><br>**Roadmap for Electric Mobility 2050:** goal of increasing the share of electric vehicles in total vehicle sales to 15% by 2022; this implies a slower rate of increase than current trends (Climate Analytics and NewClimate Institute, 2021a).<br><br>**Revised $CO_2$ Act:** includes detailed passenger car and emission limit provisions for 2021–2024 and 2024–2029 (Article 11ff).<br><br>**$CO_2$ levy:** on fossil fuels.<br><br>**Aviation**: included in ETS (see Table 6). | **Regulation on $CO_2$ emissions from new passenger vehicles:** from 2012 to 2018, the first gram of $CO_2$ above target would be penalised at CHF 7.5 ($7.8), the second at CHF 22.5 ($23.5) and the third at CHF 37.5 ($39.2). Additional excess emissions would incur a sanction of CHF 142.5 ($148.9). From 2019, the maximum sanction applies to all excess emissions (Grantham Research Institute, 2021a).<br><br>**Roadmap for Electric Mobility 2050:** in 2019, around 5.6% of all vehicles sold in Switzerland were electric vehicles (EVs), increasing to 9.8% in the first half of 2020 – considerably higher than in the EU (7%). Despite this level of uptake, the EV share of total sales in the first half of 2020 remained significantly below that of some countries with a comparable level of income (e.g. 26% in Sweden, 15% in Finland, 69% in Norway) (Climate Analytics and NewClimate Institute, 2021a).<br><br>PACTA alignment study: the share of EVs in the expansion plans of Swiss financial institutions is aligned with the IEA's Sustainable Development Scenario, but not for internal combustion engine and hybrid vehicles (Spuler et al., 2020).<br><br>*(Data from ETS and $CO_2$ levy: see Table 6)* | Swiss National Adaptation Strategy 2020–2025: conduct research to identify how infrastructure might be affected (Der Bundesrat, 2020). | No data available. |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| Buildings sector-specific climate strategy | $CO_2$ Act is the legal basis for the buildings programme.<br><br>Revised $CO_2$ Act foresees further funding for energy efficiency improvements.<br><br>Swiss National Adaptation Strategy 2014–2019 and 2020–2025 (FOEN, 2018). | Target: 50% emissions reduction by 2027, compared with 1990 (revised $CO_2$ Act, Article 9).<br><br>Detailed emissions limits and specific building standards for existing and new buildings are defined in the revised $CO_2$ Act (Article 9ff), including a ratcheting-up mechanism.<br><br>De facto net-zero heating and hot water emissions standards for new buildings to apply from 2023 onwards.<br><br>$CO_2$ levy on combustible fuels also applies for fuels used for heating.<br><br>The new Energy Act includes higher tax incentives for improving energy efficiency in buildings, as well as clear framework conditions for the introduction of smart metering (FOEN, 2020b). | Since 2010, one-third of the proceeds from the $CO_2$ levy – up to CHF 450 million – have been used annually for the buildings programme and the promotion of geothermal energy. Unused funds are redistributed to the economy and population (FOEN, 2020b).<br><br>**Real asset investments:** the majority of participants in the PACTA alignment study already meet the limit value of 20 kg $CO_2/m^2$. Half of participants would exceed the tighter limit of 15 kg $CO_2/m^2$ from 2028 onwards if no heater replacement or renovation measures were to take place, as more than 70% of buildings are still heated using a fossil fuel-based system (Spuler et al., 2020).<br><br>*(See Annex 3, Box A7.)*<br><br>**Mortgage portfolios:**<br>the average relative $CO_2$ emission from buildings within mortgage portfolios is 26.2 kg $CO_2/m^2$). Of the buildings that could be evaluated, 59% use oil and 20% gas as energy sources, and 11% have a non-fossil energy source. The relative $CO_2$ emissions for oil-fired and gas-fired buildings are 41.1 and 23.9 kg $CO_2/m^2$, respectively (both exceed the future limit of 20 kg $CO_2/m^2$). | Swiss National Adaptation Strategy (FOEN, 2018): provides a framework to assist federal offices to adopt a coordinated course of action in response to adverse climate effects; includes housing, natural hazards protection programmes (mainly early warning systems and insurance obligation) and spatial development considerations. | No data available. |
| Industry sector-specific climate strategy | Focus on carbon pricing mechanisms<br>($CO_2$ levy and ETS). | ETS and $CO_2$ levy<br>*(see Table 6).* | ETS and $CO_2$ levy<br>*(see Table 6).* | No strategy defined. | No data available. |
| ICT sector-specific climate strategy | Not considered in (revised) $CO_2$ Act.<br><br>No climate alignment and resilience strategy. | No strategy defined. | No data available. | No strategy defined. | No data available. |
| Services sector-specific climate strategy | Tourism and health in Swiss National Adaptation Strategy 2014–2019 and 2020–2025 (FOEN, 2018).<br><br>Not considered in (revised) $CO_2$ Act. | No strategy defined. | No data available. | Swiss National Adaptation Strategy (FOEN, 2018): provides a framework to assist federal offices to adopt a coordinated course of action in response to adverse climate effects; includes tourism and health. | No data available. |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| Agriculture and forestry sector-specific climate strategy | Forest Policy 2020.<br><br>Swiss Climate Strategy for Agriculture.<br><br>Swiss National Adaptation Strategy 2014–2019 and 2020–2025 (FOEN, 2018). | Switzerland's Forest Policy 2020 includes climate change adaptation and mitigation considerations, but concludes that the existing legal bases are sufficient (Grantham Research Institute, 2021b).<br><br>Swiss Climate Strategy for Agriculture: the goal is to increase production, become an energy producer and reduce GHG emissions at the same time (agriculture should become net carbon sink). | No data available. | Swiss National Adaptation Strategy: provides a framework to assist federal offices to adopt a coordinated course of action in response to adverse climate effects; includes soil protection, agriculture, forestry and biodiversity management (Grantham Research Institute, 2021c).<br><br>Switzerland's Forest Policy 2020: *see mitigation.*<br><br>Swiss Climate Strategy for Agriculture: covers mitigation of the impact of price volatility through effective risk management and integrated markets, adaptation of agricultural production to changing site suitability, and measures to prevent heat stress in animals and plants. | No data available |

*Note: The measures assessed have been selected by the authors of this study, building on Whitley et al. (2018) and Bingler et al. (2018).*

## 3.8 Further information instruments

While recognising the need for more transparency and clarity in the sustainable finance market, the Swiss government has signalled it has no intention of introducing a single, commonly accepted label for sustainable financial products, leaving it to market participants to voluntarily apply or produce those that they see fit. Switzerland has also so far resisted calls to adopt the EU taxonomy, albeit this may change in the future. Further, there are no attempts underway to create a central data repository for sustainability disclosures, as is planned in the EU, for example.

The assessment table (Table 11) shows: **No further information instruments, such as certified labels or financial data repositories, have been implemented and discussions on a taxonomy of sustainable economic activities have been postponed.**

**Table 11 Information instruments for climate-aligned investment planning assessment: status of measure implementation and qualitative and quantitative information on the status of mitigation- and adaptation-related Paris alignment**

**Legend**

| Implementation status | Paris alignment status |
|---|---|
| Implemented or to be implemented | In line with scientific 1.5°/<2°C scenario or Climate Action Tracker fair share target (Climate Analytics and NewClimate Institute, 2021a) |
| Under discussion by government | Progress in right direction, but not sufficient |
| Rejected or disregarded by government | Misaligned without considerable progress towards alignment |
| Not yet on government agenda | No information available |

| Measure implementation | Context | Mitigation Paris alignment | | Adaptation Paris alignment | |
|---|---|---|---|---|---|
| | | Qualitative information | Quantitative information | Qualitative information | Quantitative information |
| Mandatory government labelling and/or taxonomy to be applied to classify climate-aligned investments | The Federal Council's sustainable finance report of June 2020 highlighted the importance of the EU taxonomy for the Swiss market. The Council decided in December 2020 that it will conduct an assessment of whether a taxonomy would be required to prevent greenwashing of investment products (Federal Council, 2020c).<br><br>The PACTA tool is available, but not mandatory. The next voluntary test round for the entire Swiss financial sector will be in 2022. | The EU taxonomy might become a de facto standard to ensure access to European financial markets. | As use of the PACTA tool is not mandatory, it would not be useful for systematically overcoming the existing information failures and greenwashing risks in the market. | The EU taxonomy might become a de facto standard to ensure access to European financial markets. | Not available. |
| Climate-aligned projects–investor matchmaking hub | | No action taken. | Not available. | No action taken. | Not available. |
| Public company-level climate and financial data repository | Not planned. Participation in the EU data repository might be considered. | No action taken. | Information on climate-alignment and expected alignment in the future is not featured or is not readily comparable in standard financial data access points. | No action taken. | Information on climate-resilience and expected future resilience is not featured or is not readily comparable in standard financial data access points. |

*Note: The measures assessed have been selected by the authors of this study, building on Whitley et al. (2018) and Bingler et al. (2018).*

# + 4. Private sector activities

Legally, the Paris Agreement addresses states and not private or other actors with a role in shifting finance flows (Bodle and Noens, 2018). However, the growing appreciation that climate change presents material risks to economic activity and the financial system, for example in the context of the TCFD or the NGFS, is leading to the growth of private-led commitments to align investments and portfolios with climate targets, as well as to increase disclosure of climate risks (Bolton et al., 2020; NGFS, 2019; IMF, 2019; Batten et al., 2016). Financial institutions, including private institutions, have the capacity to influence the real economy in the absence of policy direction (RMI, 2020).

A multitude of considerations and investment framework conditions influence capital flows. It is difficult, therefore, to say which private sector activities are government-driven, government-enabled or government-supported, or which have taken place relatively independently of any governmental activities. Eventually, this differentiation would be artificial in any case, since all government activities in the context of Article 2.1c should eventually aim to align investments across the entire financial industry with the goals as set out in the Paris Agreement.

As has been shown in the public levers analysis, Switzerland follows a principles-based, market-driven approach. The aim is to enable the consideration of climate alignment in investment decisions via better transparency and information availability (e.g. via the TCFD disclosure requirements, which are about to be implemented, or the PACTA alignment studies).

The Swiss NGO Klima-Allianz estimates that the Swiss financial marketplace controls approximately CHF 8,000 billion (approx. $9,000 billion) (Klima-Allianz Schweiz, 2021a). This is almost half of the GDP of the United States in 2019. Banks are by far the most important actor in the Swiss financial system in terms of assets under management (see Annex 1). According to the latest market study by the industry association Swiss Sustainable Finance, sustainable investments increased by 62% between 2018 and 2019, to a total of CHF 1,163 billion (approx. $1,312 billion) in 2019 (see Annex 3, Box A5), based on figures reported by financial institutions (SSF and UZH CSP, 2020). The PACTA alignment study, however, shows that the Swiss financial sector is still considerably misaligned with the climate targets (see graphs in Annex 3) (Spuler et al., 2020).

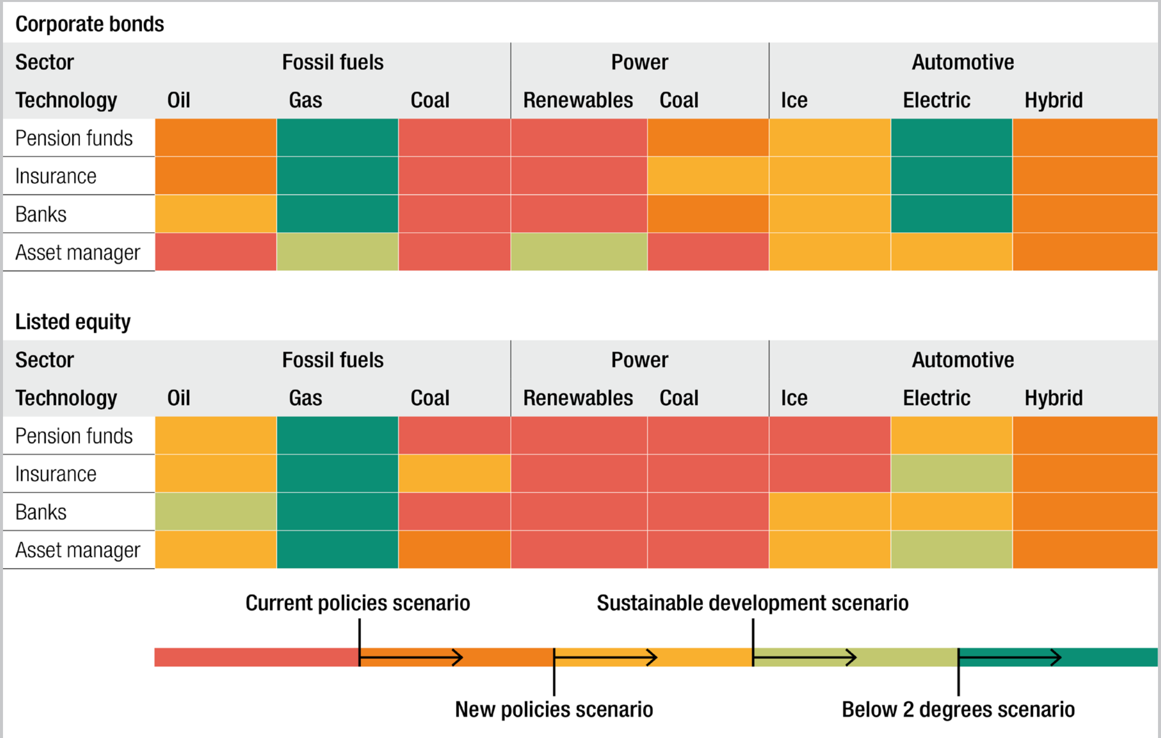
## 4.1 Market segments

Financial market actors in Switzerland are relatively active in terms of committing to action or claiming that they consider climate-related aspects in their investment decisions. This has been shown in the PACTA alignment study (Spuler et al., 2020), and a total of 64 Swiss investment actors and 113 actions are registered in the UNFCCC climate action NAZCA database (UNFCCC NAZCA, 2020). However, despite the growing interest in climate and sustainable investments, current investment activities in the Swiss financial market are still considerably misaligned with the Paris Agreement, as the PACTA alignment study shows. Only 3% of investments that are labelled as sustainable (not necessarily climate-aligned) have third-party verified labels, as the latest Swiss Sustainable Finance market study finds (SSF and UZH CSP, 2020). In addition, financial actors do not track or report on the real-world emission impacts of their alignment activities.

As can be seen in Box 3, considerable progress is required across almost all areas except gas and electric vehicle investments. The Swiss financial sector is considerably misaligned in terms of coal and renewables investments.

**Box 3 PACTA study results on alignment of Swiss financial institutions' portfolios with various climate scenarios**

The table below summarises the alignment of the aggregate portfolios by technology, type of participating institution and asset class (corporate bonds and listed equity).




*Source: Spuler et al. (2020)*

The assessment table (Table 12) shows: **market segments other than real estate are considerably misaligned.**

## Table 12 Market segments climate-alignment assessment: information on climate-aligned and climate-misaligned activities

**Legend**

| Paris alignment assessment | Data availability to assess status and progress |
|---|---|
| In line with scientific 1.5°/<2°C scenario | Government-provided or easily accessible data |
| Aligned with NDC, IEA-based pathways or other target | Data partially available, high search costs |
| Not aligned | Data not publicly available or search costs prohibitively high |

*Note: In contrast to the public levers tables, the private sector activities tables only evaluate the degree of alignment and data availability and not the political implementation status of measures. The color-coding for assessing data availability is different to that used in the tables in the executive summary in order to avoid confusion with the degree of alignment color-coding from the public levers section.*

| Paris alignment | Climate-aligned activities | | Climate-misaligned activities | |
|---|---|---|---|---|
| | **Qualitative information** | **Quantitative information** | **Qualitative information** | **Quantitative information** |
| Bank lending and mortgages | No asset class data are available. *See Annex 3, Box A10 for a summary of various actors' investment strategies.* | *See Annex 3 for quantitative data.* | World Resources Institute database: there are no registered sustainable finance commitments by Swiss banks (WRI, 2019). | Bank lending: no data available.<br><br>Mortgages:<br>the PACTA alignment study finds that the majority of buildings within mortgage portfolios do not meet the limit value of 20 kg $CO_2/m^2$ and would also fail to meet the tighter targets due from 2028 onwards. The average relative $CO_2$ emission for these buildings is 26.2 kg $CO_2/m^2$. Of the buildings that could be evaluated, 59% use oil and 20% gas as energy sources, and 11% have a non-fossil energy source. The relative $CO_2$ emissions for oil-fired and gas-fired buildings are 41.1 and 23.9 kg $CO_2/m^2$, respectively (Spuler et al., 2020).<br><br>*See Annex 3 for further quantitative data.* |
| Real estate | PACTA alignment study: pension funds state that 20% of their directly held buildings that are currently heated with oil and 10% of buildings currently heated with gas will be equipped with a renewable energy source. Insurance companies and asset managers report substitution rates of 1–2% by 2030 (Spuler et al., 2020). | PACTA alignment study: the majority of participants already meet the limit value of 20 kg $CO_2/m^2$, but around half would exceed the tighter limit to be implemented from 2028 (Spuler et al., 2020).<br><br>*See Annex 3 for further quantitative data.* | No data available. | PACTA alignment study: around half of participants would exceed the tighter limit of 15 kg $CO_2/m^2$ from 2028 onwards if no heater replacement and renovation measures take place, as more than 70% of buildings are still heated with a fossil fuel-based system (Spuler et al., 2020).<br><br>*See Annex 3 for further quantitative data.* |

| Paris alignment | Climate-aligned activities | | Climate-misaligned activities | |
|---|---|---|---|---|
| | **Qualitative information** | **Quantitative information** | **Qualitative information** | **Quantitative information** |
| Bond markets | No asset-class data available.<br><br>*See Annex 3, Box A10 for a summary on various actors' investment strategies.* | PACTA alignment study:<br>almost all of the individual financial institutions with corporate bonds and equity portfolios assessed (97%) are aligned with the IEA's Sustainable Development Scenario with respect to gas production, and the aggregate portfolios are almost all aligned with the Beyond 2D Scenario (Spuler et al., 2020).<br><br>The overall coal power capacity allocated to Swiss portfolios decreased between 2017 and 2020. The reduction is entirely due to the exclusion of companies that own coal-fired power plants from the 2020 portfolio, which had been included in the 2017 portfolio.<br><br>The listed equity and corporate bonds portfolios are moderately well aligned in the production of electric vehicles.<br><br>Companies in the aviation sector typically account for less than 0.2% of the total portfolio value, across all types of financial institutions. Swiss investors currently hold less than 0.05% of aggregate listed equity or corporate bonds portfolios in the shipping sector.<br><br>Climate bonds initiative: $4.4 billion green bonds issued in Switzerland (as of 31 December 2020).<br><br>*See Annex 3 for further quantitative data.* | No data available. | PACTA alignment study:<br>Swiss financial institutions still finance the expansion of oil extraction and coal mining in their corporate bonds portfolios, with limited progress since the test in 2017 (Spuler et al., 2020).<br><br>Only 13% of financial institutions submitted portfolios that are aligned with a 2°C pathway with regard to oil or coal production. In these technologies, little progress was observed after the 2017 test: of those institutions that participated in both years, none were aligned in 2017 and 4% were aligned in 2020 with regard to coal mining in their listed equity portfolio. The result was similar with regard to oil production: while 11% of the 53 institutions participating in both years were aligned in 2017, 10% were aligned in 2020.<br><br>2–5% of the aggregate Swiss portfolio is exposed to the power sector, whereby the share invested in high-carbon power capacity is still four times as high as the share invested in renewable capacity. The power capacity currently financed by Swiss investors is set neither to increase fast enough in terms of renewables, nor to retire fast enough with respect to coal capacity. Through the mechanism of portfolio reallocation, Swiss investors in aggregate actually shifted their holdings away from renewable capacity. The effects of company engagement, on the other hand, could be noticeable in the capacity additions that investees installed between 2017 and 2020, which accounts for most of the increase in allocated production.<br><br>The listed equity and corporate bonds portfolios are not aligned with regards to the production of internal combustion engine or hybrid vehicles.<br><br>*See Annex 3 for further quantitative data.* |
| Listed equity | Climate Action 100+: 86 CA100+ investors are headquartered in Switzerland (Climate Action 100+, 2021). | *See data on bond markets.*<br><br>*See Annex 3 for further quantitative data.* | Mismatch between climate strategy claims and asset holdings by financial institutions: more than 70% of PACTA alignment study participant reported that they employ at least one climate strategy, such as engagement or shareholder voting (55%) or exclusion policies (30%). However, over 50% of listed equity and over 70% of corporate bonds investors with coal divestment policies still have coal exposures (Spuler et al., 2020). | *See data on bond markets.*<br><br>*See Annex 3 for further quantitative data.* |

| Paris alignment | Climate-aligned activities | | Climate-misaligned activities | |
|---|---|---|---|---|
| | **Qualitative information** | **Quantitative information** | **Qualitative information** | **Quantitative information** |
| Private equity | No information available. | No information available. | No information available. | No information available. |
| Insurance provision | Principles for Sustainable Insurance: there are six Swiss signatories – Baloise Group, Rentes Genevoises, RepRisk, Swiss Life Group, Swiss Re, Zurich Insurance Group (UNEP Finance Initiative, 2021a). | No information available. | No information available. | No information available. |
| Investment decision-making | Various industry associations issue sustainable finance guidelines.[i]<br><br>PACTA alignment study: 69% of survey respondents reported a climate-related target or aspiration, and 65% indicated being member of at least one sustainable finance initiative (Spuler et al., 2020).<br><br>UNFCCC climate action NAZCA database: 64 Swiss investment actors are registered with 113 actions (UNFCCC NAZCA, 2020).<br><br>**International commitments:**<br><br>Principles for Responsible Banking: there are only seven Swiss signatories – Credit Suisse, Globalance Bank AG, J. Safra Sarasin, Julius Baer & Co. Ltd, Lombard Odier Group, Pictet Group, UBS Group (as of January 2021) (UNEP Finance Initiative, 2021b).<br><br>Poseidon Principles: there is only one Swiss signatory – Credit Suisse (Poseidon Principles, 2021).<br><br>Science Based Targets initiative: only three financial actors in Switzerland have committed – Swiss Re, Zurich Insurance Group Ltd, Bank J. Safra Sarasin AG) (SBT, 2021). | *For asset-specific quantitative financial information, see above.* | PACTA alignment study: 65% of participants stated they are a member of at least one sustainable finance initiative, but **only 7% of these institutions take part in an initiative that requires concrete and quantitative commitments** (i.e. only 7% of respondents are a member or signatory of the Asset Owner Net Zero Alliance, the Principles for Responsible Banking or the Science Based Targets initiative) (Spuler et al., 2020).<br><br>The PACTA alignment study also found that reported strategies and intentions **do not necessarily translate into measurable action**, notably when it comes to coal divestment policies (Spuler et al., 2020).<br><br>Principles for Mainstreaming Climate Action in Financial Institutions: no Swiss banks support the principles (Institute for Climate Economics, 2020). | Klima-Allianz Schweiz carried out a rating of 110 **Swiss pension funds**, in which it rated **only 8% of total investment volume as 'green'** (Klima-Allianz Schweiz, 2021b).<br><br>*For asset-specific quantitative financial information, see above.* |

*[i] SwissBanking; Swiss Asset Management Platform AMP (formerly SFAMA) and Swiss Sustainable Finance (SFMAM and SSF, 2020); Swiss Insurance Association (ASA/SVV) (2020); SVVK-ASIR (2020b): Schweizerischer Pensionskassenverband (ASIP, 2019).*

## 4.2 Cross-cutting activities

The Swiss financial market realised, like the Swiss government, that sustainable finance might become an important aspect for ensuring future competitiveness. The Swiss financial centres of Zurich and Geneva have been increasingly active in supporting market developments in this area, for example in the context of the Financial Centres for Sustainability (FC4S) initiative, headquartered in Geneva. The SIX Swiss Exchange explicitly lists all CBI-certified bonds in its green bonds market segment, and provides a Sustainability version of the Swiss Market Index (SMI). Individual financial actors and investors, however, still fall short on advising clients on climate-aligned investments, on tracking the real emission-reduction effects of their investments, and on aligning their overall lobbying activities with the requirements as outlined in the Paris Agreement or the national $CO_2$ Act.

The assessment table (Table 13) shows: **Cross-cutting private sector activities focus on establishing a competitive green finance marketplace, but fall short on tangible activities to support and implement the climate targets.**

### Table 13 Cross-cutting private sector assessment: information on climate-aligned and climate-misaligned activities

**Legend**

| Paris alignment assessment | Data availability to assess status and progress |
|---|---|
| Climate-alignment is mainstream | Government-provided or easily accessible data |
| Climate-alignment significant progress | Data partially available, high search costs |
| Not aligned | Data not publicly available or search costs prohibitively high |

*Note: In contrast to the public levers tables, the private sector activities tables only evaluate the degree of alignment and data availability and not the political implementation status of measures. The color-coding for assessing data availability is different to that used in the tables in the executive summary in order to avoid confusion with the degree of alignment color-coding from the public levers section.*

| Paris alignment | Climate-aligned private sector activities | | Climate-misaligned private sector activities | |
|---|---|---|---|---|
| | **Qualitative information** | **Quantitative information** | **Qualitative information** | **Quantitative information** |
| Retail client consultation on climate-aligned investments | PACTA alignment study: 30% of participating Swiss financial institutions state that they consult clients regarding their climate or sustainability objectives (Spuler et al., 2020). | No data available. | PACTA alignment study: 17% of institutions only advise their clients on sustainability or climate objectives if this is specifically mentioned by the client; 8% state that only individual advisors within the organisation ask clients about their sustainability preferences; 8% report that all clients are asked; and only 5% of institutions have a standardised way of asking all clients in a systematic manner (Spuler et al., 2020).<br><br>A study commissioned by WWF in 2017 rated the vast majority of retail banks in Switzerland as 'average' based on environmental considerations (Schwegler and Amstutz, 2017). | No data available. |
| Real emission reduction impact | PACTA alignment study: 15% of participants reported having gathered evidence of impact in the real economy following their climate actions (Spuler et al., 2020). | FOEN study: real climate impact is likely to be limited, especially in the secondary market, but impact is possible from direct investments, real estate investments and active ownership (FOEN, 2021a). | PACTA alignment study: meaningful impact assessment methodologies are still lacking. Only 15% of participants reported having gathered evidence of impact in the real economy following their climate actions (Spuler et al., 2020). | No data available. |
| Financial sector lobbying activities | PACTA alignment study: across all participating institutions, 22% indicated support for the Paris Agreement and 15% for the totally revised $CO_2$ Act (Spuler et al., 2020). | No data available. | Climate policy positions assessed in the PACTA financial sector climate compatibility test: about 80% of respondents did not explicitly support the Paris Agreement or the revised $CO_2$ Act. (The report states that this is remarkable given that 65% of respondents are a member of at least one sustainable finance organisation, most of which support the implementation of the Paris Agreement.) (Spuler et al., 2020) | No data available. |

<table>
<tr><th rowspan="2">Paris alignment</th><th colspan="2">Climate-aligned private sector activities</th><th colspan="2">Climate-misaligned private sector activities</th></tr>
<tr><th>Qualitative information</th><th>Quantitative information</th><th>Qualitative information</th><th>Quantitative information</th></tr>
<tr><td>Stock exchange activities</td><td>The SIX Swiss Exchange has had a green bond segment since June 2018 (CBI, 2021), differentiating between CBI-certified bonds, other CBI-verified general sustainability bonds and issuer self-declared sustainability-linked bonds (SIX Group, 2021a).<br><br>The SIX exchange also provides a sustainability index: the SXI Switzerland Sustainability 25. 'The index is built out of the SMI expanded. A total score is derived for each company provided by a third party research provider. The higher the score, the more sustainable the company. All companies that are considered sustainable and belong to the SMI expanded are eligible and ranked according to their total score. The best 25 companies are selected.' (SIX Group, 2021b).</td><td>Current nominal volume of green bonds outstanding (January 2021) (SIX Group, 2021a):<br><br>– 1 issuer self-declared sustainability-linked bond: €1.85 billion ($2.26 billion)<br><br>– 1 CBI-certified sustainability bond: CHF 10 million ($11.2 million)<br><br>– 40 CBI-certified green bonds: 13.6 billion in Swiss franc equivalents ($15.2 billion)</td><td>SIX Swiss Exchange does not require ESG reporting as a listing rule, has no written guidance on ESG reporting and does not offer ESG training (SSE, 2019).</td><td>No specific misalignment data are available. (It might be worthwhile for FOEN to make SIX market segments subject to PACTA alignment analysis in the future.)<br><br>Overall domestic market capitalisation: $1,739 billion (SSE, 2019).</td></tr>
<tr><td>Financial centre activities</td><td colspan="4">Z/Yen's Global Green Finance Index (GGFI) competitiveness rankings (among 74 financial centres, 2020):<br>– Depth of green finance: Zurich: 2nd; Geneva: 9th<br>– Quality of green finance: Zurich: 1st; Geneva: 8th.<br><br>Financial Centres for Sustainability (FC4S) members: Zurich and Geneva (Switzerland supported the establishment of the FC4S and very much advocated for Geneva to become its headquarters).<br><br>National sustainable finance industry association Swiss Sustainable Finance (SSF): 145 members and 24 network partners (January 2021).<br><br>Green Fintech Network: launched and supported by government (State Secretariat for International Finance) to sustain and raise competitiveness.</td></tr>
</table>

# + 5. Conclusion

This paper is the first substantial assessment of how well Switzerland's public levers and private sector activities today comply with Article 2.1c of the Paris Agreement. While it may not yet be fully comprehensive or conclusive, it clearly reveals areas where Switzerland is relatively advanced, while also highlighting areas where more work is needed to align financial flows with the third long-term goal of the Paris Agreement.

The approach has been twofold: first, to identify a set of relevant themes and categories for assessing the implementation status of the measures, the level of climate ambition of undertaken measures and the availability of data required to enable state and non-state actors to track progress against their own targets and against the fulfilment of the Paris Agreement goals; and second, to identify relevant sources of information and data to use to fill in the assessment tables.

Based on this exercise, some implications and conclusions can be drawn for Switzerland's progress towards implementing Article 2.1c, and for the GST more generally.

## 5.1 Implications for Switzerland

Driven by the opportunities that sustainable finance offers for the Swiss financial centre, the Swiss government has set the goal of becoming a leading international hub for sustainable finance. This highly ambitious goal contrasts, in our view, with the absence of a clear profile and effective, consistent policies for turning this vision into reality.

Focusing primarily on its role as enabler and facilitator, the Swiss government pursues a market-based approach to sustainable finance while mostly steering clear of taking bold regulatory action. This appears insufficient, though, if one recalls that the Swiss financial sector falls short of being aligned with the Paris Agreement goals.

Based on the assessment of progress made towards implementing Article 2.1c in Switzerland, the following key recommendations are directed to the Swiss government:

- **Switzerland should consistently adopt a holistic approach to sustainable finance by equally valuing the financial risks and opportunities related to climate change as well as the climate impacts (double materiality).** This entails defining clear adaptation and mitigation finance targets that are in line with the adaptation goals, the national net-zero target and the global 1.5°/<2°C target.
- **The PACTA assessment should become mandatory and be conducted regularly, at least every two years.** The analysis has proven to be a very useful source of comparable, forward-looking information for assessing the degree of alignment of the financial sector. The assessment has also revealed that financial institutions' own declarations on sustainable finance fall considerably short of their realised investment decisions. The underlying scenarios for the next round of analysis should also take into account Switzerland's net-zero by 2050 target. Broadening the assessment to include an analysis of adaptation and resilience finance and all types of financial flows, including lending and underwriting activities, would also be useful to track the full scope of Article 2.1c.

- **Switzerland should update the national sector climate strategies to be in line with the national net-zero strategy, to ensure that the sector strategies provide the right information for domestic investment decisions.** This also includes the definition of binding interim targets, decarbonisation pathways and transition plans for all sectors, including all financing activities in the financial sector, to reduce the risk of assets becoming stranded.
- **The imposition of mandatory TCFD-based disclosure requirements for the financial sector and the real economy will require the preparation of clear risk and impact assessment guidance and standardised disclosure templates**, including key indicators to be reported, both for climate risks and climate impacts. A clear reference and assessment of financing activities against the national net-zero target and the international 1.5/<2°C target is required. In addition, financial institutions and real economy corporates should report on their investment activities in climate adaptation and climate resilience.
- **The Swiss government should assess and report the climate consistency of the Swiss federal budget and spending plans, net climate finance, and the net effective carbon price for various sectors.** This information should also be made publicly available in the context of the Biennial Assessments, and be used as an important source of information for the GST.
- **Switzerland should introduce a binding labelling requirement, to ensure that financial products are consistent with the climate goals and to prevent 'greenwashing' of investment products.** Ideally, the labelling would be in line with the EU taxonomy or corresponding EU labels to ensure cross-border applicability.
- **Switzerland should establish a public green investment bank** to leverage all possible public levers, send important market signals and reduce investment risks. The bank would support market developments at the scale and speed required to fulfil the Paris Agreement goals and to exploit the full potential of innovative financial instruments. This would also sharpen the competitive edge of the Swiss financial sector.

Delivering on these measures is meant to be a first step to ensure that Switzerland follows the right track towards implementing Article 2.1c, thereby fulfilling its international obligations and harnessing the financial sector’s potential to support the achievement of the climate targets.

## 5.2 Implications for the Global Stocktake

For the Swiss context, both quantitative data (through the PACTA analysis) and qualitative data were relatively easily accessible and qualitatively sound. However, most of the quantitative data on climate alignment that were found pertained to mitigation activities, while reliable data on adaptation finance were often scarce. This highlights a problematic gap, because assessment of the consistency of financial flows with the Paris Agreement requires quantitative data on the alignment and misalignment of financial flows across the whole spectrum (mitigation, adaptation and resilience). Hence, such data should be made available in a standardised way by all countries.

- **The GST should look at the public measures and activities undertaken to implement or support the implementation of Article 2.1c, while also assessing private sector activities.** This includes a critical assessment of the level of ambition of the measures implemented or planned, and the availability and quality of data required to track progress against the targets.

- **Assessing the degree of alignment and misalignment of private financial flows through forward-looking, scenario-based, comparable analyses should be a key priority for the GST.** As this Swiss case study demonstrates, it is important to use a comparable, scenario-based and forward-looking methodology when conducting an assessment because private actors' claims and commitments do not necessarily translate into climate-aligned portfolios, let alone real climate-positive impacts.
- **Collecting data on both climate-aligned and climate-misaligned public financial flows and budget plans, net climate finance and net carbon pricing should be another priority for the GST.** Governments should be asked to report on climate-aligned and climate-misaligned budget spending at national and subnational levels, delivered net climate finance and effective net carbon prices (for example, taking into account not only carbon pricing, but also direct and indirect fossil fuel subsidies). To enable cross-country comparisons, the international community should agree to use the same concepts and definitions (to the extent possible) and to support the development of standardised measurement and reporting formats.
- **The availability and quality of qualitative and quantitative data on public and private climate adaptation and climate resilience finance have to be significantly improved.** This report focuses on central government action. In many areas of the world, subnational actors are equally important for aligning financial flows with the Paris Agreement, especially on adaptation finance (cf. UNFCCC NAZCA, 2020). Going forward, it would be worthwhile for the GST on Article 2.1c to consider how to factor in such subnational entities.

Overall, the analysis framework as laid out in this study can be used as a foundation for comprehensive reporting and tracking of the alignment of public and private sector activities towards implementing Article 2.1c in the lead-up to the GST.

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# + Annexes

## Annex 1. Market context details

| **Real economy** | | |
|---|---|---|
| Largest companies – real economy, ranked by total revenue (2017) | 1. Glencore International<br>2. Vitol<br>3. Trafigura<br>4. Cargill International SA<br>5. Mercuria Energy Trading<br>6. Nestlé<br>7. Gunvor<br>8. Roche<br>9. Novartis<br>10. ABB | commodity trading<br>commodity trading<br>commodity trading<br>commodity trading<br>petroleum<br>agriculture/food<br>commodity trading<br>chemical/pharmaceutical<br>chemical/pharmaceutical<br>electrical equipment |
| **Financial sector** | | |
| Largest companies – financial sector, ranked by total assets (2015) | 1. UBS<br>2. Credit Suisse | CHF 942,819 million ($1,059,346 million)<br>CHF 820,805 million ($922,252 million) |
| Largest companies – insurances, ranked by gross inflow of premiums (2016) | 1. Zurich Financial Services<br>2. Swiss Re<br>3. Swiss Life | CHF 53,482 million ($60,092 million) (2016)<br>CHF 33,231 million ($37,338 million) (2016)<br>CHF 17,366 million ($19,512 million) (2016) |
| Financial sector volumes | (see table below) | |
| Net foreign assets and foreign direct invesments (FDI): creditor position driven by financial sector | (see table below) | |

Financial sector volumes:

**Added value, in CHF bn**

| | 2009 | 2014 | 2019 |
|---|---|---|---|
| Financial services | 38.0 | 34.6 | 33.2 |
| Insurance services | 24.9 | 27.8 | 30.9 |
| **Financial centre total** | **63.0** | **62.4** | **64.1** |
| **in % of GDP** | **10.7** | **9.6** | **9.2** |
| GDP Switzerland | 589.2 | 649.7 | 698.7 |

Data: FSO/SECO, annual aggregates of GDP, production approach (annual data)

*Source: SIF (2020c)*

Net foreign assets and foreign direct invesments (FDI): creditor position driven by financial sector:

**Net exports, in CHF bn**

| | 2016 | 2017 | 2018 |
|---|---|---|---|
| Financial services | 15.9 | 16.2 | 17.3 |
| *Export receipts* | *19.4* | *19.9* | *21.1* |
| *Import expenditure* | *3.5* | *3.7* | *3.8* |
| Insurance services | 6.1 | 6.5 | 5.5 |
| *Export receipts* | *7.7* | *8.2* | *7.3* |
| *Import expenditure* | *1.6* | *1.7* | *1.7* |
| **Financial centre total** | **22.0** | **22.7** | **22.5** |
| **in % of Switzerland's current account surplus** | **33.8** | **52.9** | **40.3** |
| Current account surplus | 64.1 | 42.9 | 56.6 |

Data: https://data.snb.ch (SNB data portal; year-end values)

**Direct investments abroad, in CHF bn**

| | 2016 | 2017 | 2018 |
|---|---|---|---|
| Capital stock of banks | 86 | 82 | 79 |
| Capital stock of insurers | 100 | 107 | 103 |
| **Financial centre total** | **186** | **189** | **182** |
| **in % of total capital stock abroad** | **14.0** | **13.5** | **12.4** |
| Total capital stock abroad | 1 467 | 1 399 | 1 327 |

Data: https://data.snb.ch (SNB data portal; year-end values)

*Source: SIF (2020c)*

Bank and credit market

**Credit volume, in CHF bn**

| | 2017 | 2018 | 2019 |
|---|---|---|---|
| Domestic borrowers | 1 134 | 1 173 | 1 212 |
| *of which mortgage borrowers* | *974* | *1 006* | *1 038* |
| Foreign borrowers | 199 | 184 | 185 |
| *of which mortgage borrowers* | *9* | *9* | *10* |
| **Total** | **1 332** | **1 357** | **1 397** |

Data: https://data.snb.ch (SNB data portal; year-end values)

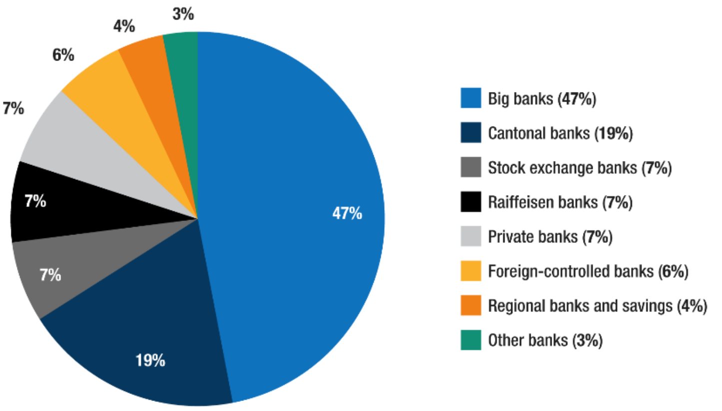
**Securities holdings, in CHF bn**

| | 2017 | 2018 | 2019 |
|---|---|---|---|
| Swiss custody account holders | 3 033 | 2 898 | 3 398 |
| *private customers* | *609* | *564* | *662* |
| *commercial customers* | *214* | *202* | *245* |
| *institutional investors* | *2 309* | *2 132* | *2 490* |
| Foreign custody account holders | 3 138 | 2 862 | 3 323 |
| *private customers* | *513* | *478* | *543* |
| *commercial customers* | *81* | *73* | *85* |
| *institutional investors* | *2 544* | *2 312* | *2 696* |
| **Total** | **6 170** | **5 761** | **6 721** |

Data: https://data.snb.ch (SNB data portal; year-end values)

**Concentration in the banking system (2018)**

Although there are 248 banking institutions in Switzerland, the four big bank institutions account for almost half of the entire balance sheet total.




Bank sheet total for all banks: CHF 3,225 billion

*Source: SIF (2020c)*

Insurers and occupational benefits schemes

Assets of insurers, in CHF bn

| | 2008 | 2013 | 2018 |
|---|---|---|---|
| Real estate | 36 | 41 | 51 |
| Mortgages | 27 | 32 | 40 |
| Financial interests | 60 | 58 | 60 |
| Shares and investment funds | 27 | 44 | 71 |
| Fixed-interest securities | 224 | 270 | 254 |
| Loans, debt register claims | 19 | 18 | 19 |
| Other investments | 87 | 67 | 86 |
| **Total capital investments** | **480** | **531** | **582** |

Data: FINMA, capital investments of all insurers (year-end values)

**Assets of occupational benefits schemes, in CHF bn**

| | 2008 | 2013 | 2018 |
|---|---|---|---|
| Cash and cash equivalents | 47 | 58 | 46 |
| Real estate | 89 | 123 | 178 |
| Mortgages | 17 | 14 | 17 |
| Shares | 114 | 208 | 244 |
| Bonds | 220 | 242 | 275 |
| Alternative investments | 31 | 44 | 81 |
| Other investments | 21 | 31 | 35 |
| **Total capital investments** | **539** | **720** | **876** |
| *of which collective assets* | *198* | *358* | *568* |

Data: https://www.pxweb.bfs.admin.ch (STAT-TAB – interactive FSO database; year-end values)

*Source: SIF (2020c)*

Stock exchange and capital market

**Net issuing value of bonds, in CHF bn**

| | 2017 | 2018 | 2019 |
|---|---|---|---|
| Domestic borrowers | 10 | 12 | 16 |
| *Issues* | *40* | *44* | *43* |
| *Redemptions* | *30* | *32* | *26* |
| Foreign borrowers | -14 | -14 | -6 |
| *Issues* | *14* | *16* | *19* |
| *Redemptions* | *28* | *30* | *25* |
| **Financial centre total** | **-3** | **-3** | **10** |

Data: https://data.snb.ch (SNB data portal; year-end values)

**Securities turnover, in CHF bn**

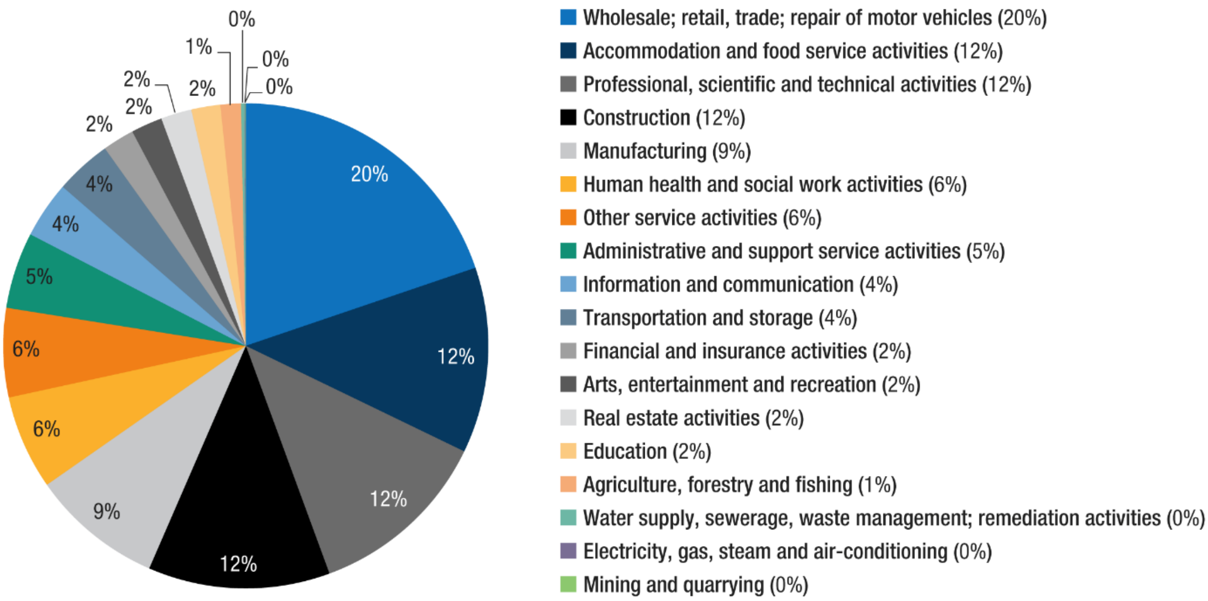
| | 2017 | 2018 | 2019 |
|---|---|---|---|
| Domestic securities | 1 098 | 1 085 | 1 166 |
| *Shares* | *1 020* | *1 013* | *1 088* |
| *Bonds* | *78* | *72* | *78* |
| Foreign securities | 107 | 152 | 157 |
| *Shares* | *29* | *87* | *75* |
| *Bonds* | *78* | *65* | *82* |
| Domestic and foreign investment funds, options and structured products | 142 | 124 | 155 |
| **Financial centre total** | **1 346** | **1 361** | **1 477** |

Data: https://data.snb.ch (SNB data portal; year-end values)

*Source: SIF (2020c)*

## Annex 2. Public levers details

### COVID-19 support




*Source: Federal Department of Finance (2020)*

### Carbon pricing

**Box A1 Carbon pricing: taxes and levies**

**Quantitative information**

Tax revenue redistribution: two-thirds of the revenue is redistributed to the population (CHF 77.40 ($86.97) per person in 2020) and the economy (proportional to a company's labour social security expenses); one-third (maximum CHF 450 million ($505.62 million)) of the revenue goes to a building energy-efficiency renovation programme and a technology fund (CHF 25 million ($28.09 million), this fund will be transformed into an official climate fund when the revised $CO_2$ Act enters into force) (FOEN, 2021b).

**Box A2 Carbon pricing: emissions trading**

**Context**

Swiss ETS voluntary phase since 2008 ($CO_2$ Act), revised regulation in force since 2013 ($CO_2$ Ordinance) (Federal Assembly, 2013), last revision November 2020. Linked with EU-ETS since January 2020, provisional operation, delays due to COVID-19.

**Qualitative information**

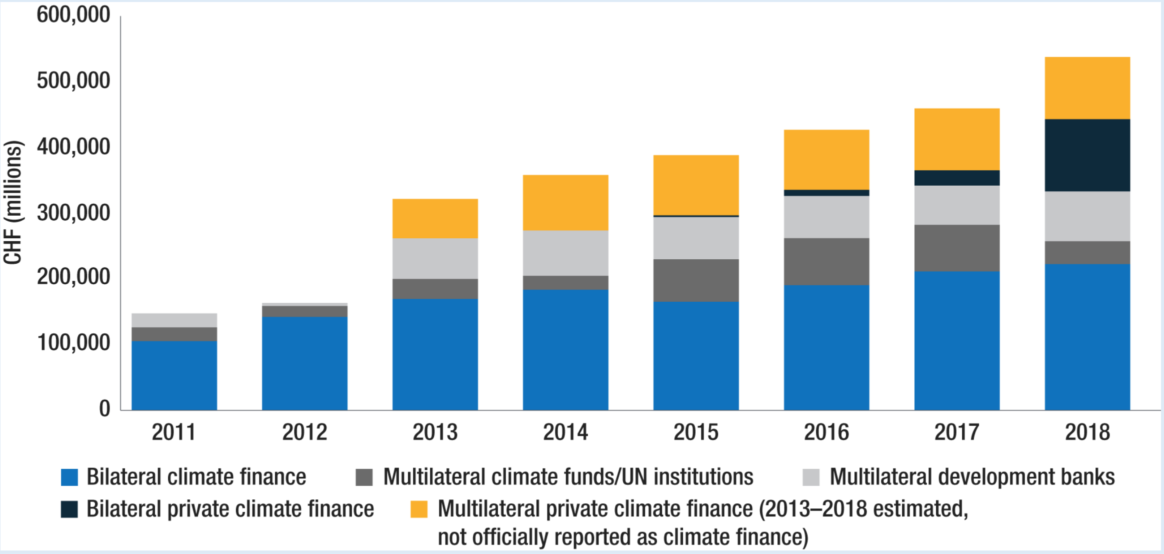
Compulsory for large, emission-intensive companies; voluntary for SMEs. Companies participating in the ETS are exempt from the $CO_2$ levy. The allocation method is free allocation for carbon leakage exposed firms based on best available technology (majority of installations), declining free allocation based on best available technology for all other firms (benchmark: 10% most efficient installations in EU), full auctioning for power plants, and auctioning of all remaining allowances (revised $CO_2$ Act, Article 26).

**Quantitative information**

Revenues from auctioning totalled CHF 8.6 million ($9.66 million) in 2019. Revenues are fed into the federal government budget. The fine for non-compliance is CHF 220 ($247.19) per tonne $CO_2$ in addition to delivering certificates for the outstanding emissions (revised $CO_2$ Act, Article 29).

## Provision of international support

**Box A3 Evolution of Swiss climate finance 2011–2018**




*Source: Alliance Sud/FAKT, based on data from UNFCCC statistics and Swiss Federal Council 2017 (Staudenmann and Lottje, 2020)*

### Development finance institution climate-alignment

**Box A4 Climate alignment of state development finance institutions**

The European Development Finance Institutions (EDFI) has stated that:

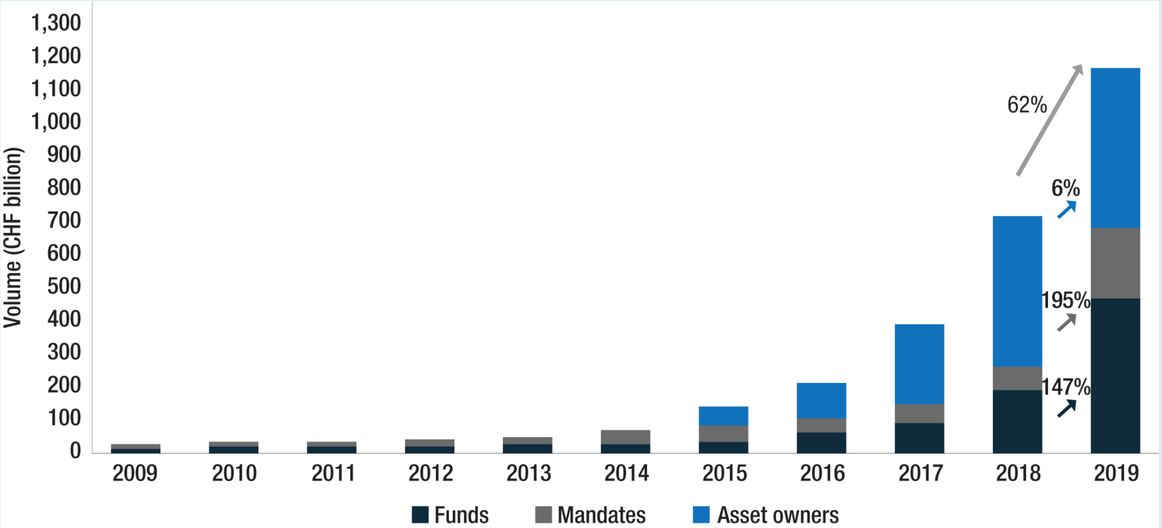
'its 15 publicly-owned member institutions [including the SIFEM] will align all new financing decisions with the objectives of the Paris Agreement by 2022 and will ensure that their portfolios achieve net zero emissions by 2050 at the latest. EDFI member institutions will immediately cease new coal or fuel oil financing and will limit other fossil fuels, such as selective investments in gas-fired power generation, to financing consistent with the objectives of the Paris Agreement until generally excluding them by 2030 at the latest. The new commitment includes direct investments, indirect investments made through investment funds and dedicated lending via financial institutions.'

*Source: EDFI (2020)*

## Annex 3. Private sector activities details

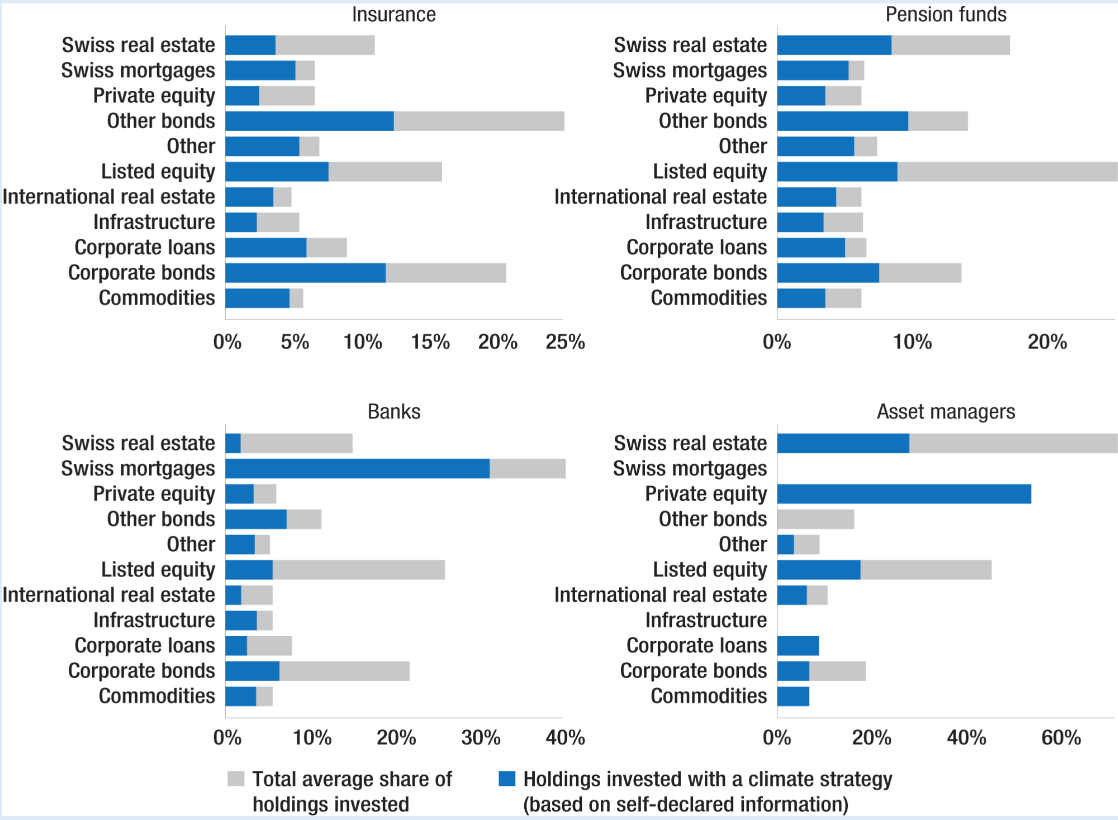
### Market overview

**Box A5 Development of sustainable investments in Switzerland**




*Note: sustainable investments as self-declared by financial institutions.*
*Source: SSF and UZH CSP (2020)*

**Box A6 Holdings invested with a self-declared climate strategy by Swiss financial institutions**




*Source: Spuler et al., 2020*

## Real estate

### Box A7 Real estate climate-alignment data

The PACTA alignment study reports the following findings.

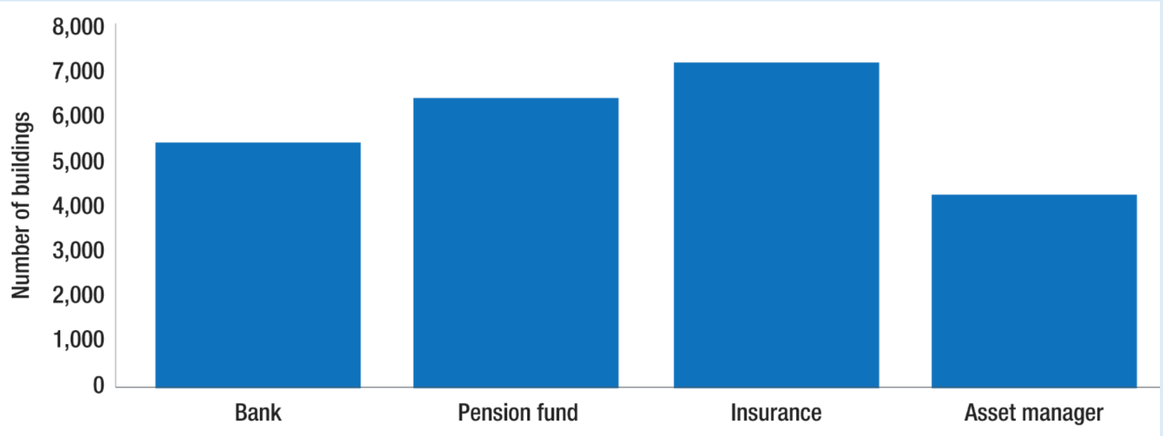
‘Depending on use, between 10 and 20% of all rented properties are owned by institutional investors such as pension funds, insurance companies and investment foundations.

The total value of all rented properties in Switzerland is around CHF 1,800 billion [$2,022 billion]. According to a rough estimate by Wüest Partner, the majority of residential properties are privately owned, accounting for around 67% (market share by value). In terms of value, institutional investors own about one fifth of all rented residential properties in Switzerland with an estimated total value of CHF 100 billion [$112.36 billion].

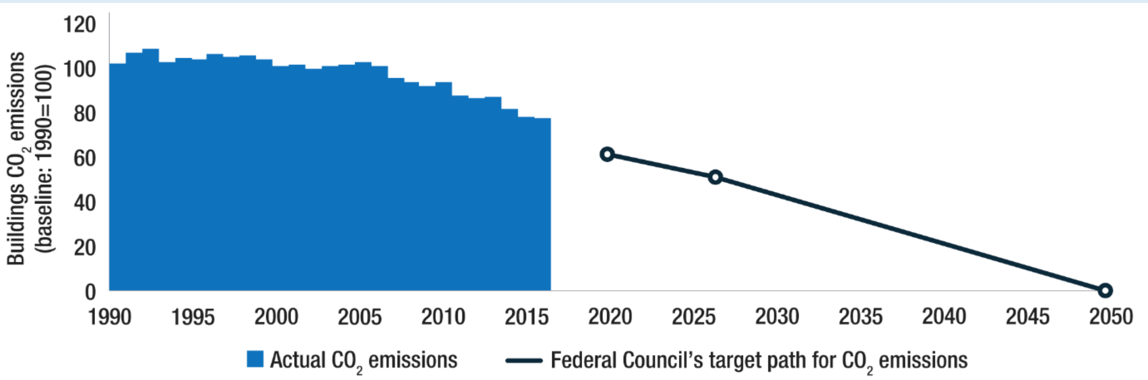
In the case of commercial properties, the share of institutional owners is smaller, at only around 10% or CHF 85 billion [$95.51 billion], with pension funds being the largest group of owners here too, with almost a third. A quarter of the buildings belong to real estate funds, which means that they are much more heavily invested in this segment than in the residential segment. Institutional investors such as pension funds, insurance companies and banks are therefore relevant owners of buildings and can play a corresponding pioneering role.'

'The limit value of 20 kg/m2 is already met by the vast majority of participants. However, around half of all participants would exceed the future limit of 15 kg/m2 without additional heating replacement and renovation measures.’

**Distribution of the tested portfolios of directly owned buildings (2020)**




In the mortgage segment, around 1.15 million residential buildings were submitted to PACTA 2020, which corresponds to around two thirds of all residential buildings in Switzerland.

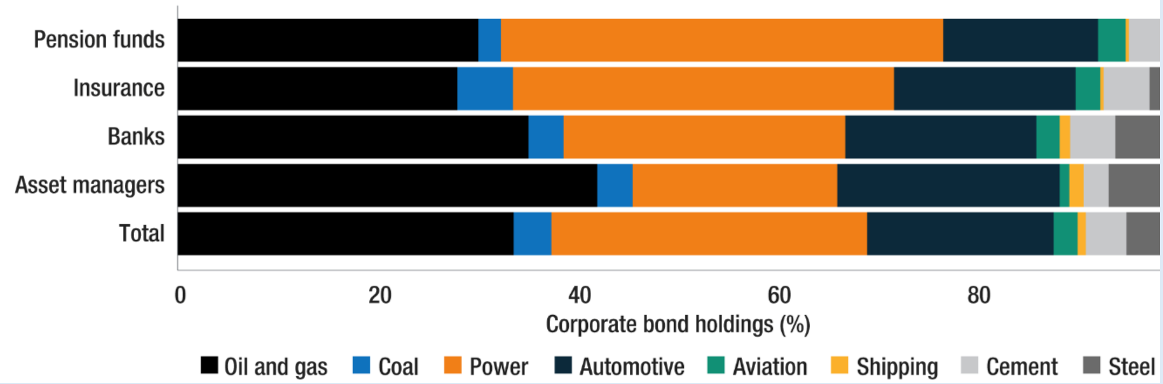



*Source: Spuler et al., 2020*

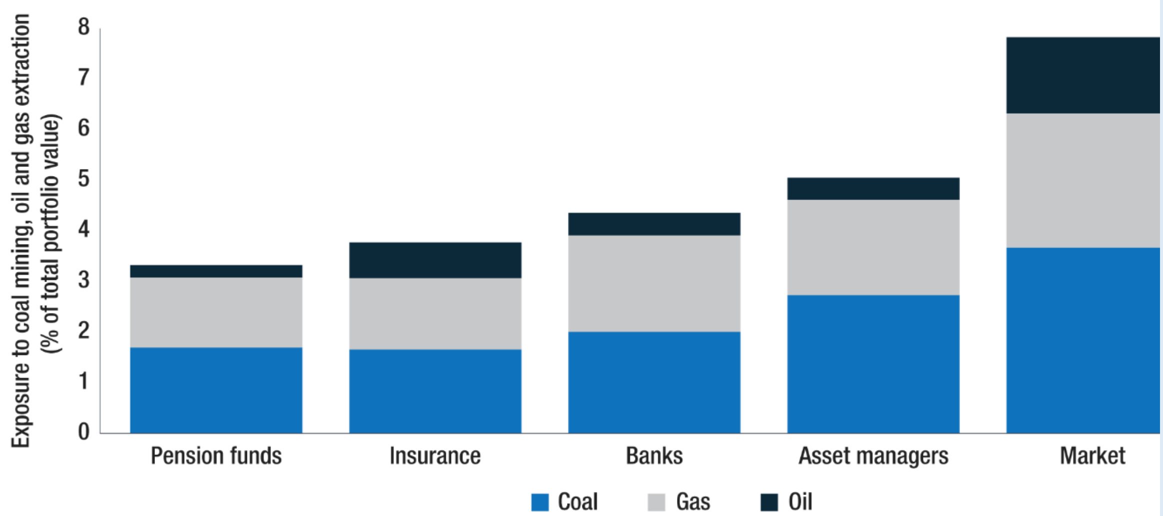
## Bond markets

### Box A8 Corporate bond holdings climate-alignment data

**Composition of corporate bond holdings in climate relevant sectors**




**Corporate bonds exposure to coal mining, oil and gas extraction**

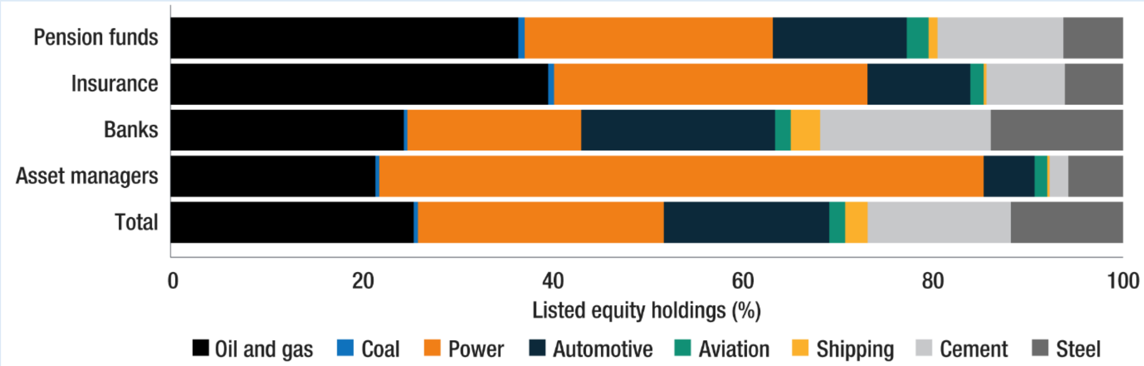



*Source: Spuler et al., 2020*

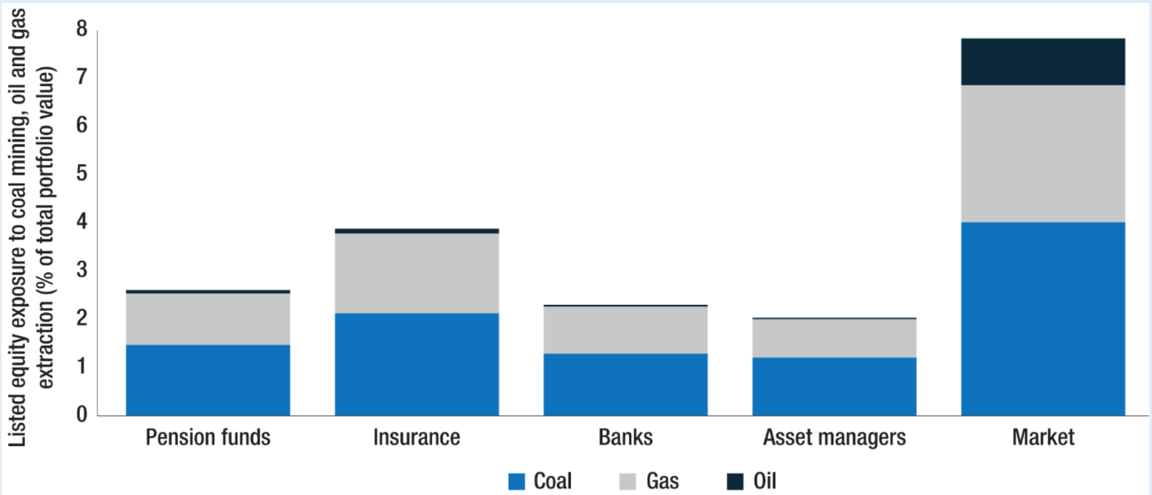
## Listed equity

### Box A9 Listed equity holdings climate-alignment data

**Composition of listed equity holdings in climate relevant sectors**




**Listed equity exposure to coal mining, oil and gas extraction**




*Source: Spuler et al., 2020*

## Investment decision-making

**Box A10 Investment decision-making data**

The PACTA alignment study reports the following findings.

‘69% of survey respondents reported a climate related target or aspiration. Most climate strategies are applied in the asset classes listed equity and corporate bonds, followed by Swiss real estate. The climate strategies most frequently employed by Swiss participants include engagement as well as exercising shareholder voting rights, and exclusion of coal and best-in class investing.

Reported strategies and intentions do not necessarily translate into measurable action, notably when it comes to coal divestment policies. More than 50% respondents reported to apply engagement or exercise voting rights. Financial institutions applying engagement strategies do not, on average, have a higher share of Paris aligned companies in their corporate bonds and listed equity portfolios. Similarly, financial institutions who indicated to exercise voting rights in their listed equity portfolio do not, on average, have a significantly higher share of aligned companies in their portfolio, with the exception of coal mining.

This finding is consistent with a recent report that analyses the voting behavior of investors in key shareholder resolutions: it shows that even though investors are using their voting rights to enact positive change, voting behavior is not consistent and in particular a number of CA 100+ signatory investors have failed to support resolutions at CA100 + target companies.’

| | % | | | | |
|---|---|---|---|---|---|
| **Initiative** | **Banks** | **Pension funds** | **Insurance** | **Asset managers** | **All participants** |
| **Target-setting initiatives** | | | | | |
| Principles for Responsible Banking (PRB) | 17 | 0 | 0 | 8 | 4 |
| Net-Zero Asset Owner Alliance (AQA) | 0 | 0 | 11 | 8 | 2 |
| Science Based Targets Initiative (SBTi) | 12 | 1 | 11 | 8 | 5 |
| Member of at least one target-setting initiative | 17 | 1 | 11 | 16 | 7 |
| **Engagement initiatives** | | | | | |
| Initiative Climate Action 100+ (CA100+) | 12 | 28 | 11 | 25 | 22 |
| Other organisation that leads dialogue with companies on climate topics | 21 | 16 | 11 | 25 | 16 |
| Member of at least one engagement initiative | 25 | 36 | 11 | 50 | 31 |
| **Other** | | | | | |
| Swiss association for responsible investments (SVVK-ASIR) | 12 | 19 | 16 | 0 | 15 |
| Swiss Sustainable Finance (SSF) | 50 | 21 | 32 | 33 | 28 |
| UN Principles for Responsible Investment (UN PRI) | 46 | 23 | 37 | 33 | 28 |
| UN Environment Programme Finance Initiative (UNEP-Fi) | 17 | 0 | 16 | 8 | 6 |
| Other | 62 | 43 | 47 | 33 | 45 |
| **Overall: member of at least one of the above mentioned initiatives** | 75 | 61 | 79 | 67 | 65 |

*Note: Share is calculated as a percentage of total number of survey respondents.*

*Source: PACTA alignment study (Spuler et al., 2020)*

**Learn more:**

https://www.climateworks.org/independent-global-stocktake/