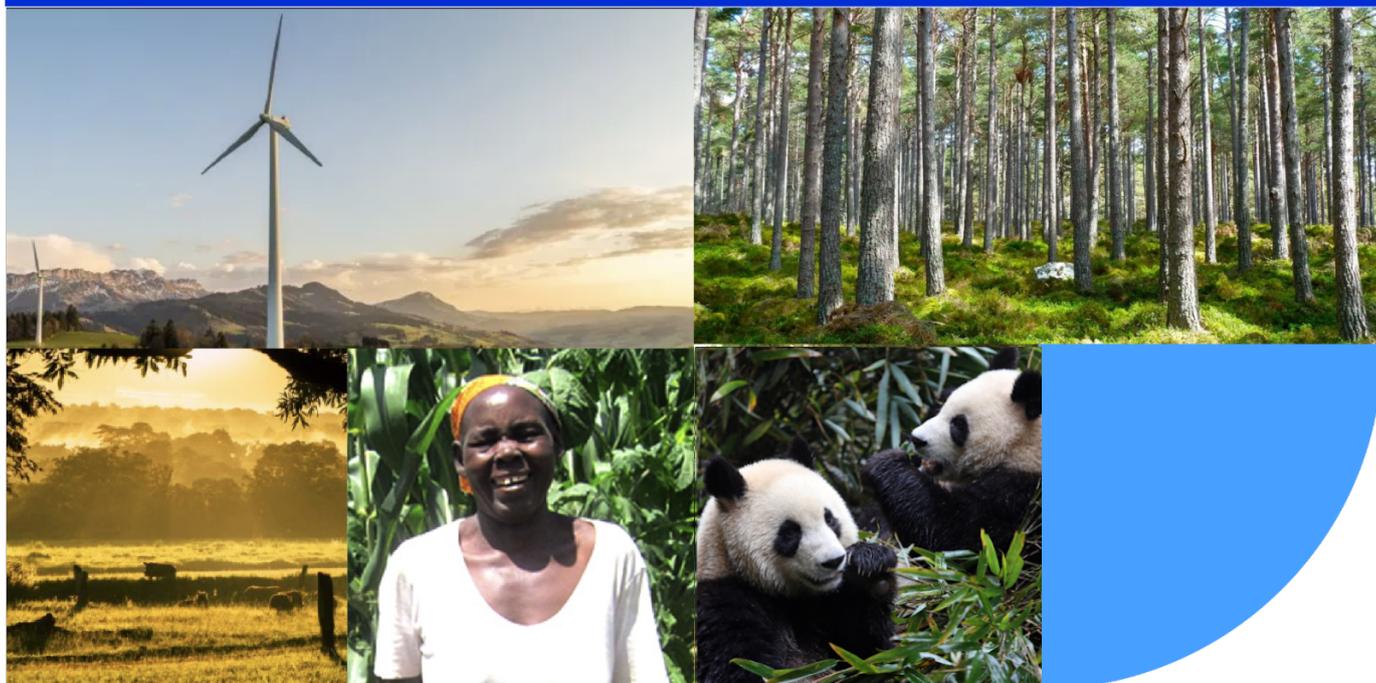


Final report

# Inventory International Climate and Biodiversity Finance Switzerland: Options

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## Key Insights

The following summarizes the key insights of the present study. More detail is provided in the executive summary and the full study. As disclaimed on page 2, the following does not necessarily represent the view of the Swiss government or involved government agencies, but summarises findings of the present independent study compiled by South Pole.

- **In 2020, Switzerland's international climate finance amounted to CHF 559 million**, of which CHF 169 million (30%) came from private investments. Its **international biodiversity finance amounted to CHF 123.8 million** almost exclusively from public sources (the private biodiversity contributions of Switzerland are currently only measured to a very limited degree).
- Switzerland's **future international climate and biodiversity finance contributions have to increase** as financial commitments of all industrial nations combined are bound to increase from USD 100 billion per year to at least USD 139 billion per year for international climate and from USD 20 billion per year to 30 billion USD by 2030 for international biodiversity finance.
- To make these increased contributions possible, **Switzerland has two options: a) using new sources of public finance and b) achieving a higher mobilisation of private finance;**
- **Switzerland can learn from other countries**, e.g. the EU and Germany have developed new sources to generate public funding, while Denmark and the Netherlands have implemented successful measures to mobilise private finance.

→ **The study finds that Switzerland should inter alia consider the following new sources of finance with considerable potential for adoption and financial effectiveness:**

- Earmark revenues from allowance auctions under the Swiss Emissions Trading System (see Chapter 5.2.4).
- Increase existing taxes and levies or introduce new ones that incentivize emissions reductions, such as a Carbon Border Adjustment Mechanism (see Chapter 5.2.3), a fossil commodity trading tax, or a road rush hour tax (see Chapter 5.2.5 and 5.2.6).
- Offer SIFEM shares to private investors (see Chapter 5.2.11).

→ **The study also finds that Switzerland should inter alia consider the following new instruments to mobilize private finance:**

- Increase SIFEM finance for climate/biodiversity investments and allocate more catalytic capital (see Chapters 5.4.1 and 5.4.2).
- Create a new Swiss public-private green investment fund (see Chapter 5.4.3).
- Increase the issuance of guarantees, e.g. expand the Swiss Technology Fund to developing countries, support existing or create new guarantee funds, expand SERV instruments (see Chapter 5.4.4).
- Provide first-loss tranches to climate and biodiversity funds (see Chapter 5.4.5).
- Support Swiss Impact Asset Managers by covering OPEX for first-time investments, providing exchange rate hedging support, creating a liquidity guarantee fund or tailoring the existing SIFI program to more climate and biodiversity finance (see Chapters 5.4.6-5.4.9).

→ The Swiss government should also consider (see Chapter 6) to:

- **Move existing public finance** away from programmes, that display low **to programs that display a high private finance leverage factor**, although with the caveat that this is more pertinent for climate change mitigation, than adaptation and biodiversity projects, and for interventions in more advanced developing countries.
- **Use instruments that require a greater balance sheet risk appetite from the Swiss government**, without neglecting its fiduciary duty towards the population.
- **Reduce environmentally negative financial flows** (e.g. payments for fossil fuels or biodiversity-negative agricultural subsidies) **and/or convert them in positive ones.**

## Executive Summary

The present paper showcases an overview of potential sources, channels, and instruments for Switzerland to increase its contribution to international climate and biodiversity finance. The paper was compiled in the scope of a mandate for the federal Platform on Financial Matters for International Environmental Cooperation (PLAFICO). **As of 2024, the financial commitments of all industrial nations combined are bound to increase from USD 100 billion per year to a potentially significantly higher amount per year for international climate and from USD 20 billion per year to 30 billion USD by 2030 for international biodiversity finance.** Switzerland has joined the political agreement on the new international biodiversity finance target and it will be expected to join the political compromise on the new collective quantified climate finance goal. Therefore, Switzerland is under pressure to increase its fair share contribution to international climate and biodiversity finance, while the federal budget is under strain due to the COVID-19 pandemic and the anticipated aftermath of the Ukraine war. Earmarking a higher percentage of the international cooperation commitment credits for international climate and biodiversity finance has reached its limits. An additional increase of the international climate and biodiversity finance share within the Swiss international cooperation, without a budget increase, would happen at the expense of other international cooperation priority sectors and themes such as humanitarian aid, health or education. Therefore, innovative sources, channels, and instruments are needed to increase Switzerland's public contribution and to mobilize additional private finance that can be counted toward Switzerland's international climate and biodiversity finance according to UN agreements.

### Current situation of Swiss climate and biodiversity finance

In 2020, Switzerland's international climate finance amounted to CHF 559 million, of which CHF 390 million (70%) stemmed from public sources, whereas CHF 169 million (30%) came from private investments (89% of which were mobilized through SERV). The Swiss public-to-private leverage factor for international climate finance amounts to around 2.3:1. For international biodiversity finance, Switzerland spent CHF 123.8 million in 2020. Almost 100% stemmed from public sources, as Switzerland only evaluates its private biodiversity finance to a very limited degree. Also, **99% of Switzerland's bilateral and 100% of its multilateral public contributions to international climate and biodiversity finance are allocated through grants, almost exclusively from the commitment credits for international cooperation (Swiss Agency for Development and Cooperation (SDC), State Secretary for Economic Affairs (Seco)) and the global environment (Federal Office for the Environment (FOEN)), and in a very limited way from other Federal Offices with a small equity contribution (e.g. through SIFEM), investment contributions (e.g. through PIDG), and export insurances (SERV).** Its multilateral contributions to international climate and biodiversity finance, Switzerland mainly channels through multilateral development banks (World Bank, African Development Bank, Asian Development Bank, etc.), multilateral funds under the UN convention (Green Climate Fund, Global Environment Facility, Adaptation Fund, etc.), and multilateral funds and programs (Climate Investment Funds, Private Infrastructure Development Group, and Biocarbon Fund). Switzerland's bilateral contributions are channeled through a multitude of partners primarily to programs and projects of national and international organizations (MDBs, GIZ, IFAD, UNEP, WWF etc.) supporting climate change adaptation, mitigation, and biodiversity conservation through technical assistance and capacity building. The main instruments for private finance mobilization are the Swiss Development Finance Institution SIFEM, the Private Infrastructure Development

Group (PIDG), federal catalytic capital programs such as REPIC, and the SECO Start-up Fund, or the Swiss export insurance SERV. It is very unlikely that Switzerland can meet its future commitments only through the existing budget sources, given the political limitations to increase budgets, and continuing with the current financial instruments, given the very ineffective public-to-private leverage factor. Therefore, Switzerland is compelled to explore new financial sources and new instruments.

### **Sources, channels, and instruments used by other countries**

In the second part of the paper (Chapter 4), the authors conduct a comparative country analysis with Germany, the EU, the Netherlands, and Denmark regarding their sources, instruments, and channels for international climate and biodiversity finance. The analysis shows that Switzerland spends a comparative percentage of its ODA, namely 14.5% on international climate and biodiversity finance as Denmark (11%) and the Netherlands (14%) do, though less than Germany (34%) and the EU (32%). It further demonstrates that Switzerland's public-private leverage factor (2.3:1) for international climate finance is comparable to, though slightly lower than, Denmark's (2.2:1) and the Netherlands (1.2:1). Nonetheless, **Switzerland's public-private leverage factor can already be considered quite high** compared to Germany's (39:1), and especially compared to the aggregated OECD countries' public-private leverage factor of 4.5:1 in 2020 (see Chapter 4.6).

Furthermore, the country comparison shows that with the introduction of the German **ETS (auctioning of allowances)** (see Chapter 4.1.1) or the **EU Carbon Border Adjustment Mechanism** (see Chapter 4.2.1), other countries were able to introduce new sources for international biodiversity and climate finance that could have potential for a Swiss adoption or expansion as well. In addition, the country comparison demonstrates that other countries initiated or introduced instruments with the capacity to mobilize significant private sector investments for international climate and biodiversity finance. For example, the EU **Global Energy Efficiency and Renewable Energy Fund** (see Chapter 4.2.2) demonstrates an investment level public-private leverage factor of 1:100 (combining investee fund and project level mobilized private finance) through equity allocations to funds-of-funds, whereas the **Danish Climate Investment Fund** (see Chapter 4.3.2) through mezzanine debt and equity or the **Dutch Fund for Climate and Development** (see Chapter 4.4.2) through equity, debt and grants coupled with technical assistance demonstrate a fund-level public-private leverage of 1:6. The introduction of such public-private partnership schemes or simply funds with high leverage potential, however, is partly facilitated by the fact that the Development Finance Institutions (DFIs) of other countries are bigger in volume, are more experienced in the collaboration with the private sector, and have more experience with market-based instruments. These aspects certainly influence the replicability for Switzerland. Other interesting instruments by other countries are the combination of the provision of catalytic capital with technical assistance for international climate and biodiversity finance. These instruments do not necessarily demonstrate a high public-private finance leverage but prepare projects in the climate and biodiversity sector for investment readiness, which is an important door opener for the absorption of future investments. Examples thereto are the **Dutch Agri3 Fund** for sustainable agricultural practices (see Chapter 4.4.3) and **Germany's International Climate Initiative (IKI)** (see Chapter 4.1.2).

The authors also specifically displayed innovative instruments for international climate and biodiversity finance by other countries. An example is the creation of a **Liquidity Guarantee Facility**

(see Chapter 4.5.1), which creates a quasi-secondary market for climate and biodiversity impact investments to combat a major market hurdle for private investors: the illiquid nature of these assets. Another example is the **Room to Run Sovereign transaction** (see Chapter 4.5.2), where first and second loss instruments from the UK government and from UK private insurers free up balance sheet lending capacity of the AfDB of USD 2 billion earmarked for climate finance loans to developing countries. Other examples listed are **debt-for-nature swaps** (see Chapter 4.5.4), which allow developing countries to buy back debt at discounted rates in return for the creation of ecosystem preservation funds, and **payments for ecosystem services** (see Chapter 4.5.5), which compensate, for example, indigenous communities for the preservation and maintenance of ecosystems.

### **Options for Switzerland's international climate and biodiversity finance**

In the third and main part of the study (Chapter 5), the authors compiled a list of sources, instruments, and channels that Switzerland could expand or adopt to increase its international climate and biodiversity finance with a special focus on their private private finance mobilization potential. All options are described briefly, yet concise and rated according to high-level criteria. However, the scope of the study stops there. The selection, exclusion, further description and development of certain options are intentionally not part of the present study.

### **Evaluation criteria**

The criteria according to which the options are rated are the following (see Chapter 5.1):

- **Potential environmental impact:** The potential impact on climate mitigation and adaptation respectively biodiversity protection is rated as high, medium, or low impact.
- **Political feasibility:** The ease of implementation is assessed. High feasibility implies no change of law, medium feasibility requires legal adjustments and / or parliamentary approval, and low feasibility requires a change in the constitution and therefore a public vote.
- **Financial effectiveness:** This criterion assesses how much financing an option can generate. High refers to more than CHF 200 mio., medium to CHF 50-200 mio., and low to below CHF 50 million.
- **Leverage factor:** This criterion assesses how much private climate and biodiversity finance an option can mobilize with the initial public funding that capitalized it. A high public-private leverage is beyond 1:3, medium is 1:1-1:3, and low is <1:1.
- **Budgetary implications:** This refers to the effect of an option on the Swiss government budget. Either additional budget is required, a budget reallocation is required, or an option is budget neutral or positive.
- **Administrative efficiency:** A high-level cost-benefit analysis of each option is conducted, and the options become rated as efficient, neutral, or non-efficient.

### **Proposition of new or expansion of existing sources**

Switzerland has various options to expand its current sources for international climate and biodiversity finance or to introduce new ones. Aside from **increasing or redistributing its commitment credits** for international cooperation and the global environment (see Chapter 5.2.1 and 5.2.2) in favor of international climate and biodiversity finance, it could, for example, **introduce a Swiss Carbon Border Adjustment Mechanism (CBAM)** (see Chapter 5.2.3). Through the initiative

21.432 Ryser, Switzerland is currently tasked with developing the regulatory base for the introduction of a Swiss CBAM. However, a Swiss CBAM would mainly cover the steel and cement sectors, which do only to a limited degree conduct cross border trade. Hence, in order for the CBAM to generate a three-digit million number of annual revenues, complementing measures such as the introduction of a wider carbon border tax and simultaneously the extension of the Swiss carbon levy on selected or all sectors would need to be implemented. A respective parliamentary initiative (Nr. 22.451) was submitted by national council member Gerhard Pfister in 2022.

By **reducing the annual free allowances under the Swiss Emissions Trading System** (see Chapter 5.2.4) and earmarking some or all the revenue for international climate and biodiversity finance, Switzerland could mobilize around CHF 300-400 million per year by 2035. Another option for Switzerland would be to expand the scope or to **increase the price of its current levy on fossil thermal fuels** (see Chapter 5.2.5) and earmark the resulting generated additional revenue for international climate and biodiversity finance. Although only maximum 50% of the levy revenue can legally become earmarked and over a third is already earmarked, an increase of the levy price from currently CHF 120 per ton of CO<sub>2</sub> to, e.g., CHF 240 would leave significant revenue that could be dedicated to international climate and biodiversity finance. Switzerland could also introduce **new levies, e.g., on air and maritime transport** in collaboration with OECD/G20, or on methane. Both levies would likely yield revenues in the three digit million numbers. Switzerland could also **increase current taxes** (see Chapter 5.2.6), such as the petroleum, automobile, or highway tax, or **introduce new taxes, such as a windfall tax, an international financial transaction tax, a federal inheritance tax, a fossil commodity trading tax, or a road rush hour tax**. However, the introduction of new taxes or levies requires a legal basis in the constitution and thus a public vote, which complicates adoption. The increase of the tax rate or the expansion of a tax or levy requires parliamentary approval. Switzerland could also consider investing in a **special drawing rights (SDR) fund** earmarked for climate and biodiversity activities in developing countries (see Chapter 5.2.7). A potential case, which could be used for experience is the foreseen contribution of the Swiss National Bank to the Resilience and Sustainability SDR Trust issued by the IMF. Parts of the SDR Trust fund are earmarked for climate mitigation measures. However, SDR bonds are intended for general budgetary support to developing countries, and thus actual use-of-funds is difficult to control. Therefore, it is not clear whether the Swiss contribution would be accountable towards the Swiss international climate or biodiversity finance. Another option Switzerland could explore is the earmarking of the **repatriation of potentate money** for international climate and biodiversity finance (see Chapter 5.2.8). However, it would have to be clarified whether this money could be attributed to Switzerland's international climate and biodiversity finance, since the funds technically belong to the country the funds were illicitly "collected" from and become redistributed to.

Also, as it did already in 1991 and 1992-although not only for nature but for development in general-, Switzerland could support a **debt-for nature swap** (see Chapter 5.2.9) with some of the developing countries that are official debtors to Switzerland. Switzerland would likely underwrite such a swap in consortium with other creditor countries negotiated in the scope of the Paris Club. The debtor country could buy back its debt at a discounted rate and would create an ecosystem or maritime conservation counter-value-fund with the savings. Debt-for-nature swaps address simultaneously the issues of biodiversity conservation and debt relief for developing countries, though given the

limited amount of debt from ODA countries Switzerland carries on its balance sheet, the funds generatable therethrough for international (climate and) biodiversity finance are limited. Another source for international climate and biodiversity finance could be through the **issuance of green bonds** either by the Swiss administration directly or through SIFEM (see Chapter 5.2.10), though classical green bonds are used to refinance existing projects and thus exert zero additionality. Thus, Switzerland would have to find a way that is compatible with the Swiss debt ceiling and current power distribution between the parliament and the federal council regarding financial expenditures to use the bond proceeds for “new” climate and biodiversity projects in developing countries. The **issuance of a green bond through SIFEM**, would only affect the Swiss debt ceiling in case the bond volume would affect the equity-debt ratio of SIFEM to a degree that requires an additional equity contribution by the Swiss Government. However, the regulatory basis for a SIFEM bond issuance would first have to be clarified and potentially be created. Finally, Switzerland could generate additional funds for international climate and biodiversity finance through the **sale of SIFEM shares** and their offering to the private sector (see Chapter 5.2.11). Up to a share split of 67% government ownership, this is permissible under the SIFEM law. A higher share split of, e.g., 51% government ownership and 49% private ownership would require parliamentary approval.

#### **Multilateral instruments to increase the mobilization of private finance**

As for the expansion of multilateral channels and instruments, Switzerland could, for example, increase its **contribution to existing funds, such as GEF and GCF** (see Chapter 5.3.1). It could create a Swiss **single-donor environmental trust fund** (see Chapter 5.3.3) or invest in an **existing multi-bilateral trust fund** managed by an MDB (see Chapter 5.3.4). For all these options, Switzerland would provide a grant to the respective fund or MDB. The contribution to the multi-bilateral trust fund is rated as the most efficient option of the three as it allows for the pooling of resources with other countries. Switzerland could also support a **risk-transfer mechanism** with an MDB and institutional investors (see Chapter 5.3.2). By taking over the risk of a certain number of credits on the balance sheet of an MDB together with private investors through a first and second loss guarantee, Switzerland would free up loan capacity on the balance sheet of the MDB. These additional loans could be earmarked for climate and biodiversity projects in the debtor countries. Switzerland would, however, only support such a risk-transfer scheme when the MDBs would increase their risk-tolerance beforehand. Otherwise, Switzerland considers the MDBs as having too little skin in the game.

#### **Bilateral instruments to increase the mobilization of private finance**

There is a wide palette of options for Switzerland to expand or add to its bilateral instruments for international climate and biodiversity finance. One option is to **increase the percentage of all new SIFEM investments earmarked for climate/biodiversity** from currently 25% to, e.g., 50% or even 70% (see Chapter 5.4.1). This would, however, be at the cost of other development causes, such as education, gender, or job creation. SIFEM could also be allowed to **allocate more catalytic capital** (see Chapter 5.4.2) in the form of subordinate debt, preferred equity, or the mezzanine tranche in a blended fund of funds. Even first loss funding could be evaluated. However, all these instruments would imply a change of the investment strategy and could potentially even be tangent to SIFEM law Art. 14, which states that SIFEM must be self-supporting. The creation of a **new Swiss green investment fund** (see Chapter 5.4.3) either in the form of a public or a public-private new investment window under SIFEM or even managed by a foreign DFI or another Swiss asset manager would also

be an option, but these options are not considered very efficient due to competition with existing structures.

An instrument that **potentially displays a very high public-to-private leverage factor is the allocation of guarantees** (see Chapter 5.4.4), especially if Switzerland were to consider a less “expensive” way to carry guarantees on its balance sheet. To allocate more guarantees for international climate and biodiversity finance, Switzerland could **expand the Swiss Technology Fund** mandate to SMEs in developing countries, create a **separate guarantee fund** managed by a DFI or MDB, allocate grants to **guarantee funds in ODA partner countries**, **subsidize guarantees** for Swiss Impact Asset managers, or **expand SERV’s favourable insurance terms** for climate and biodiversity exports. Feasibility, leverage factor, and efficiency are rated highest for the options: Creation of a separate guarantee fund managed by a DFI or MDB and the allocation of grants to guarantee funds in ODA partner countries. Another potential instrument is the **provision of first-loss tranches to climate and biodiversity funds** either directly by the Swiss government or through the SDG Impact Finance Initiative (see Chapter 5.4.5). If the first-loss tranche is allocated in the form of grants, no legal changes are necessary.

Switzerland could also implement targeted instruments to **support Swiss Impact Asset Managers** to invest in climate and biodiversity projects in developing countries. This could be done by providing a service-fee to **cover increased OPEX** for first-time investments (see Chapter 5.4.6), by providing **exchange rate hedging support** (see Chapter 5.4.7), by establishing or investing in a **liquidity guarantee fund** to support the creation of a quasi-secondary market (see Chapter 5.4.8), by **tailoring SIFI** more to the needs of asset managers (see Chapter 5.4.9), or by **acting as an anchor investor** for international climate and biodiversity impact funds (see Chapter 5.4.10). For this last option, the Swiss AHV Fonds Compenswiss could potentially act as an investor. All these options are geared to reduce market hurdles for private investors to invest in climate and biodiversity projects in developing countries and thus display a potentially very high public-private leverage factor, though it is not always evident, whether all the private investments mobilized could be attributed to Switzerland’s international climate and biodiversity finance.

Finally, Switzerland could **adapt its existing instruments SECO Start-up Fund** (see Chapter 5.4.11) **and REPIC** (see Chapter 5.4.12) to cover additional climate and biodiversity sectors or to allocate capital to non-Swiss SMEs in developing countries. For both options, though, financial effectiveness is low. Switzerland could also **increase its PIDG contribution** from currently USD 75 million for 2022 to 2026 to, e.g., the lower three-digit-million area (see Chapter 5.4.13). Since PIDG displays a public-private leverage factor of 1:2.7, this could leverage additional private sector finance attributable to Switzerland’s international climate and biodiversity finance. As a last option, Switzerland could **increase its contribution to climate risk insurance facilities**, such as the climate insurance-linked resilient infrastructure financing initiative (see Chapter 5.4.14). By reducing the insurance premiums for developing countries based on their climate resilience spending, Switzerland could facilitate additional public climate adaptation spending in developing countries.

In addition to the monetary sources, channels, and instruments, the authors list **accompanying and enabling measures to facilitate international climate and biodiversity finance** deployment or attribution in Chapter 5.5, such as **technical assistance** for investment readiness of investees and for financial institutions to establish “green credit lines.” **Advocacy** for the attribution of indirect

private sector mobilization, and for a methodology for biodiversity finance reporting are other instruments listed.

### Recommendations

The study closes with some recommendations (see Chapter 6) for the federal administration and also the Swiss people, members of Parliament, and the Federal Council that will be tasked with approving the sources, instruments, and measures proposed in the present study:

- **New sources** with considerable potential for adoption and financial effectiveness are the introduction of a Swiss CBAM, the expansion of the Swiss ETS, the realization of a debt-for-nature swap, or the auctioning of additional SIFEM shares to private investors.
- Finance generated through new or expanded sources should be, in part at least, invested into mobilizing private finance. Switzerland should predominantly **focus on instruments that specifically target the reduction of market barriers that keep the private sector from investing** in international climate and biodiversity projects in developing countries, such as the high risks perceived, the low levels of return expected, or the lack of bankable investment opportunities. Thereby it should be kept in mind that concessional financing and risk capital are not the only scarcity, investable projects with additional and intentional impact in the climate and biodiversity sector are as well. Therefore, technical assistance is very important too.
- The volume of Swiss international climate and biodiversity finance can also be increased effectively by **redirecting existing resources to instruments with higher private sector leverage**, though it should not be overlooked that such instruments carry an inherent bias away from LDCs, fragile states and thematic areas with lower potential for private sector mobilization like climate adaptation toward middle income countries and emerging economies and thematic areas with higher potential for private sector mobilization like mitigation.
- Some of the instruments and channels proposed in the study require a **greater risk appetite from the Swiss government**. However, in light of projected GDP decreases and climate change-induced hazards with the current climate trajectory of 2°- 2.6° warming, a greater risk appetite for the mobilization of international climate and biodiversity finance may be the safer choice in a mid- to long-term perspective than deferred or reluctant action now.
- The international finance flows that are negative for climate change and biodiversity are still considerably larger than the finance flows that are climate- and biodiversity-positive. Thus, **measures that reduce these negative financial flows for climate and biodiversity (e.g., investments into or payments for fossil fuels)** or that make subsidies and guarantees in different sectors conditional on climate and/or biodiversity positive outcomes might be the ones with the highest potential to contribute to climate and biodiversity protection in the long run.

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## Abbreviations

<b>AF</b>	Adaptation Fund
<b>AfDB</b>	African Development Bank
<b>AFD</b>	Agence Française de Développement
<b>ASSCM</b>	Amazonia Sustainable Supply Chain Mechanism
<b>BFE</b>	Federal Department of Finance
<b>BAFU</b>	Federal Office for the Environment
<b>BLW</b>	Federal Office for Agriculture
<b>BMUV</b>	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
<b>BMZ</b>	German Ministry for Economic Cooperation and Development
<b>CBAM</b>	Carbon Border Adjustment Mechanism
<b>CBD</b>	Convention on Biological Diversity
<b>CfN</b>	Campaign for Nature
<b>CHF</b>	Swiss Franc
<b>CIF</b>	Climate Investment Funds
<b>CILRIF</b>	Climate Insurance-Linked Resilient Infrastructure Financing
<b>CTF</b>	Conservation Trust Funds
<b>DEZA</b>	Swiss Agency for Development and Cooperation
<b>DFC</b>	International Development Finance Corporation
<b>DFCD</b>	Dutch Fund for Climate and Development
<b>DFI</b>	Development Finance Institution
<b>EIB</b>	European Investment Bank
<b>ETS</b>	Emissions Trading System
<b>EU</b>	European Union
<b>EUR</b>	Euro
<b>FDI</b>	foreign direct investment
<b>FMO</b>	Entrepreneurial Development Bank
<b>FZS</b>	Frankfurt Zoological Society
<b>GCF</b>	Green Climate Fund
<b>GCPF</b>	Global Climate Partnership Fund
<b>GEEREF</b>	Global Energy Efficiency and Renewable Energy Fund

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<b>GEF</b>	Global Environment Facility
<b>GIZ</b>	German Association for International Cooperation
<b>GSSS</b>	green, social, sustainable and sustainability-linked bonds
<b>IDFC</b>	International Development Finance Club
<b>IFAD</b>	International Fund for Agricultural Development
<b>IFC</b>	International Finance Corporation
<b>IFU</b>	Investment Fund for Developing Countries
<b>IMF</b>	International Monetary Fund
<b>IKI</b>	International Climate Initiative
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>KfW</b>	Kreditanstalt für Wiederaufbau
<b>KfW DEG</b>	German Investment and Development Association
<b>KTF</b>	German Climate and Transformation Fund
<b>ISFL</b>	BioCarbon Fund
<b>IUCN</b>	International Union for Conservation of Nature
<b>LDC</b>	least-developed country
<b>LDCF</b>	Least Developed Countries Fund
<b>LLF</b>	Legacy Landscape Fund
<b>MDB</b>	Multilateral Development Bank
<b>NCCF</b>	Natural Capital Financing Facility
<b>NDC</b>	Nationally Determined Contribution
<b>NGO</b>	Non-Governmental Organization
<b>ODA</b>	Official Development Assistance
<b>OECD</b>	Organization for Economic Cooperation and Development
<b>OECD DAC</b>	OECD Development Assistance Committee
<b>OeEB</b>	Austrian Development Bank
<b>PES</b>	payment for ecosystem services
<b>PLAFICO</b>	Platform on Financial Matters for International Environmental Cooperation
<b>PIDG</b>	Private Infrastructure Development Group
<b>PPP</b>	public-private partnership
<b>REDD</b>	Reducing Emissions from Deforestation and Degradation

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<b>REPIC</b>	Platform for Renewable Energy, Energy- & Resource Efficiency
<b>RST</b>	Resilience and Sustainability Trust
<b>SCAF</b>	Seed Capital Assistance Facility
<b>SCCF</b>	Special Climate Change Fund
<b>SDG</b>	Sustainable Development Goals
<b>SDR</b>	special drawing rights
<b>SECO</b>	State Secretariat for Economics
<b>SERV</b>	Swiss Export Insurance
<b>SIDA</b>	Swedish International Development Cooperation Agency
<b>SIFEM</b>	Swiss Investment Fund for Emerging Markets
<b>SIFI</b>	SDG Impact Finance Initiative
<b>SME</b>	small and medium enterprises
<b>SNB</b>	Swiss National Bank
<b>SPV</b>	special purpose vehicle
<b>SREP</b>	Scaling-up Renewable Energy in Low-Income Countries Program
<b>TA</b>	technical assistance
<b>UK</b>	United Kingdom
<b>UNCBD</b>	United Nations Convention on Biological Diversity
<b>UNDP</b>	United Nations Development Programme
<b>UNEP</b>	United Nations Environment Programme
<b>UNFCCC</b>	UN Framework Convention on Climate Change
<b>US</b>	United States
<b>USD</b>	US dollars
<b>UVEK</b>	Federal Department of Transportation, Environment and Climate
<b>WASH</b>	water, sanitation and hygiene
<b>WTO</b>	World Trade Organization
<b>WWF</b>	World Wildlife Fund

## 1) Introduction

The worldwide climate and biodiversity finance requirements amount to an estimation of 2'300 - 6'000 billion US dollars (USD) per year. Switzerland committed itself through international treaties and conventions to contribute its fair share to climate change mitigation and adaptation as well as biodiversity protection in developing countries. From 2025 onwards, the financial commitments of all industrial nations combined are bound to increase from 100 billion USD per year for climate and 20 billion USD per year for biodiversity to a potentially significantly higher amount for climate and 30 billion USD per year by 2030 for biodiversity finance. Therefore, Switzerland needs to first decide whether it will support the international decision on the new collective targets for international climate and biodiversity finance. If the answer is yes, then Switzerland must prepare itself to increase its fair share contribution to international climate and biodiversity finance, whilst the federal budget is under strain due to the COVID-19 pandemic and the Ukraine conflict resp. its anticipated aftermath (Schweizerische Eidgenossenschaft, 2019a, p. 1 & Guzman et al., 2023, p. 4). Earmarking a higher percentage of the international cooperation commitment credits for international climate and biodiversity finance has reached its limits. An additional increase of the international climate and biodiversity finance share within the Swiss international cooperation, without a budget increase, would happen at the expense of other international cooperation priority sectors and themes such as humanitarian aid, health or education. Therefore, innovative sources, channels, and instruments are needed to increase Switzerland's public contribution and to mobilize additional private finance that can be counted toward Switzerland's international climate and biodiversity finance according to UN agreements (Federal Administration, 2023).

Switzerland's international engagement for the protection and the sustainable use of natural resources is a constitutional mandate (Art. 2 Abs. 4 and 54 Abs. 2 BV) (Schweizerische Eidgenossenschaft, 2022b, p. 5). As a signatory to the Paris Agreement and the UN Framework Convention for Climate Change, Switzerland agreed to contribute to the financial obligations of developed nations to support developing states in the implementation of the Paris Agreement and the Convention. Based on the Glasgow Pact, the contribution shall be balanced between mitigation and adaptation measures (Schweizerische Eidgenossenschaft, 2022b, p. 11). According to the United Nations Framework Convention on Climate Change (UNFCCC, 2023) Climate Finance refers to "local, national or transnational financing—drawn from public, private and alternative sources of financing—that seeks to support mitigation and adaptation actions that will address climate change." In 2020 Switzerland spent CHF 559 million on international climate finance for developing countries. Thereof CHF 390 million (70%) stemmed from the federal budget, which can almost completely be attributed to Switzerland's Official Development Assistance (ODA). The additional CHF 169 million (30%) stemmed from private sources mobilized through bilateral public interventions. This number does not include the CHF 100 million at which Switzerland estimates the attributable private climate finance mobilised through its public contributions to MDBs (Schweizerische Eidgenossenschaft, 2023e, pp. 1-2).

Switzerland is also a signatory to the Kunming-Montreal Global Biodiversity Framework, which stipulates global targets to halt and reverse biodiversity loss by 2030. The mobilization of international biodiversity finance is a pre-condition for achieving these targets. According to the Organization for Economic Cooperation and Development (OECD), biodiversity finance

encompasses “finance that contributes or intends to contribute to activities that conserve, restore, or avoid a negative footprint on biodiversity and ecosystem services” (The World Bank Group, 2020, p. 18). However, the international community still lacks clear guidance regarding criteria for the eligible use of proceeds for biodiversity finance and thus, determining the precise annual expenditure on biodiversity remains challenging. The Biofin methodology has brought forward an expenditure review to assess biodiversity finance, the EU Taxonomy includes criteria to measure biodiversity finance and the International Finance Corporation (IFC) has created a Biodiversity Finance Reference Guide, to classify the type of investment activities that can be considered biodiversity finance. The latter defines biodiversity finance as follows: Investments need to (1) generate co-benefits for biodiversity, (2) directly target biodiversity conservation, with restoration as a first objective, or (3) be directed to nature-based solutions to conserve, enhance and restore ecosystems and biodiversity (International Finance Corporation, 2023, p. 2 & 8). In 2020, Switzerland invested 116 million CHF (135 million CHF in 2021) of public funds and 7.8 million CHF of private funds in international biodiversity finance (Federal Office for the Environment, 2023c).

## 1.1 Research objectives

The present paper mandated by the Federal Office for the Environment and the members of PLAFICO pursues the following objectives:

- Provision of an overview of current sources, measures and instruments applied by the Swiss Government to allocate and mobilize international climate and biodiversity finance;
- Compilation of a comparative analysis to describe and analyze sources, measures and instruments for international climate and biodiversity finance implemented by other countries and of potential interest for Switzerland;
- Preparation of an inventory of potential additional sources, measures and instruments for Switzerland to adopt and rating of the proposed options according to predefined criteria.

The paper shall outline a variety of options for Switzerland to increase its international climate and biodiversity finance contributions. The options put a special emphasis on the mobilization of private sector funds. Only options that can be attributed to Switzerland’s international climate and biodiversity finance according to the established methodologies, procedures and guidelines of the respective Multilateral Environmental Agreements, the OECD Development Assistance Committee (OECD DAC), the UNFCCC, and the Multilateral Development Banks (MDBs) will be considered.

## 2) Description of methodology and approach

The study was conducted based on literature review, interviews with selected experts and a workshop with members of the federal administration. All sources are cited according to APA standard.

The authors started with the writing of Chapter Three, which they based on knowledge assembled from selected literature from the federal administration such as e.g. Switzerland’s Eighth National Communication and Fifth Biennial Report under the UNFCCC (Federal Office for the Environment, 2022b) complemented by other sources such as e.g. the Global Landscape of Climate Finance Report (Buchner, et al., 2019).

For Chapter Four, the authors started to conduct initial interviews with experts from the private sector (see list of conducted interviews in Annex 1) in order to gather some inspiration for innovative instruments and sources for international climate and biodiversity finance implemented by other countries. In addition, the authors conducted extensive literature research based on sources from international organizations such as e.g. the International Carbon Action Partnership's 2022 report on the German National Emissions Trading System or studies from the country governments analyzed such as e.g. Climate Action in Figures (Federal Ministry for Economic Affairs and Climate Action, 2022a).

Based on the research for Chapters Three and Four, along with the conducted interviews and the authors' knowledge base, the authors began to assemble the sources, instruments and channels for the expansion of Switzerland's international climate and biodiversity finance in Chapter Five. The options and a preliminary rating were then presented in an internal workshop (see list of workshop participants in Annex 2) of the Swiss federal administration, where initial feedback was gathered in regards to the perception and potential complements of the options listed and the preliminary rating conducted. Subsequently, the authors conducted further interviews with members of the federal administration to gather additional information on aspects to consider for the implementation of certain sources and instruments and to confirm the rating of certain options. The gathered information was complemented by relevant literature such as e.g. the report on revenues from the CO<sub>2</sub>-border adjustment mechanism (Ecoplan, 2023). Finally, the authors compiled the conclusion and recommendations based on all the insights gained from the research for the study. The study was circulated among the federal administration for inputs and commentary. The authors integrated these comments and addressed the observations. The study was finalized at the end of August 2023.

### 3) Inventory of current Swiss International Climate and Biodiversity Finance Sources, Instruments and Measures

Switzerland's international development assistance as well as its international climate and biodiversity spending in 2020 are summarized in the table below.

<b>Net ODA in 2020</b> (OECD methodology)	<b>International biodiversity finance in 2020</b>	<b>International public climate and biodiversity finance as % of ODA</b>
USD 3.72 billion	USD 0.132 billion <sup>1</sup> (CHF 0.124 billion)	14.5%
<b>Public International Climate Finance in 2020</b>	<b>Private climate finance mobilised in 2020</b>	<b>Public-private leverage factor</b>
USD 0.42 billion (CHF 0.39 billion)	USD 0.18 billion (CHF 0.169 billion)	2.3:1

Source: Federal Office for the Environment, 2022b, p. 230, Federal Office for the Environment, 2023c and OECD, 2023c.

<sup>1</sup> Average exchange rate in 2020: 1 CHF = 1.0665 USD

The following Chapter outlines sources, instruments and institutions of relevance to Switzerland's international climate and biodiversity finance<sup>2</sup>. The Chapter provides an overview of the current state and applied measures for Switzerland's international climate and biodiversity finance obligations.

### 3.1 Sources

Contributions to international Climate and Biodiversity Finance can either stem from public or private sources (Buchner, et al., 2019, p. 11). Switzerland's public climate and biodiversity finance has steadily increased over the past years. In the last years, a continuous stronger strategic focus has been put on the mobilization of private finance, which sparked also an improvement/development in reporting methodologies to measure and attribute private finance flows to Switzerland's international climate and biodiversity finance (Federal Office for the Environment, 2022b, p. 230).

#### 3.1.1. Public sources

Public sources encompass government spending and therewith a percentage of tax income (Buchner, et al., 2019, p. 11). As of today, the lion share of Switzerland's bilateral and multilateral contribution to international biodiversity and climate finance stems from the commitment credit for international cooperation from the Swiss Agency for Development and Cooperation (DEZA) and the State Secretariat for Economics (SECO) and - at a smaller percentage - from the commitment credit for the global environment from the Federal Office for the Environment (BAFU). These contributions are complemented by small contributions from other federal offices and departments, such as the Federal Office for agriculture (BLW) or Meteo Swiss (Schweizerische Eidgenossenschaft, 2019, p. 5). In 2020, Switzerland's total contribution to international climate finance from public sources amounted to 390 million CHF (Swiss Federal Office for the Environment, 2022b, p. 230 & Schweizerische Eidgenossenschaft, 2023e, pp. 1-2). Switzerland's contribution to international biodiversity finance in 2020 incl. the amounts deployed by a selective number of non-governmental organizations (NGOs) amounted to 123.8 million CHF (142.4 million CHF in 2021) (Federal Office for the Environment, 2023c).

From a balance sheet perspective, in 2020 almost all of these contributions - 99% of bilateral contributions, and 100% of multilateral contributions (OECD, 2023c) - are allocated in the form of grants, technical assistance (TA) or non-reimbursable contributions to international funds, Swiss and international organizations that implement projects in the climate and biodiversity sector in developing countries. This mainly due to the reason that it is complicated for Switzerland to hold return generating instruments on its balance sheet. Returns can not be reinvested directly into the return-generating instrument or vehicle, but flow as general revenue into the Swiss household. A reinjection into the same instrument or vehicle must be booked as an additional expense and is subject to parliamentary approval. Therefore, Switzerland generally allocates loans or equity through another entity or a special purpose vehicle (SPV) such as e.g. the Swiss Investment Fund for Emerging Markets (SIFEM). On balance sheet Switzerland can almost exclusively allocate grants.

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<sup>2</sup> It is to mention that only Switzerland's climate and biodiversity positive finance flows are elaborated in scope of the present paper. The considerable climate and nature negative finance flows (through e.g. fossil fuel subsidies, polluting energy purchases or agricultural subsidies for fauna and flora harming pesticides), that are much larger than the positive ones, are briefly mentioned for comparative purposes in Chapter 6.

Even in cases where BAFU, DEZA or SECO give out loans or guarantees to projects, in most cases they are booked as grants on the balance sheet (Schweizerische Eidgenossenschaft, 2019a, p. 11).

### 3.1.2 Private sources

Next to public climate and biodiversity finance, an important contribution to international climate and biodiversity finance is made by private sources. According to broader definitions of climate finance (Buchner, et al., 2019, p. 13), private sources for international climate (and biodiversity) finance encompass all contributions from households, non-financial corporations, commercial financial institutions (banks), institutional investors and a mixture of private equity, venture capital and infrastructure funds.

However, according to the Paris Rulebook, provider countries must report a causal correlation between public spending and the thereby mobilized private investments for climate action in recipient countries to enable the accounting of the private finance mobilized. It must be derivable, that the private investment was only realized, due to a public intervention that facilitated the investment (additionality) and did not take place merely for the fact that investment conditions were favorable in the target country. The public intervention thus either improves framework conditions, reduces risks or improves the business case for private sector investors. In addition, if several investments are mixed or pooled, the separate accounting for these financial flows must be guaranteed in order to avoid double counting (Schweizerische Eidgenossenschaft, 2017, p. 8). In fact, by only accounting for private climate finance sources that are mobilized by public finance or interventions, private climate finance mobilized as defined in the Paris Rulebook is therefore not an independent "source" of climate finance but one directly dependent on public finance/interventions and their use.

For biodiversity, the attribution guidelines for private finance are more openly defined. CBD (2006) Article 20 states that "The developed country Parties shall provide new and additional financial resources to enable developing country Parties to meet the agreed full incremental costs to them of implementing measures which fulfil the obligations of this [the CBD] Convention (...)". According to OECD DAC, private finance can be counted as "biodiversity finance if the DAC member activity that mobilized the finance was marked by DAC members with the biodiversity Rio Marker" (OECD, 2020, p. 26). Its "Comprehensive overview of Global Biodiversity Finance" (2020, p. 7) allows for the attribution of foreign direct investment (FDI) even if it is not mobilized to international biodiversity finance. Investments that have biodiversity as their primary purpose or as their secondary or joint objective can be accredited. The latter, however, can only be accredited to the percentage the financial contribution supports biodiversity protection (e.g. 25, 50, 60, 75%) (OECD, 2020, p. 18). The United Nations Development Program (UNDP) Biodiversity Finance Initiative Workbook (2018, p. 6) goes even further and simply states that "biodiversity finance includes private and public financial resources used to conserve and restore biodiversity." Hence, basically all private finance from a developed country that measurably has a biodiversity positive intentional impact in a developing country, can be attributed to international biodiversity finance.

### 3.1.3 Potential additional sources such as emissions trading, levies and taxes - not yet used

Switzerland has been applying a CO<sub>2</sub> levy on fossil thermal fuels since 2008. However, its revenue (around 1.2 billion CHF of annual revenue in 2022 (Schweizerische Eidgenossenschaft, 2022e)) has never been used for international climate and biodiversity finance. The levy becomes currently

redistributed to the population and the economy (min. two thirds) – 25 million CHF replenish the Swiss Technology Fund every year. One third of the revenues (max. 450 million CHF) become invested in the buildings program to promote CO<sub>2</sub> effective measures (Federal Office for the Environment, 2023b).

Switzerland also introduced an Emissions Trading System (ETS) for aviation<sup>3</sup> and for the most greenhouse gas intensive industrial installations in 2013, which is linked with the European Union (EU) ETS since January 1, 2020 (Federal Office for the Environment, 2022a). The Federal Office for the Environment (BAFU) can auction off emissions allowances up to four times a year. However, only around 5% of the allowances are auctioned off annually and the thereby generated revenue (8 - 35 mio. CHF (in between 2018-2022)) with high yearly fluctuations (Schweizerische Eidgenossenschaft, 2023h) flows into the general budget of the Swiss Federal Administration, and no specific redistribution for international climate or biodiversity finance is undertaken (Santikarn, Kardish, Ackva, & Haug, 2019, p. 6). Currently, various propositions on how to earmark a percentage of this revenue from 2025 onwards are under discussion in the national and state council (Federal Council business 22.061), such as e.g. the promotion of electric vehicles, renewable energies, night train transportation or renewable aviation fuels (Die Bundesversammlung, 2022b).

Additional options for the mobilization of new public climate and biodiversity finance sources for Switzerland, would consist in the introduction of additional taxes or fees on polluting activities or e.g. the purchase of non-degradable pesticides or fertilizers or the redistribution of existing taxes and fees via earmarking (Schweizerische Eidgenossenschaft, 2017, p. 15).

### 3.2 Multilateral channels

All of Switzerland's public multilateral contributions to international climate and biodiversity are grant-based. The contributions increased from CHF 131.8 million in 2019 to CHF 176 million<sup>4</sup> in 2020 for international climate finance (Federal Office for the Environment, 2022b, p. 19). Switzerland's contribution to biodiversity finance through multilateral channels amounted to 59.7 million CHF in 2020 (Federal Office for the Environment, 2023a). A summary of Switzerland's contribution to multilateral institutions and programs with a specific focus on climate contributions can be found in the table below.

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<sup>3</sup> Flights within Switzerland and from Switzerland to the European Economic Area (EEA) have been subject to the Swiss ETS since 2020.

<sup>4</sup> Conversion rate from USD to CHF: 0.994 CHF per USD in 2019 and 0.939 CHF per USD in 2020 according to original source (Federal Office for the Environment, 2022b, p. 241).

Tab. 44 &gt; Switzerland's financial contributions to multilateral institutions and programmes, 2019 and 2020.

	2019		2020		2019 / 2020
	Core contribution	Climate-specific contribution	Core contribution	Climate-specific contribution	Imputed share
US dollars					Per cent
<b>Multilateral climate change funds</b>					
Global Environment Facility	29 592 555	19 531 087	31 325 879	26 095 397	66% / 83%
Least Developed Countries Fund	2 515 091	2 515 091	3 407 881	3 407 881	100%
Special Climate Change Fund	792 254	792 254	838 658	838 658	100%
Adaptation Fund	15 090 543	15 090 543	0	0	100% / NA
GCF	0	0	36 581 470	36 581 470	100%
UNFCCC Trust Fund for the core contribution	373 728	373 728	413 815	413 815	100%
Intergovernmental Panel on Climate Change	1 106 640	1 106 640	170 394	170 394	100%
UNFCCC Voluntary Trust Fund	557 040	557 040	428 488	428 488	100%
Capacity Building Initiative for Transparency	0	0	0	0	NA
<b>Sub-total</b>	<b>50 027 851</b>	<b>39 966 382</b>	<b>73 166 584</b>	<b>67 936 102</b>	<b>NA</b>
<b>Multilateral financial institutions, including regional development banks</b>					
World Bank (including IDA and IBRD)	216 843 159	54 210 790	229 558 892	70 738 573	25% / 31%
International Finance Corporation	0	0	0	0	NA
African Development Bank (AfDB)	58 358 490	16 340 377	69 615 876	23 126 394	28% / 33%
Asian Development Bank	7 049 514	1 621 388	7 462 423	2 112 985	23% / 28%
European Bank for Reconstruction and Development	0	0	0	0	NA
Inter-American Development Bank	3 719 257	967 007	2 454 069	665 126	26% / 27%
Asian Infrastructure Investment Bank	27 861 972	10 866 169	29 493 930	10 794 778	39% / 37%
<b>Sub-total</b>	<b>313 832 391</b>	<b>84 005 731</b>	<b>338 585 191</b>	<b>107 437 856</b>	<b>NA</b>
<b>Specialised United Nations bodies</b>					
United Nations Development Programme	50 000 000	NA	52 928 647	NA	NAV
United Nations Environment Programme	4 416 593	NA	4 675 293	NA	NAV
<b>Sub-total</b>	<b>54 416 593</b>	<b>0</b>	<b>57 603 940</b>	<b>0</b>	<b>NA</b>
<b>Other</b>					
United Nations International Children's Emergency Fund	19 416 499	NA	20 553 781	NA	NAV
United Nations Convention to Combat Desertification	97 500	NA	104 206	NA	NAV
United Nations Office for Disaster Risk Reduction	1 307 847	NA	1 437 700	NA	NAV
Consultative Group on International Agricultural Research	16 348 089	NA	17 092 652	NA	NAV
International Fund for Agricultural Development	14 103 777	5 782 548	14 110 756	5 208 703	41% / 37%
Multilateral Fund for the Implementation of the Montreal Protocol	2 880 387	2 880 387	3 049 100	3 049 100	100%
Food and Agricultural Organization of the United Nations	0	0	5 971 260	3 897 262	65%
<b>Sub-total</b>	<b>54 154 099</b>	<b>8 662 936</b>	<b>62 319 454</b>	<b>12 155 066</b>	<b>NA</b>
<b>Total</b>	<b>472 430 934</b>	<b>132 635 048</b>	<b>531 675 169</b>	<b>187 529 024</b>	<b>NA</b>

NA, not applicable  
NAV, not available  
IBRD, International Bank for Reconstruction and Development  
IDA, International Development Association  
AfDB, African Development Bank

**Table 1:** Switzerland's financial contributions to multilateral institutions and programmes 2019 and 2020 (Federal Office for the Environment, 2022b, p. 239)

### 3.2.1 Contribution to multilateral funds under UN Conventions

Switzerland contributes to multilateral climate funds such as the Green Climate Fund (GCF), the Global Environment Facility (GEF), the Adaptation Fund (AF), the Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDCF). All of these contributions can be fully attributed to Switzerland's Official Development Assistance (ODA) and International Climate Finance – except for the GEF. The GEF contribution can be partially attributed to Switzerland's international Climate and Biodiversity Finance, but does also support other thematic areas and thus, a full attribution is not possible (Lottje, 2020, p. 22).

**The Global Environment Facility (GEF):** The GEF is active in several sectors with relevance for the environment and is therefore well positioned to foster synergies. It finances projects in the areas of climate, biodiversity, international waters, land degradation, chemicals and waste. Across its projects the GEF reached a leverage factor of 1:6 (public and private co-financing) and thus

managed to mobilize significant additional finance through its interventions. The GEF mainly attributes grants, and to a limited degree guarantees and interest-optimized debt with the objective of counterbalancing incremental costs (=additional project costs), that arise due to the provision of global environmental benefits. The GEF does not implement projects on its own, but channels funds to national, regional and international organizations, NGOs or multilateral development banks, so called implementing agencies, which implement the projects (Schweizerische Eidgenossenschaft, 2022b, pp. 3-4 & 19-20). Countries can make contributions to the GEF through a replenishment process taking place every four years. The donor countries pay contributions to trust funds managed by the World Bank (GEF, 2023a).

The GEF is the official financing mechanism of the biodiversity convention. 60% of its portfolio contributes to the preservation and sustainable use of global biodiversity. Therefore, Switzerland complies with a significant share of its biodiversity finance obligations through contributions to the GEF (Schweizerische Eidgenossenschaft, 2022b, p. 13).

The Swiss Parliament just approved the Swiss contribution to the 8th replenishment of the GEF of 155.4 million CHF as part of a commitment credit for the GEF, LDCF, SCCF and the Ozone Fund over 197.75 million CHF (Schweizerische Eidgenossenschaft, 2023b).

Managed by the GEF, but consisting separate funding vehicles are the:

- **Least Developed Countries Fund (LDCF)**: The LDCF specifically targets climate change adaptation and contributes to financing the preparation and implementation of national adaptation programs of action in least developed countries (Federal Office for the Environment, 2022b, p. 232).
- **Special Climate Change Fund (SCCF)**: The SCCF provides additional means for climate change mitigation and adaptation for developing and emerging countries. It specifically targets climate change adaptation programs and fosters technology transfers between developed and developing nations. The SCCF mainly supports the implementation of small projects, realized in collaboration with the private sector with a high degree of innovation, predominantly in island states. The fund therefore caters to a specific niche in climate protection (Schweizerische Eidgenossenschaft, 2022b, pp. 23-24).

**Green Climate Fund (GCF)**: The GCF is the largest dedicated climate finance fund in existence and supports mainly high volume and transformative climate projects (Schweizerische Eidgenossenschaft, 2022b, p. 12). The GCF is mandated to support developing countries in realizing their NDCs towards low-emissions, climate resilient pathways. The GCF supports transformational programming to combine mitigation and adaptation pathways whilst fostering sustainable development and investing in climate innovation. It therefore supports new business models and technologies, de-risks and catalyses private sector investments and mainstreams climate risks and opportunities into investment decision making. The GCF pursues a country-driven approach, meaning developing nations lead their own programming and implementation through so called accredited entities (Green Climate Fund, 2023a). Countries can contribute to the GCF during the replenishment process taking place every four years in the form of grants, paid in capital contributions or concessional loans (Green Climate Fund, 2019, p. 1). Switzerland supports the GCF via grants. In the initial resource mobilization (2015-2017), Switzerland mobilized USD 100 Mio. in

funding and increased its contribution to USD 150 Mio. during the first replenishment period (2020-2023)(Schweizerische Eidgenossenschaft, 2022c).

**Adaptation Fund (AF)** : The AF is a funding vehicle for climate change adaptation under the Kyoto Protocol and the Paris Agreement. It finances adaptation projects and programs in developing countries with a special emphasis on innovation, the local implementation level and a focus on those countries, which are especially vulnerable to the effects of climate change (Federal Office for the Environment, 2022b, p. 232). The AF is predominantly financed through voluntary contributions, complemented by the sale of Certified Emissions Reductions generated under the Clean Development Mechanism (CDM) of the Kyoto Protocol. Contributions can be made on an ad-hoc basis (Adaptation Fund, 2022, pp. 2-3). Switzerland contributes CHF 10 Mio. for the period of 2021-2024 to the AF. The contribution is also made in the form of a grant (Schweizerische Eidgenossenschaft, 2023g).

In addition to the above-mentioned funds, Switzerland also financially contributes to multilateral organizations and funds, which support and invest in climate protection projects. Examples are the UNFCCC secretariat and the trust fund for the core contributions, the IPCC or the UNFCCC Voluntary Trust Fund (Swiss Federal Office for the Environment, 2022b, p. 240 & Schweizerische Eidgenossenschaft, 2019a, pp. 12-13).

### 3.2.2 Contribution to MDBs and other International Finance Institutions (IFIs)

Multilateral Development Banks (MDB) are – compared to multilateral climate funds (see Chapter 3.2.1) and international organizations (see Chapter 3.2.3) – in financial terms the most important climate and biodiversity investors worldwide (Schweizerische Eidgenossenschaft, 2019a, p. 12). Switzerland holds capital shares of the World Bank, the African Development Bank, the Asian Development Bank, the Inter-American Development Bank, the European Bank for Reconstruction and Development and the Asian Infrastructure and Investment Bank (Federal Office for the Environment, 2022b, p. 240). Switzerland's largest contribution goes to the International Development Association (World Bank), whereof an important share funds climate change mitigation and adaptation (Federal Office for the Environment, 2022b, p. 231). The above-mentioned development banks source low-cost debt on capital markets and provide loans (and to a limited degree equity, guarantees and technical assistance) to governments and the private sector for climate finance (Spaleck, et al., 2020, p. 18). Since 2013 a certain percentage of the contributions to multilateral development finance institutions can be attributed to Switzerland's International Climate and Biodiversity Finance relative to the actual sum of new contributions and the climate and biodiversity portfolio of the MDB supported (Lottje, 2020, p. 8). In 2020 the imputed share according to OECD DAC and the Rio Marker methodology of international climate finance contribution of Switzerland from its overall contribution to multilateral development banks was 32% and amounted to CHF 100.9 million (see table 1 on page 22) (Federal Office for the Environment, 2022b, pp. 240-241). The estimated volume of private climate finance mobilized through the Swiss public climate contributions to MDBs is CHF 100 million in 2020 (Schweizerische Eidgenossenschaft, 2019a, p. 14).

### 3.2.3 Contribution to multilateral funds and programs

Switzerland's contribution to multi-bilateral funds and programs for international Climate and Biodiversity Finance is allocated in the form of grants. The most significant multi-bilateral funds financially supported by Switzerland are the Private Infrastructure Development Group (PIDG), the

Climate Investment Funds (CIFs) and the Biocarbon Fund (ISFL) (Schweizerische Eidgenossenschaft, 2019a, p. 6).

The CIF focuses on transformational climate innovation in 72 middle- and low income countries. It was established in 2008 at the request of G8 and G20, and has since financed over 370 projects. CIF works through six multilateral development banks and displays a leverage factor of 1:8.3 (CIF:other finance) on project level, though not all of the mobilized finance is private finance (CIF, 2023). The SECO contribution to the Strategic Climate Fund of CIF is earmarked for the support of the program for scaling-up renewable energy in low-income countries (SREP). SREP supports developing countries in promoting renewable energy and aims at mobilizing a certain percentage of its budget through MDBs and from the private sector. SREP offers grants and TA to developing countries to support specific project preparation, investment plans or the improvement of framework conditions (Schweizerische Eidgenossenschaft, 2019a, p. 7).

Another example is the Global Facility for Disaster Reduction and Recovery, which pursues the mission to mainstream disaster risk management and climate change adaptation into development strategies. The facility allocates grants for capacity development, knowledge generation and the application of the thereby created knowledge for policy reforms and investments for disaster risk management. Switzerland supports the facility with 66.6 million CHF for the period between 2006 to 2025 and lays a special focus on the promotion of climate change resilience (Federal Office for the Environment, 2022b, p. 232).

### 3.3 Bilateral and multi-bilateral instruments

Switzerland's bilateral contributions to international climate and biodiversity finance are mainly allocated through grants, capacity building and TA programs. A small contribution is made through guarantees, debt and equity financing channeled through SERV, SIFEM, the Private Infrastructure Development Group (PIDG) and the CIF<sup>5</sup> (Schweizerische Eidgenossenschaft, 2019a, p. 16 & Federal Office for the Environment, 2022b, p. 233). Through these programs, Switzerland was able to mobilize CHF 99 million (if one includes the climate finance spendings to Ukraine, Turkey and Belarus, which are only accountable under OECD DAC methodology, this number increases to CHF 169 million) -89% thereof through SERV- from private sources for international climate finance in 2020. Compared to CHF 209.6 million (resp. CHF 214.4 million including contributions to Ukraine, Turkey and Belarus) in public bilateral climate finance in 2020, the bilateral public-private leverage factor amounts to roughly 2:1, resp. 1.3:1 if the public contributions and the private climate finance mobilised through SERV export insurances to Ukraine, Turkey and Belarus are included (Federal Office for the Environment, 2022b, pp. 19-20 & Schweizerische Eidgenossenschaft, 2023e, pp. 1-2).

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<sup>5</sup> PIDG and CIF are multilateral programs, though they are counted as bilateral contributions to international climate finance by Switzerland. Therefore, they are described in Chapter 3.2.3, but also listed in Chapter 3.3.

Tab. 45 &gt; Switzerland's financial contributions through bilateral and multi-bilateral channels, 2019 and 2020.

	2019		2020	
	Swiss francs	US dollars	Swiss francs	US dollars
<b>Programmes and projects in Africa</b>				
Adaptation	35 960 810	36 177 877	35 658 656	37 975 140
Mitigation	16 154 425	16 251 937	17 749 223	18 902 261
Private sector mobilised	2 653 514	2 669 531	81 119 926	86 389 698
<b>Sub-total Africa</b>	<b>54 768 749</b>	<b>52 429 814</b>	<b>53 407 879</b>	<b>56 877 401</b>
<b>Programmes and projects in Asia</b>				
Adaptation	31 505 070	31 695 241	29 671 822	31 599 384
Mitigation	17 073 770	17 176 831	17 456 375	18 590 389
Private sector mobilised	55 765 657	56 102 271	7 354 952	7 832 750
<b>Sub-total Asia</b>	<b>104 344 497</b>	<b>48 872 072</b>	<b>47 127 669</b>	<b>50 189 211</b>
<b>Programmes and projects in Europe</b>				
Adaptation	8 457 974	8 509 028	8 758 747	9 327 739
Mitigation	6 760 315	6 801 122	7 945 732	8 461 909
<b>Sub-total Europe</b>	<b>15 218 289</b>	<b>15 310 150</b>	<b>16 704 479</b>	<b>17 789 648</b>
<b>Programmes and projects in Latin America</b>				
Adaptation	22 768 659	22 906 096	21 784 402	23 199 576
Mitigation	16 538 793	16 638 625	10 839 344	11 543 497
<b>Sub-total Latin America</b>	<b>39 307 452</b>	<b>39 544 721</b>	<b>32 623 746</b>	<b>34 743 073</b>
<b>Programmes and project in Oceania</b>				
Adaptation	0	0	4 093	4 359
Mitigation	0	0	50 000	53 248
<b>Sub-total Oceania</b>	<b>0</b>	<b>0</b>	<b>54 093</b>	<b>57 607</b>
<b>Global programmes and projects*</b>				
Adaptation	22 723 802	22 860 968	25 424 610	27 076 262
Mitigation	41 845 898	42 098 489	34 322 263	36 551 931
Private sector mobilised	12 197 772	12 271 400	10 751 495.53	11 449 941.99
<b>Sub-total global</b>	<b>76 767 472</b>	<b>64 959 457</b>	<b>35 316 937</b>	<b>37 611 222</b>
<b>Sub-total bilateral public adaptation</b>	<b>121 416 315</b>	<b>122 149 210</b>	<b>121 302 331</b>	<b>129 182 461</b>
<b>Sub-total bilateral public mitigation</b>	<b>98 373 201</b>	<b>98 967 004</b>	<b>88 362 939</b>	<b>94 103 236</b>
<b>Sub-total bilateral public climate finance</b>	<b>219 789 516</b>	<b>221 116 214</b>	<b>209 665 269</b>	<b>223 285 697</b>
<b>Sub-total bilateral mobilised private climate finance</b>	<b>70 616 943</b>	<b>71 043 202</b>	<b>99 226 374</b>	<b>105 672 390</b>
<b>Total public and mobilised private climate finance</b>	<b>290 406 459</b>	<b>292 159 416</b>	<b>308 891 643</b>	<b>328 958 086</b>

Table 2: Switzerland's financial contributions through bilateral and multi-bilateral channels, 2019 and 2020 (Federal Office for the Environment, 2022b, p. 241)

### 3.3.1 Grants

The majority of Switzerland's bilateral climate finance is allocated via grants to programs and projects supporting climate change adaptation and mitigation (Federal Office for the Environment, 2022b, p. 236). The same holds true for bilateral biodiversity finance (Federal Office for the Environment, 2023c). Switzerland emphasizes in its biennial report to the UNFCCC cross-cutting activities and lays the focus on modern energy infrastructure, rural electrification, energy efficiency, cleaner industrial production, sustainable use of natural resources and the support of partner countries to develop and use innovative financing and market mechanisms in climate protection (Federal Office for the Environment, 2022b, p. 236).

One example is the Platform for Renewable Energy, Energy- & Resource Efficiency (REPIC), which supports Swiss project developers active in developing countries via grants. The grants cover max. 50% of project costs and facilitate the mobilization of private investments for the other 50%. These private investments can be attributed as directly mobilized private investments for Switzerland's international climate finance (Schweizerische Eidgenossenschaft, 2019a, pp. 5-6).

Switzerland also supports various international organizations, and NGOs through subsidies and grants that realize programs supporting climate and biodiversity protection in developing countries, examples are the United Nations Environment Program (UNEP), UNDP, the International Fund for Agricultural Development (IFAD), the German Association for International Cooperation (GIZ), Helvetas or the World Wildlife Fund (WWF) (Spaleck, et al., 2020, p. 18).

### **3.3.2 Capacity building and technical assistance**

In many cases, the grants Switzerland allocates for international climate and biodiversity finance will be used for the provision of capacity building and TA which in turn foster technology transfer and innovation. Examples are the support of small and medium enterprises (SMEs) to absorb private investments e.g. for their renewable energy projects. Although these support measures present an important lever to mobilize private investments, the causal correlation between the TA and the actual private sector investment is too weak to attribute these private investments to the international climate and biodiversity finance of Switzerland. Hence, capacity building and TA are important instruments to ensure that projects can absorb international climate and biodiversity finance and in particular private investments. These activities are an important part of Switzerland's bilateral public climate finance. But as of the moment, only a very small part of Switzerland's TA support can be considered as mobilising private funds for climate according to the strict methodology of the OECD (Schweizerische Eidgenossenschaft, 2019a, p. 21). The Federal Administration has encouraged the OECD to develop a methodology that measures mobilised private climate finance via technical assistance. The methodology becomes piloted since 2021 and allowed the Federal Administration to account for a few million CHF per year of mobilized private climate finance through TA (Federal Administration, 2023).

### **3.3.3 Loans**

To a limited degree, Switzerland allocates debt instruments within its current development finance suite. One example thereof is the SECO Start-up Fund. The fund provides loans of up to two-thirds of the investment costs to Start-ups of Swiss entrepreneurs or enterprises active in emerging markets. The remaining third of the project budget must be mobilized by the project developer e.g. via private investors and thus the Start-Up Fund has a leverage factor to it. But the Start-Up Fund does not specifically target projects with an effect on climate or biodiversity protection, so it has hitherto not been accounted towards Switzerland international climate and biodiversity finance. However, the projects are obliged to adhere to environmental standards and shall not cause environmental harm. As mentioned in Chapter 3.1.1 Switzerland is generally only able to lend off-balance sheet, so the SECO Start-up Fund is structured like a grant on the Swiss balance sheet (SECO, 2023b).

### **3.3.4 Equity**

The sole example in which Switzerland allocates equity on an international basis is through SIFEM. SIFEM is the Swiss Development Finance Institution. It is an independently managed and operated company limited by shares under private law fully owned by the Federal Government of the Swiss Confederation. SIFEM invests equity or patient debt predominantly in local or regional (public-private equity) funds or financial intermediaries in developing countries for the benefit of SMEs and infrastructure companies (Schweizerische Eidgenossenschaft, 2019a, p. 5). In its strategic objectives 2021-2024 the Federal Council obliges SIFEM to actively contribute to the

implementation of the Paris Climate Convention. All investments must be compatible with the goals of the Paris Climate Convention and the national climate targets of the countries. At least 25% of all new investments must be fully dedicated to climate protection (SIFEM AG, 2020, pp. 7-8). SIFEM demonstrated a public to private investment mobilization leverage ratio of around 1:6.3 in 2022 and 1:4.5 in 2022, both at fund level (second-level leverage) (SIFEM AG, 2023 p. 78 & SIFEM AG, 2022, p. 82).

### **3.3.5 Guarantees & Insurances**

Through SERV and the Swiss Technology Fund (the latter albeit on national level), Switzerland deploys insurances and guarantees for exports and ventures in the climate and biodiversity sector.

SERV underwrites export insurances and safeguards Swiss companies against political or buyers default risks for the export of goods and services with a certain share of Swiss value added. SERV adheres to the environmental requirements and standards of the OECD, the World Bank Group and the UN. Although targeted climate protection per se is not in scope of the regulatory mandate of SERV, it adopted a new climate strategy in 2021 (Federal Office for the Environment, 2022b, p. 243). With this strategy, SERV mandates itself to lay a stronger focus on climate protection in its business activities. Transactions in the area of renewable energy, climate protection of water may already today profit from special conditions for its investments/export insurances such as longer credit lifetimes of up to 18 years or flexible pay back terms. SERV managed to mobilize 89% (CHF 88 million resp. CHF 151 million if Ukraine, Turkey and Belarus are considered) of Switzerland's private finance contribution to international climate finance in 2020 (Federal Office for the Environment, 2022b, pp. 19-20). However, SERV's mobilization of private climate finance fluctuates considerably each year.

### **3.4 Regulative instruments to increase transparency**

In addition to the above explained sources, instruments and measures for international climate and biodiversity finance, regulations with currently no current financial impacts but which intend to foster transparency and disclosure around climate and biodiversity impacts of the commercial activities of corporations and financial institutions have been introduced in Switzerland and the EU (Schweizerische Eidgenossenschaft, 2022d, p. 10). These regulations (could) motivate and/or oblige corporations and financial institutions to allocate investments for international biodiversity and climate protection within or even beyond their value chains and generate positive climate and biodiversity impacts. The most relevant ones will be presented in the following.

On January 1, 2022 Switzerland adopted a new ordinance for a better protection of people and the planet in the scope of the "Gegenvorschlag" to the initiative "For responsible corporations - for the protection of people and the planet" (Schweizerische Eidgenossenschaft, 2022d, p. 5 and Schweizerische Eidgenossenschaft, 2021). The ordinance obliges corporations with more than 500 employees, more than 20 million CHF in total assets, and more than 40 million CHF in yearly revenue to report on their worldwide impact in regards to the environment (mainly CO2 footprint, but also air and water pollution, biodiversity and ecosystem impact etc.), social aspects, employee and human rights and fight against corruption (Schweizerische Eidgenossenschaft, 2019a, p. 7). The report shall facilitate a better understanding of the commercial activities and results of corporations, along with their impact on people and planet. A double materiality approach is applied: demonstration of the

impact of the company on people and planet, and demonstration of the risks the company is exposed to due to people and planet (Schweizerische Eidgenossenschaft, 2019a, pp. 13-14).

With the adoption of the Climate and Innovation Act on June 18, 2023 the Swiss Government obliges all companies active in Switzerland to define net-zero roadmaps that foresee net-zero targets until 2050 at the latest. The Government even offers TA for the elaboration of net-zero roadmaps before 2029 and financial support for the application of innovative climate friendly technologies and processes until 2030 (Bundesamt für Umwelt, 2023a, p. 1). The net-zero targets encompass the reduction or removal of scope 1, 2 and 3 emissions. Since many of the scope 3 emissions of companies accrue in their supply chain in developing countries, the law will likely encourage private international climate and biodiversity investments from Swiss corporations.

In June 2022, the Swiss Federal Council adopted the Swiss Climate Scores and therewith recommends (not obliges) financial institutions to rate their financial products according to comparable information in regards to international climate goals (The Federal Council, 2022). The financial institutions are encouraged to rate their secondary market portfolios according to greenhouse gas emissions, global warming potential, verified commitments to net-zero, credible climate stewardship, management to net-zero and exposure to fossil fuel activities. Rating criteria and score-associated classifications are defined in the Swiss Climate Scores (Schweizerische Eidgenossenschaft, 2022g, p. 2). The rating facilitates institutional and private investors to select investment products with a high, hence "climate-friendly" score. The Swiss Climate Scores thus create transparency according to clear criteria, establish an incentive for financial institutions to offer investments or investment portfolios with a high climate score for reputational reasons and simultaneously to encourage private investors to choose these investments and report relevant information to share- and stakeholders (The Federal Council, 2022). In addition, the Federal Department of Transportation, Environment and Climate (UVEK) and the Federal Department of Finance (FDF) conduct regular voluntary climate tests with financial institutions and institutional investors in order to evaluate the alignment of the Swiss financial sector with the goals of the Paris Agreement. The participants can test their portfolios according to a method called Paris Agreement Capital Transition Assessment. The test does not only serve as monitoring tool but allows also for an easier implementation of Federal Council measures by the participating financial institutions. The next round of tests will be conducted in 2024 (Schweizerische Eidgenossenschaft, 2022f, pp. 13-14).

#### **4) Comparative analysis of other countries' sources and instruments to deploy and mobilize international climate and biodiversity finance**

In the following Chapter, the study looks at different countries, which have introduced sources, instruments and measures for international climate and biodiversity finance that could potentially be adopted in a similar fashion by Switzerland. The analysis will focus on Germany, the EU, Denmark and the Netherlands, and specifically lays emphasis on innovative sources and instruments in these countries for the mobilization of additional, and especially private, climate and biodiversity finance. Selected sources and instruments from other countries will be analyzed in Chapter 4.5.

For the purpose of the study, only sources and instruments that provide ideas for Switzerland in regards to the adoption of sources, instruments and measures for its own international climate and biodiversity finance mobilization will be analyzed. Mentioned sources and instruments for each country are thus not comprehensive for their respective international climate and biodiversity finance efforts.

#### 4.1 Germany

Net ODA in 2020 (OECD methodology)	International Biodiversity related ODF average 2016-2020 (OECD methodology)	International public climate and biodiversity finance as % of ODA
USD 29.32 billion	USD 1.3 billion	34%
Public International Climate Finance in 2020	Private climate finance mobilised in 2020	Public-private leverage factor
USD 8.67 billion	USD 0.22 billion	39:1 <sup>6</sup>

Source: Federal Ministry for Economic Affairs and Climate Action, 2022b, p. 145, OECD, 2023c and OECD, 2023d, p. 43

The Federal Government of Germany placed climate action at the top of its diplomatic agenda (Federal Ministry for Economic Affairs and Climate Action, 2022, p. 19). According to the OECD, Germany ranks fourth among all industrialized countries when considering the amount of annual private finance for international climate action mobilized on average between 2018-2020, which amounted to an average of USD 512 million according to OECD DAC methodology. It was only surpassed by the United Kingdom (USD 778 million), France (USD 1 billion) and the US (USD 1.14 billion) (OECD, 2023b, p. 29). Thus it seems worthwhile to include Germany in the present study.

Germany is also widely recognized as a forward-thinking country in international biodiversity finance. In 2022, it committed itself to raise its international biodiversity funding to 1.5 billion EUR annually by 2025. This constitutes one of the most significant pledges made by an industrialized country to date (The Nature Conservancy, 2022).

The main share (80%) of Germany's international climate and biodiversity finance is allocated through bilateral cooperation. 88% of Germany's international climate finance stemmed 2021 from the budget of the Federal Ministry for Economic Cooperation and Development (BMZ) and is implemented by the German Association for International Cooperation (GIZ) responsible for the technical cooperation and the Kreditanstalt für Wiederaufbau (KfW) Development Bank responsible for the financial cooperation (BMZ, 2021 und Deutsche Klimafinanzierung, 2023a). Whilst GIZ supports climate change mitigation and adaptation as well as biodiversity protection mainly through capacity building and TA, the KfW (through its Development Bank and its private sector arm, the German Investment and Development Association (DEG)) supports projects and ventures through grants, equity and both quasi-market rate as well as concessional loans that allow for special repayment conditions (long-term, low interest) (OECD, 2023b, p. 30).

In general, aside from KfW and KfW DEG, Germany supports international climate and biodiversity finance in a similar fashion (high percentage of balance sheet grants and non-reimbursable contributions to multilateral and multi-bilateral organizations) to Switzerland. However, with auctioning allowances under the German ETS, Germany introduced a new public budget source, that

<sup>6</sup> High yearly fluctuations, public private leverage in 2019 amounted to 8.8:1, with public contributions of EUR 6.7 bn and private climate finance mobilised of EUR 0.77 bn (Federal Ministry for Economic Affairs and Climate Action, 2022b, p. 145).

was partially used for international climate and biodiversity finance until 2021. Additionally, the Seed Capital Assistance Facility supported by the International Climate Initiative (IKI) and the Global Climate Partnership Fund are two instruments directly targeting the mobilization of private finance for international climate and biodiversity finance and thus worth considering in the present study, as is the Global Energy Efficiency and Renewable Energy Fund (GEEREF) in which Germany invests (see Chapter 4.2.2), managed by the European Investment Bank (EIB).

#### 4.1.1 German Emissions Trading Scheme

Mechanism	Annual budget sourced	Earmarked for international climate or biodiversity finance?
Auctioning of carbon allowances for certain sectors.	6.4 billion EUR in 2022	Not anymore, until 2021 used for IKI funding.

In 2021 Germany launched its national Emissions Trading Scheme (ETS) for heating and transport fuels. A wide range of sectors in Germany are now subject to a carbon price. Germany's ETS covers all fuel emissions not covered by the EU ETS. The German ETS set a cap on emissions from all main fuel types, with additional fuel types being priced from 2024 onwards. An increasing fixed price per tonne of CO<sub>2</sub> is set from 2021 to 2025, so allowances can be bought at these set prices. Subsequently, auctions with minimum and maximum prices will be introduced (International Carbon Action Partnership, 2022, pp. 1-2).

All companies starting from a certain size must comply with an annual self-reporting in the form of an emissions report according to a previously approved monitoring plan. Based on this self-reporting, the companies must purchase their CO<sub>2</sub> allowances for the respective year (International Carbon Action Partnership, 2022, p. 4).

The German emissions trading scheme raised 6.4 billion EUR in 2022 and thus generated significant revenue, which can be used for climate and biodiversity protection. In the case of Germany, all revenues flow in the Government's "Climate and Transformation Fund" (KTF). The fund supports measures under the climate protection program e.g. greenhouse gas reduction programs and direct assistance to industry or households. It is purely directed to national climate and biodiversity protection measures (International Carbon Action Partnership, 2022, pp. 1-2).

Up until 2021, parts of the revenues from the carbon allowance auctions were used to fund the International Climate Initiative (IKI). Since 2022, IKI has been funded directly through the budgets of the Federal Ministry for Economics and Climate Protection, the Federal Ministry for the Environment, Nature Conservation, Buildings and Nuclear Safety and the Foreign Office (IDFC, 2022). The German ETS thus no longer constitutes a source for international climate nor biodiversity finance. However, the revenues raised could be used for international climate change action and biodiversity protection. So, reducing the free allowances under the Swiss ETS system (see Chapter 3.1.3) in a similar fashion to the German ETS and earmarking some of the revenue generated for international climate and biodiversity finance, could be an interesting option to generate additional means for international climate and biodiversity finance.

#### 4.1.2 Germany's International Climate Initiative

Fund volume	Public - private leverage factor	Distinguishing feature
680 million EUR in 2022.	N.a. for IKI but some supported initiatives such as e.g. SCAF demonstrate a second-level leverage factor of 1:64.	Contribute to the creation of innovative financing mechanisms for the climate and biodiversity sector in developing countries.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Direct.	Grants and TA.	5-10 million EUR.

The IKI was founded in 2008 as an initiative of the German Government to provide support to developing countries to achieve their contribution to halt climate change defined in the NDCs and their commitments to preserve biodiversity defined in the Convention on Biological Diversity (CBD). As mentioned in Chapter 4.1.1 IKI is directly funded through the German federal budget. Since 2015, funding for IKI has started to increase considerably and in 2022 IKI had around 680 million EUR at its disposal, with 685 million are planned for 2023. The IKI is managed by the state-owned ZUG gGmbH, the main executive organizations are GIZ and KfW, next to other international organizations (Deutsche Klimafinanzierung, 2023a). IKI allocates grants and provides TA, supports capacity building, facilitates technology transfers and mitigates investment risks by applying innovative financial instruments to projects in the area of greenhouse gas emission reductions, adaptation to climate change, preservation of natural carbon sinks and the protection of biological diversity (IKI, 2023b). The overarching objective is to support climate and biodiversity projects with a market based approach in developing countries to reach maturity and therewith to facilitate private sector investments. To support a Paris-compatible financial market development in the target countries is a secondary objective. IKI therefore also provides advisory services to political decision makers, capacity building to financial institutions and awareness raising for investors to foster framework conditions for private climate and biodiversity finance (IKI, 2023a). Since its creation in 2008, IKI has supported more than 800 projects in more than 60 countries with funding of around 5 billion EUR (Federal Ministry for Economic Affairs and Climate Action, 2022a, p. 19). To foster synergies across countries and themes it created thematic and country specific funding windows for high-volume projects and it offers small and medium sized grants to smaller organizations and projects (Deutsche Klimafinanzierung, 2023a).

While there are no statistics measuring the mobilization of private climate and biodiversity finance through IKI and its projects, IKI supported various projects that specifically targeted the mobilization of private sector investments in biodiversity and climate projects e.g. the Seed Capital Assistance Facility (SCAF) implemented by UNEP (IKI, 2021). SCAF is a multi-donor trust fund with public finance allocations from Germany, the UK and the UN that partially finances the development phase of climate-friendly projects (mainly renewable energy and energy efficiency projects) in developing countries. Thus, SCAF shares project development and seed-funding costs with private equity funds, venture capital funds, and project development companies in emerging markets. SCAF allocated 16.3 million USD of seed-funding in its first allocation round and therewith mobilized 1.05 billion USD in private climate investment, which amounts to a leverage factor of 1:64 (SCAF, 2022).

Additionally, it derisked projects through grants and supported their investment readiness through TA (IKI, 2023b).

#### 4.1.3 Global Climate Partnership Fund

Fund volume	Public - private leverage factor	Distinguishing feature
656 million USD in 2021.	First level: 3:2 At investment level roughly 1:2 leverage factor (though public private leverage factor is not clear).	Blended finance vehicle with senior, mezzanine and junior class shares.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Direct investments or investments in local financial institutions.	Senior or subordinate long-term debts.	Min. 5 million EUR.

The Global Climate Partnership Fund (GCPF) is a good example of the innovative measures Germany adopted to mobilize private finance for international climate action. Germany's Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) and the KfW were the initiators of The Global Climate Partnership Fund (GCPF). GCPF is a public-private partnership (PPP) managed by the Impact Investor responsibility headquartered in Zurich. The GCPF uses public funding to mobilize private capital to invest in renewable energy and energy efficiency projects in developing and emerging markets. The GCPF either invests directly in projects and ventures or through local financial institutions. It has a TA arm that supports projects or local financing institutions to become investment ready and an investment facility that allocates senior or subordinate long-term debts to local financial institutions and senior debt and very few equity investments directly to projects which fulfill the investment criteria and have a minimum deal size of 5 million EUR (GCPF, 2023).

The GCPF is a blended finance vehicle that contains junior class shares, predominantly financed by the German, Danish and UK governments, that provide a first loss guarantee for the mezzanine class shares, financed by development banks' balance sheets such as the KfW, the Entrepreneurial Development Bank (FMO), IFC, the Austrian Development Bank (OeEB) and EIB and the senior class shares, catering to the risk and return appetite of private sector investors (GCPF, 2009). If one takes the first quarter of 2021 as an example, the GCPF was capitalized with 656 million USD and allocated 593 million USD to renewable energy and energy efficiency projects in developing countries either directly or indirectly (via local financial institutions). Of the allocations, 28% stemmed from the junior equity tranche, 12% from the mezzanine tranche, 35% from the senior debt tranche and 25% stemmed from convertible notes (GCPF, 2021, p. 8). The complete senior debt tranche and a part of the convertible notes are held by private investors, amounting to 40% of total fund shares held by private investors (GCPF, 2021). The fund thus demonstrates a first level public-private leverage factor of 3:2 at the fund level, while around 1 billion EUR of public and private sector capital have been mobilized at the investment level (financial intermediaries or projects/SMEs on the ground) (=second level leverage) (GCPF, 2022, p. 2).

#### 4.1.4 The Global Innovation Lab for Climate Finance

Fund volume	Public - private leverage factor	Distinguishing feature
3.5 billion USD since inception.	N.a.	Support for the development, structuring and acceleration of innovative climate finance solutions.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Direct.	TA.	N.a.

Germany, along with Canada, the US, the UK and Bloomberg also funds the Global Innovation Lab for Climate Finance. Although the Lab is a TA instrument and hence, only indirectly facilitates the mobilization of private climate and biodiversity finance, it is none the less worth mentioning in this study. Founded in 2014, the Lab is a PPP aiming to support development, structuring and acceleration of innovative climate finance solutions and instruments that target the mobilization of private finance at scale. The Lab has provided TA and endorsement to 62 instruments that have generated USD 3.5 billion in funding for initiatives related to climate change and sustainable development, as of July 2023. Thereof, USD 1.7 billion stems from public investors, USD 0.3 billion from philanthropic investors and USD 1.4 billion from the private sector through the reduction of risks and the improvement of financial returns (The Lab, 2023b). The Lab 2021's program was funded by the Dutch, German, Swedish, and UK governments, as well as the Rockefeller Foundation. The 2022 program was funded by the German, Swedish, US, and UK governments (The Lab, 2022, pp. 3-4).

The Lab not only provides TA for climate finance instruments, such as Climate Investor One but also for initiatives to accelerate biodiversity finance e.g. the Fund for Nature, the Sustainable Agriculture Finance Facility or the Amazonia Sustainable Supply Chain Mechanism (ASSCM). The ASSCM for example, part of the 2021 program, is an innovative financial mechanism using a blended finance structure and leveraging off-take agreements from a lead and anchor company to provide upfront finance, TA, and structural community resources for building the resilience of the Brazilian Amazon. The concept has two instruments, including a fund paying suppliers upfront in exchange for products and an "enabling conditions facility" that provides TA to the local communities. This mechanism enables companies to assume an active role in not just ensuring the quality of their supplies but also providing support to their local suppliers. The pilot of the instrument is aimed to start as a USD 50 million fund with Natura acting as the initial off-taker and investor (The Lab, 2021, p. 7).

#### 4.1.5 KfW Green Bond Portfolio

Fund volume	Public - private leverage factor	Distinguishing feature
2 billion EUR.	N.a.	Bonds earmarked for climate (and biodiversity) finance.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Purchase of green bonds.	Debt.	N.a.

Bonds constitute the largest asset class in global financial markets with USD 6.7 trillion in annual issuance. In emerging and developing markets alone, the issuance of government bonds amounted to 2.5 trillion USD in 2019 alone. Therein, the green, social, sustainable and sustainability-linked bonds (GSSS) gained in traction, with nearly 700 billion USD in issuance in 2021 (OECD, 2022a, pp. 11, 13 & 24).

**Green bonds** represent a source of funding for projects intended to deliver a positive environmental impact. Examples of project categories eligible for green bond issuance include: renewable energy, energy efficiency, clean transportation, green buildings, wastewater management and climate change adaptation.

**Social bonds** have become an increasingly popular fixed-income product in light of the COVID-19 pandemic and the resulting need for new funding avenues to address the unforeseen economic and social disruptions. Examples of project categories eligible for social bonds include: food security and sustainable food systems, socioeconomic advancement, affordable housing and access to essential services such as healthcare.

**Sustainability bonds** are bonds where the proceeds exclusively apply to finance or re-finance a combination of both green and social projects. They offer a wider range of potential opportunities as examples of project categories eligible for sustainability bonds typically include those in the green and social bonds categories.

**Sustainability-linked bonds (SLBs)** are instruments where financial and/or structural characteristics can vary depending on whether the issuer achieves predefined sustainability or environmental, social and governance (ESG) objectives. Unlike green, social and sustainability bonds, these bonds are not project-based instruments but present forms of balance sheet financing.

**Table 3:** Overview of different GSSS schemes (OECD, 2022a, p. 16)

Due to their long-term nature and the commitment to either use the proceeds for green and sustainable projects in the case of use-of proceeds bonds or to meet predefined sustainability objectives in the case of sustainability-linked bonds, GSSS have much potential to raise significant private and public finance for climate and biodiversity protection projects in developing countries. Since GSSS are similarly structured as conventional bonds and demonstrate comparable financial characteristics, they present a safe and easy entry point for private investors to tap into green and sustainable investments (OECD, 2022a, p. 8 & 19). Especially for institutional investors such as insurance companies and pension funds, bonds (and therein GSSS bonds) provide a sought after asset class to match their typically long-term liabilities, though they display a low risk-appetite and are therefore hesitant to invest in bonds issued by developing countries (OECD, 2022a, p. 24). However, it should be considered that most green bonds issued are merely used to refinance projects in the climate (and biodiversity) sector, thus the additional impact generated through green bonds for climate and biodiversity protection is close to zero. Moreover, the verification of green bonds is in many cases restricted to procedural checks and not an “impact” evaluation on the ground (Dorna & Tanner, 2019, p. 23). Hence, when undertaking investments in green bonds, these potential “green washing” or “impact dilution” risks should be kept in mind.

Nonetheless, green bonds have significant potential to mobilize finance for climate and biodiversity projects. Though, only 6% of total GSSS were issued by entities in developing countries in recent years. In order to increase this percentage, OECD countries such as Switzerland can on the one hand support governments and (financial) entities in developing countries to issue more GSSS by providing TA to improve market infrastructure, such as the development of localized standards and

guidelines, or directly provide structuring support for GSSS bond issuance. On the other hand, OECD countries can act as anchor or cornerstone investors for GSSS bonds issued by developing countries and thereby crowd in (private sector) investments or provide risk-reduction or insurance schemes for these GSSS to make their risk-return profile more appealing to e.g. institutional investors (OECD, 2022a, p. 9).

The latter approach is actively pursued by KfW. With the support of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMUV), KfW has built up a global green bond portfolio of 2 billion EUR, with selected bonds it has invested in, in a quest to finance environmental and climate protection measures across the globe including in emerging markets (although the majority of the portfolio is issued by EU entities) via capital market-based instruments. In addition, KfW is actively engaged for the qualitative development of the green bond market through its membership in the executive committee of the green bond principles (KfW, 2023).

#### 4.1.6 Conservation Trust Funds for Biodiversity Protection

Fund volume	Public - private leverage factor	Distinguishing feature
325 mio. EUR in 2022 + initial pledges for 2023.	2:1 (though private funding stems from philanthropies).	Grants to cover baseline costs for annual ecosystem maintenance.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Direct.	Grants.	Min. 15 mio. EUR.

Germany has established numerous Conservation Trust Funds (CTF) as part of its international biodiversity finance efforts such as the Blue Action Fund or the Legacy Landscape Fund (Adams, et al., 2021, p. 12). According to de Koning, Lang, Münchmayer and Knigge et al. (2023, p. 2). CTFs facilitate the effective deployment of government funds in a transparent, sustainable, and long-term manner. Their long-term horizon makes them immune to shifts in political priorities, providing the necessary long-term security to address the biodiversity crisis on the ground.

The Legacy Landscape Fund (LLF) is a grant-making institution aiming to provide long-term funding to the world's most important protected terrestrial areas, so called "Legacy Landscapes", which describe large sites covering at least 2000 km<sup>2</sup> of protected land. Established in 2020 as an independent charitable foundation under German law, this fund is a joint initiative between the German BMZ, KfW, Agence Française de Développement (AFD), Campaign for Nature (CfN), Frankfurt Zoological Society (FZS), the International Union for Conservation of Nature (IUCN), the UNESCO World Heritage Centre, and the WWF. The LLF uses public commitments to leverage philanthropic investments deployed for biodiversity protection (Legacy Landscapes Fund, 2023b). The public-philanthropic funding sources are then combined into grants either perpetual or sustaining (15 years), that become awarded to NGOs partnering with protected area authorities, indigenous and local communities to support the protection and management of terrestrial protected areas. The grant covers baseline costs of up to 1 million USD per landscape per year. Therewith the fund ensures that the core costs for effective management can be covered (Legacy Landscapes Fund, 2023b). For each grant, public funding is 2:1 matched by funding from philanthropies, so e.g. a sustaining grant consists of 10 mio. USD in public funding and 5 mio. USD in philanthropic funding (Legacy Landscapes Fund, 2023a, p. 7). Up to January 2023, Germany has

made a total commitment of 182.5 million EUR towards the LLF. There are plans to allocate an additional 30 million EUR in 2023, pending the completion of budgetary procedures and obtaining parliamentary approval (BMZ, 2023).

## 4.2 European Union

Net ODA in 2020 (OECD methodology)	International Biodiversity related ODF average 2016–2020 (OECD methodology)	International public climate and biodiversity finance as % of ODA
USD 76.15 billion	USD 0.987 billion <sup>7</sup>	32%
Public International Climate Finance in 2020 <sup>8</sup>	Private climate finance mobilised in 2020	Public-private leverage factor
USD 23.5 billion	N.a.	N.a.

Source: European Commission, 2022b, p. 103, European Commission, 2021 and OECD, 2023d, p. 43

The EU, its Member States and the EIB are together the biggest contributor of public climate finance to developing countries worldwide. The European Investment Bank (EIB) is also the largest multilateral development bank for climate action finance worldwide (EIB, 2016). Also, the EU is a leading player for the establishment of sustainable finance standards and benchmarks, such as the EU Taxonomy for sustainable activities, the European Green Bond Standard and the International Platform on Sustainable Finance (European Commission, 2023f).

The EU alongside its member states, also holds the position of the most significant international contributor for biodiversity conservation and sustainable use. From 2014 to 2020, the EU allocated EUR 85 billion (8% of the EU's long-term budget) towards combating global biodiversity loss. This funding was sourced from various EU programs across different policy areas, with a significant contribution coming from the common agricultural policy. In September 2021, the EU Commission committed itself to double its international funding for biodiversity protection for developing countries and especially least-developed countries (LDCs) in the 2021-2027 period (seven billion EUR are pledged) and to monitor that all EU spending does not display negative impacts on biodiversity (European Commission, 2023a and European Commission, 2022).

With all these commitments in place, the analysis of selected sources, instruments and measures for international climate and biodiversity finance applied by the EU seems worthwhile for the purpose of this study.

### 4.2.1 EU Carbon Border Adjustment Mechanism

Mechanism	Annual budget sourced	Earmarked for international climate or biodiversity finance?
Carbon tax on imports.	Assumed 36 billion EUR per year from 2028 onwards.	Not yet clear.

As part of the measures to reach its new climate targets for 2030 and 2050, the EU will introduce a Carbon Border Adjustment Mechanism (CBAM) in October 2023. The EU is the first jurisdiction that implements a comparable mechanism. CBAM will first cover certain heavily polluting industrial sectors such as iron and steel and will then gradually be extended to additional sectors. The testing

<sup>7</sup> Only includes international biodiversity finance of the EU institutions.

<sup>8</sup> Includes cumulated international climate finance by the EU institutions, its Member States and the EIB.

phase for the mechanism extends till the end of 2025 during which only data will be compiled, fees apply from 2026 onwards and full implementation is planned for 2035 (Schweizerische Eidgenossenschaft, 2023c).

The EU CBAM will apply a “carbon tax” on certain imports in order to avoid carbon leakage, which refers to the outsourcing of polluting production in countries with no or less strict CO<sub>2</sub> caps and allowances than the EU ETS. Imported products will be taxed at the EU border based on the emissions (direct utilization of CO<sub>2</sub> intensive materials and energy consumption) in their production process multiplied by a defined carbon price. The detailed pricing mechanism is yet to be defined by the EU Commission. With the introduction of CBAM, the EU tries to level the playing field for companies producing within and the ones importing their products into the EU, especially across heavy polluting industries. The EU CBAM does however not foresee a reimbursement of carbon fees paid in the EU for products that are exported (Dröge, 2021, pp. 7-8).

The CBAM can be considered as an artificial barrier to trade under the World Trade Organization (WTO) as compliance with the mechanism will require significant administrative effort (and have monetary implications) for all companies conducting trade across EU borders (Schweizerische Eidgenossenschaft, 2023a, p. 2). The EU was criticized by other WTO member states for the discriminating nature of CBAM, despite the EU granting conditional exemptions<sup>9</sup> to developing countries and full, unconditional exemption to LDCs (Schweizerische Eidgenossenschaft, 2023c).

It is assumed that CBAM will generate EU household revenue of roughly 36 billion EUR per year from 2028 onwards (European Commission, 2023e). From a climate political and trade competition standpoint, these revenues would have to be invested – at least in part – to reduce global greenhouse gas emissions. Thus, CBAM could generate additional means to be invested in international climate and biodiversity protection (Dröge, 2021, p. 10). However, for the moment it is only certain that the funds raised through CBAM will be flowing into the EU household. The subsequent use of these funds will be defined in the regular budget process (Schweizerische Eidgenossenschaft, 2023a, p. 20).

With the initiative 21.432 Ryser, which demands the creation of a regulatory base for the introduction of a Swiss Carbon Border Adjustment, the Swiss administration is currently tasked with developing the regulatory base for such an introduction in the form of an article 34b in the federal CO<sub>2</sub> law. The regulatory proposition will go into consultation before the respective commissions of the national and state council in the second half of 2023 (Die Bundesversammlung, 2023).

#### 4.2.2 Global Energy Efficiency and Renewable Energy Fund

Fund volume	Public - private leverage factor	Distinguishing feature
222 million EUR (state 2015).	1:1 first level leverage 1:100 combined second and third level leverage.	Fund of funds for renewable energy and energy efficiency PPPs in developing and emerging markets.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Fund-of-funds.	Private equity.	10-20 million EUR.

<sup>9</sup> The specifics of these special exemptions can be found under: <https://gsphub.eu/news/brief-cbam>.

The GEEREF is a fund-of-funds that was founded by the European Commission in 2008. The fund supports PPPs in developing and emerging markets focusing on renewable energy and energy efficiency proliferation. The GEEREF is managed by the EIB and allocates funding predominantly into regional private equity funds that support projects below 10 million EUR in Africa, Asia, Latin America, MENA and Central Asia. The GEEREF was accompanied by a technical assistance facility, the GEEREF's Regional Fund Support Facility, fully funded by the European Commission. The TA facility helped potential investee funds with the development of investment and monitoring capabilities and the recruitment of qualified professionals (Deutsche Klimafinanzierung, 2023c).

At fund close in 2015, the GEEREF had a total of 222 million EUR under management, thereof 112 million EUR (50.5%) from public sources stemming from Germany, Norway and the European Commission. The other 49.5% were financed by private sector actors. This amounts to a fund-level public-private leverage factor of roughly 1:1. GEEREF invested in 14 funds in Africa, Asia and Latin America, that in turn invested in 188 renewable energy and energy efficiency projects. The cumulated private sector investments mobilized for international climate finance through the portfolio funds and their portfolio projects amounts to over 10 billion EUR. GEEREF thus demonstrates an impressive second and third level combined public-private leverage factor of roughly 1:100 (GEEREF, 2023). However, it is to note that the projects supported through the GEEREF portfolio funds are bigger scale renewable energy and energy efficiency projects, mostly national grid connected. A comparable leverage factor is unlikely to be achieved for other types of climate and biodiversity projects, such as e.g. for smaller scale renewable energy installations for the decentralized electrification of rural areas or for climate change adaptation projects.

#### 4.2.3 Natural Capital Financing Facility & Invest EU

Fund volume	Public - private leverage factor	Distinguishing feature
82 million EUR in 2021 (NCFE) 26.2 billion EUR for InvestEU.	N.a. for NCFE Target of 1:14 for InvestEU.	Financing instrument focusing on biodiversity financing within EU.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Direct or indirect through financial institutions.	Debt, equity and grants.	2-15 mio. EUR.

In 2015 the European Commission launched the Natural Capital Financing Facility (NCFE), a pilot financing instrument jointly established with the EIB). The NCFE focuses on biodiversity financing within the EU. However, the instrument as such could be extended for international biodiversity finance and thus, it seems worthwhile to integrate it into the present study.

The objective of the facility was to tackle financing challenges encountered by projects addressing biodiversity loss and climate change adaptation within the EU. It also aimed to demonstrate the business case for financing biodiversity and climate adaptation projects through innovative and sustainable market-based mechanisms, complementing traditional grant-based financing. Following a three year extension, the mandate of the facility concluded at the end of 2022. NCFE was structured encompassing two facilities: a finance facility providing debt and equity from 2 million to 15 million EUR, and a TA facility offering grants of up to 1 million EUR for project preparation, implementation and monitoring. NCFE was expected to facilitate between 9 to 12

projects, resulting in total financial contributions of 100 million to 125 million EUR. The facility successfully signed 11 operations, amounting to 82 million EUR of disbursed capital. The facility was designed as a flexible mechanism, enabling the provision of either direct or intermediated debt financing as well as equity investments, depending on the characteristics of the projects supported. Through the NCFE, the EU financed projects around green infrastructure, payment for ecosystem services, biodiversity offsets/compensation beyond legal requirements as well as pro-biodiversity and adaptation ventures (European Investment Bank, 2022).

The NCFE was replaced by InvestEU in 2022, the new EU investment programme for 2021-2027 (European Investment Bank, 2022). The programme consists of three pillars, including a fund, advisory hub and portal. The InvestEU fund is managed through financial partners such as the EIB and provides an EU guarantee of 26.2 billion EUR to facilitate the mobilization of over 372 billion EUR public and private funding for strategic investments within the EU (European Union, 2023). Therein, the InvestEU fund includes a dedicated natural-capital and circular-economy window that bundles a range of EU financial instruments, including NCFE, into one fund, with the stated objective to mobilize at least 10 billion EUR for biodiversity finance over the next 10 years through public/private blended finance (European Commission, 2023a).

### 4.3 Denmark

Net ODA in 2020 (OECD methodology)	International Biodiversity related ODF average 2016-2020 (OECD methodology)	International public climate and biodiversity finance as % of ODA
USD 2.64 billion	USD 0.022 billion	11%
Public International Climate Finance in 2020	Private climate finance mobilised in 2020	Public-private leverage factor
USD 0.27 billion (disbursed)	USD 0.122 billion	2.2:1

Source: Danish Ministry of Climate, Energy and Utilities, 2022, p. 338 & 346, OECD, 2023c and OECD, 2023d, p. 43

Denmark has set one of the world's most ambitious climate goals to reduce greenhouse gas emissions by 70% by 2030. This in order to serve as an example for climate change mitigation and adaptation measures on an international level (Climate Partnerships 2030, 2023). Denmark has also emerged as a leader in international biodiversity finance. While contributing to major global funds, Denmark also contributes to innovative finance initiatives such as the Danish Sustainable Development Goals (SDG) Investment Fund, which is committed to combat climate change and biodiversity loss (Ministry of Foreign Affairs of Denmark, 2021, p. 36). In addition, Denmark has a strong track record for PPPs and for recognizing the private sector as a central actor for national and international climate and biodiversity protection (Climate Partnerships 2030, 2023).

Looking at Denmark and its intervention for private finance mobilization for international climate and biodiversity protection in the scope for this study was therefore an obvious choice.

#### 4.3.1 IFU's Climate Policy

Fund volume	Public - private leverage factor	Distinguishing feature
Total IFU capital under management was DKK 12.6 bn in 2021.	Varies across different funds.	DFI with strong climate policy and high public-private leverage factor.

Form of capital allocation	Type of capital allocation	Investee ticket sizes
Direct and fund-of-funds.	Equity and loans.	Varies across funds under management.

Denmark uses its Development Bank, the state-owned Investment Fund for Developing Countries (IFU) in a targeted approach to finance climate change mitigation and adaptation. The IFU is fully capitalized by the Danish State. Though, it manages funds with capital from the Danish State, Danish pension funds, institutional and private investors (IFU, 2022b, p. 5). The IFU provides equity, loans and guarantees on commercial terms to private sector investments in developing countries. Thereby, the IFU with 0.5 billion USD in private investments annually mobilized counts next to the US' International Development Finance Corporation (DFC), France's Proparco, UK's BII and the Netherlands's FMO as the Development Finance Institution (DFI) with the highest amount of private finance mobilized in between 2018-2020 (OECD, 2023b, p. 22).

In April 2022, IFU adopted a climate policy which applies to all its new investments and guides its investment criteria towards contribution objectives to limit global greenhouse gas emissions levels compatible to hold global average temperature increase to 1.5 degrees Celsius (Investment Fund for Developing Countries, 2022, p. 1).

The main targets included in the policy are the following:

- "achieving net-zero portfolio emissions by 2040 at the latest: IFU will continuously report on the current greenhouse gas emissions in the portfolio and present an outlook for the future, with a road-map towards its target of net-zero by 2040;
- decreasing three-year rolling average of carbon intensity measured at sector level;
- having minimum 50% of all new direct investment volume contracted between 2022-2024 qualifying as climate finance;
- screening of all new investment opportunities against "do no significant harm" on climate impact (mitigation) and risk (adaptation)" (Investment Fund for Developing Countries, 2022, p. 2).

The IFU will screen all its new investments against these criteria to determine their strategic fit and classify them in three categories: misaligned, conditionally aligned or aligned. Misaligned investments will be placed on an exclusion list. Conditionally aligned investments are compliant with a do no harm approach with regards to climate protection and contributes to an or several NDCs and/or long-term low GHG emission development strategies. Aligned investments qualify as climate investments. All aligned investments must be compatible with the EU Taxonomy and the Common Principles for Climate Mitigation Finance published by the International Development Finance Club (IDFC) and MDBs. The Climate Policy grants some exceptions for investments in developing countries and especially LDCs that are conditionally aligned, meaning they do not target climate change protection but are necessary for the development of the respective country and are aligned with defined criteria. IFU further commits to absolute emissions accounting on individual investment level, if the investment is larger than DKK 25 million and has an expected emissions level above 10'000t CO<sub>2</sub> per year across its lifetime (Investment Fund for Developing Countries, 2022, pp. 2-5).

#### 4.3.2 Danish Climate Investment Fund

Fund volume	Public - private leverage factor	Distinguishing feature
1.15bn DKK in 2022.	1:1.4 first level leverage 1:6 second level leverage → combined: 1:15 second level public private leverage.	Minority investment fund for renewable energy and energy efficiency projects in developing countries, high leverage factor.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Direct.	Mezzanine debt or equity.	35-50 mio. DKK (average).

As one of the measures to comply with its climate policy, the Danish State and the IFU in collaboration with institutional investors funded the Danish Climate Investment Fund. The Danish Climate Investment Fund is a bilateral funding vehicle to invest in projects reducing greenhouse gas emissions in developing countries. The fund is a PPP managed by the IFU. The Danish state invested 225 million DKK through a managed account, IFU invested 250 million DKK, and four Danish pension funds provided the private share of funding, amounting to 675 million DKK in a first investment round. All of the fund investments (including that of the Danish state) consist of equity contributions, with preferential return schedules for the private sector investors, which is considered more innovative and attractive for the private sector, than e.g. a first loss capital tranche provision by the Danish Government. In a second round it is foreseen to raise an additional 200 million DKK in private investment (Danish Climate Investment Fund, 2023). IFU as fund manager earns a management fee and carried interest (Convergence, 2017, p. 3).

The fund acts as a minority investor for renewable energy and energy efficiency projects in developing countries and allocates mezzanine debt or equity. It thereby derisks private investments from Danish institutional investors, local banks, funds etc. into these projects, which have to provide the majority of financing (NDC Partnership, 2023). Experiences from similar investments show that for every 100 DKK the fund invests, total investments will add up to 600 DKK. Hence, the fund is expected to demonstrate a leverage factor of 1:6. Accounting for the private investments in the fund, the leverage factor of public to private investments will be 1:15 (Danish Climate Investment Fund, 2023).

#### 4.3.3 Danish SDG Investment Fund

Fund volume	Public - private leverage factor	Distinguishing feature
4.85 bn DKK in 2021.	2:3 first level leverage 1:2.4 second level leverage.	PPP fund (IFU and Pension Funds) allocating patient equity to private sector project developers contributing to the SDGs in developing countries.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Direct.	Equity.	25-250 mio. DKK.

Another PPP fund the IFU introduced is the Danish SDG Investment Fund. The fund will contribute to the realization of the SDGs in developing countries and therewith inter-alia provide international climate and biodiversity finance (IFU, 2017).

In a 40/60 funding structure between the IFU and six Danish pension funds, the SDG Investment Fund is capitalized with 4.85 billion DKK (state 2021) (IFU, 2022a, p. 5). The return expectations for the pension funds is 10–12%. The fund allocates equity with a 4–6 year lifetime in between 25 million to max. 250 million DKK to the private sector contributing to the achievement of the SDGs in developing countries across Africa, Asia, Latin America and parts of Europe. The IFU acts as fund manager (IFU, 2017). In 2021, the SDG fund allocated 2.3 billion DKK and mobilized 11.88 billion DKK in investments, thereof 5.6 billion DKK in private investments. Renewable energy and sustainable food systems account for a bit less than 50% of current investments, and therefore a considerable percentage of the private sector finance mobilized can be attributed to the international private climate finance of Denmark (IFU, 2022a, p. 8; IFU, 2022b).

#### 4.4 Netherlands

Net ODA in 2020 (OECD methodology)	International Biodiversity related ODF average 2016–2020 (OECD methodology)	International public climate and biodiversity finance as % of ODA
USD 5.33 billion	USD 0.066 billion	14%
Public International Climate Finance in 2020	Private climate finance mobilised in 2020	Public-private leverage factor (international climate finance)
USD 0.683 billion	USD 0.588 billion <sup>10</sup>	1.2:1

Source: Ministry of Economic Affairs and Climate Policy of the Netherlands, 2022, p. 248, OECD, 2023c and OECD, 2023d, p. 43

The Dutch Government declared international climate protection as a priority for the Netherlands. Its development strategy “Doing What the Netherlands is Good At” aims at increasing the share of ODA targeting climate. The Netherlands is also a beacon for the mobilization of private climate and biodiversity finance with 620 million EUR of private climate finance<sup>11</sup> and 17 million EUR of private biodiversity finance mobilized through public interventions in 2021 (Warmerdam et al., 2022, p. 5). By 2025 the Netherlands targets the mobilization of 1.9 billion USD of public and private climate finance, thereof 50% will be spent on adaptation. The FMO plays a crucial role, especially for the mobilization of private finance through innovative instruments (Donor Tracker, 2023). Therefore, it is worthwhile looking at financing mechanisms the country applied for the purpose of this study.

##### 4.4.1 FMO instruments for (private) climate finance mobilization

Fund volume	Public - private leverage factor	Distinguishing feature
12.1 billion EUR of overall assets under management.	5:1 for balance sheet climate funds. 2:1 for state climate funds <sup>12</sup> .	DFI with 49% private shareholders.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Direct and fund-of-funds.	Equity and loans.	Varies across different funds.

<sup>10</sup> It is to note here that the Netherlands report its DFI, the FMO as a private, independent bank (OECD, 2023b, p. 29).

<sup>11</sup> It is to note here that Netherland reports its DFI, the FMO as a private, independent bank. (OECD, 2023b, p. 29)

<sup>12</sup> Balance sheet climate funds refer to funds that are fully “owned” and financed by the FMO, whereas state climate funds refer to funds that FMO manages for the Dutch state.

The FMO is the Dutch Development Bank. It is a PPP owned by the Dutch state (51% of shares), several large banks (42% of shares) and employees, associations, trade unions and Dutch companies (7% of shares). FMO has the mandate to manage Funds for the Dutch Ministries of Foreign and Economic Affairs with the objective to maximize the development impact of private sector investments. It offers loans and equity with a long-term investment horizon and engages in partnerships with commercial banks, impact investors, institutional investors and other DFIs to finance loans via its loan program or other co-financing arrangements. The main sectors targeted by FMO are financial institutions, energy, and agribusiness, food and water (Warmerdam, Pham Van, Walstra, & Achterberg, 2022, p. 31). The Dutch Government monitors the public allocations of FMO and private sector investments mobilized for climate and biodiversity finance on an international level every year according to OECD DAC methodology. In 2021 FMO allocated 563.77 million EUR in public climate finance from its balance sheet and was able to mobilize 118.26 million EUR in international private climate finance. The leverage factor amounted to short of 5:1 (Warmerdam, Pham Van, Walstra, & Achterberg, 2022, p. 16 & 31).

An example of a Dutch state fund managed by FMO that leveraged significant private climate finance is the Access to Energy Fund. The Fund, founded in 2007 by FMO and the Dutch government, allocates loans, direct equity, fund investments, mezzanine financing and guarantees to renewable energy (solar, wind and hydro) project developers and financial institutions with renewable energy credit lines/investment portfolios in the global south. At the end of 2019, the Access to Energy Fund had committed 158 million EUR to renewable energy projects either directly or indirectly and mobilized roughly 1 billion EUR in private co-investments and 1.3 billion EUR in public co-investments (FMO, 2019, p. 9).

#### 4.4.2 Dutch Fund for Climate and Development

Fund volume	Public - private leverage factor	Distinguishing feature
160 million EUR.	2:1 first level leverage 1:3-6 second level leverage.	WWF and FMO fund with origination facility and investment facilities for land use, water and sanitation.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Direct.	TA, Grants, equity and debt.	Average investment size around 2-2.5 million EUR.

The FMO in collaboration with WWF and Climate Fund Managers launched the Dutch Fund for Climate and Development (DFCD). It facilitates and derisks private sector investment in projects aimed at climate adaptation and mitigation in developing countries. The Fund consists of three facilities. The first one - the Origination Facility - is purely dedicated to project identification and TA for project stabilization and feasibility development. The second facility is managed by the FMO and targets land use investments to companies that have graduated from the Origination Facility. The facility provides growth finance in the form of grants, equity and debt financing to selected companies. The third facility targets investments in the water and sanitation sector mostly to companies that have graduated from the Origination Facility. The water facility provides development grants, equity for construction and operational debt. In 2021 the Netherlands committed 15.28 million EUR in public finance to the DFCD. Total private investment mobilized

therethrough amounted to 21.30 million EUR, thereof private climate investments amounted to 8.21 million EUR and 1.38 million EUR in biodiversity finance. The leverage factor in between public and private climate finance amounts to 2:1 (Warmerdam, Pham Van, Walstra, & Achterberg, 2022, pp. 18-19). The overall fund volume amounts to 160 million EUR with a target to mobilize in between 500 mio. - 1 bn. EUR in private investment (DFCD, 2019, p. 2).

#### 4.4.3 Agri3 Fund for sustainable agricultural practices

Fund volume	Public - private leverage factor	Distinguishing feature
Current capitalization is not disclosed.	Not (yet) disclosed.	Credit enhancement tools and technical assistance for financial institutions lending to the agricultural sector.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Indirect: guarantees and first loss investments to local financial institutions Direct: soft loans and TA.	Guarantees, first loss loans, subordinated loans, soft loans and TA.	2-15 million USD.

In 2017, the UN Environment and Rabobank joined forces to establish the Agri3 Fund, an innovative financial instrument aiming to mobilize public and private investments to foster the adoption of sustainable agricultural practices and promote deforestation-free farming. With the objective to mobilize a minimum of USD 1 billion in financing, the fund grants credit enhancement tools such as guarantees as well as TA to commercial banks and financial institutions. To customers e.g. institutional investors of these institutions - which are considered partner banks of Agri3 - the fund offers subordinated loans to reduce investment risks. Agri3 also incorporates a TA facility for investees to support the development of investable projects (Agri3 Fund, 2020). The partnership has expanded and includes the FMO and IDH - The Sustainable Trade Initiative. Up to 2022, the Netherlands attribute 5.32 million EUR of mobilized private climate finance and 5.32 million EUR mobilized private biodiversity finance through the Agri3 Fund to its international climate and biodiversity finance (Warmerdam, Pham Van, Walstra, & Achterberg, 2022, p. 19).

#### 4.5 Illustrative instruments by other countries or on multi-bilateral level

In addition to the international climate and biodiversity finance sources, instruments and measures pointed out in the comparative country analysis, the following section will present illustrative instruments from other countries or on a multi-bilateral level, that are either innovative and/or have the potential to leverage additional private sector finance into climate and biodiversity protection projects in developing countries.

##### 4.5.1 (Climate and Biodiversity) Liquidity Guarantee Facility Luxembourg

Fund volume	Public - private leverage factor	Distinguishing feature
Not yet defined.	Potentially very high.	Mechanism to turn private climate investments in liquid ones and so, to reduce an important investment hurdle for private investors.

Form of capital allocation	Type of capital allocation	Investee ticket sizes
Guarantees for asset managers.	Bridge financing in the form of buy-back guarantees.	N.a.

Although not directly targeted to international climate and biodiversity financing, an interesting vehicle, that per design could be directed exclusively to the funding of climate and biodiversity projects in developing countries, is the Octobre Liquidity Guarantee Facility to be launched in the fourth quarter of 2023. The facility mitigates the issue that withholds many private investors to invest in (climate and biodiversity) impact funds targeted to projects in developing countries: the illiquid nature of these funds. Private investors prefer liquid investments such as listed bonds and equities. Thus, in order to mobilize additional private sector investments into these funds, an effective leverage mechanism by public funders is to provide liquidity guarantees. Meaning the provision of liquidity contracts where private investors can exit their stake in an impact investment fund at any time based on its latest net asset value. Public funders such as governments could finance a tranche of the guarantee fund, which buys the shares back from investors that want out and manages re-investments into these shares (Octobre, 2023, p. 1).

Private investors would have to undergo an eligibility check to be available for the guarantee and would have to pay a small yearly fee. The main advantages of such a liquidity guarantee are firstly that they pave the way for many private investors, especially institutional ones, to invest in non-listed funds, which they otherwise would not do or be more hesitant about. Secondly, it allows for a better risk-return ratio of the impact fund, as investors would be able to waive the illiquidity premium and thus, the fund could offer more affordable funding to investees e.g. climate and biodiversity project developers in developing countries (Octobre, 2023, p. 2).

#### 4.5.2 UK and AfDB Room to Run Sovereign transaction for climate finance

Fund volume	Public - private leverage factor	Distinguishing feature
Not a fund but 2 billion USD.	Depends on the use of loans the AfDB will be allocating, could be around 1:1-3.	Back-up guarantees for MDBs in collaboration with private insurers, freeing-up balance sheet capacity space for climate-earmarked loans.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Risk-sharing mechanism for MDBs.	First and second loss guarantees to MDB, loans to debtor countries.	N.a.

As Léautier, Al-Mohsen, Beato, Humphrey and Karsenti et al. (2022, p. 19) point out in their independent review of multilateral development banks' capital adequacy framework, one of the limitations MDBs deal with when administering loans (earmarked for climate and biodiversity, but also in general) is that they usually fully fund loans and hold them to maturity on their balance sheet. This makes lending costly and very capital intensive, as MDBs cannot lend against these loans. To free up capital, MDBs started to experiment with risk transfers to private or public sector actors as well as syndicated or blended loan structures. These efforts are still limited and mostly conducted by their private sector arms. Nonetheless, it is worthwhile exploring such instruments in this study

as they could potentially free up additional funding for climate and biodiversity in developing countries through public interventions and increase private sector finance mobilization by MDBs.

One example specifically earmarked for climate finance is the “Room to Run Sovereign Transaction” between the UK government, three recognized insurance providers (AXA, Axis and HDI Global) and the African Development Bank (AfDB). The transaction is structured to optimize the balance sheet of the AfDB through a risk transfer arrangement in order to free up additional loan capacity of up to 2 billion USD for climate finance to help African countries meet their NDCs (African Development Bank Group, 2022). On current and future loans with a lifetime of up to 15 years from eleven borrowing countries, the private insurers are taking a 400 million USD first loss guarantee tranche, whereas the UK’s Foreign Commonwealth and Development Office (FCDO) provides a 1.6 billion USD second loss guarantee tranche on the same subset of loans. This PPP collaboration basically insures the risk of this specific portfolio of loans and thereby allows the AfDB to free up the capital for additional lending (African Development Bank Group, 2022). For the reinsurance and insurance markets as well as MDBs, these kinds of transactions are quite interesting from a financial perspective and future similar collaborations might open up additional opportunities to free up capital for international climate and biodiversity finance.

#### 4.5.3 Biodiversity credits

Fund volume	Public - private leverage factor	Distinguishing feature
N.a.	Potentially quite high.	Putting a price on biodiversity protection and thus, turning it into a commodity through the issuance of biodiversity credits.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
N.a.	Biodiversity credit purchase.	Depends on price and amount of credits.

The development of the biodiversity credit market is in its nascent stages, with increasing uptake from 2021 onwards. However, the Kungming-Montreal Global Biodiversity Framework and the One Forest Summit held in Libreville 2023 yielded considerable attention to biodiversity credits. Biodiversity credits and biodiversity-positive carbon credits became recognized as effective means to channel international financial flows at scale to biodiversity protection. Since biodiversity credits turn biodiversity protection into a commodity (as the carbon market does with CO<sub>2</sub> emissions), the credits have significant potential to leverage private investments (NatureFinance & Carbone 4, 2023, p. 7 & 53).

Though, market development and impact quantification is still hindered by design challenges, there exist different methodologies for quantifying biodiversity gains, verification and certification. To address these challenges and help the market to scale, whilst delivering equitable and positive outcomes for people and planet, it was therefore decided at the One Forest Summit that a high-level, multistakeholder advisory panel will be established to develop a global roadmap to harness biodiversity credits. The advisory panel will start piloting approaches for the rapid development of equitable and high-integrity biodiversity credit markets from the United Nations Convention on Biological Diversity (UNCBD) COP16 onwards (NatureFinance & Carbone 4, 2023, p. 8).

#### 4.5.4 Debt-for-nature-swaps - reducing debt and unlocking finance for nature

Fund volume	Public - private leverage factor	Distinguishing feature
Not a fund, depends on swap volume.	Low, this is a public finance instrument, though private investors might be among the creditors.	Financial transactions designed to reduce a country's debt in exchange for a commitment to allocate a portion of the debt reduction towards nature conservation, cheap way to free-up capital for biodiversity protection and enhanced climate action.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Repurchase of debt at reduced rates and creation of a counter-value fund for nature or maritime conservation.	Green or blue bond issuance.	Depends on structuring of counter-value fund.

Debt-for-nature swaps are financial transactions designed to reduce a country's debt in exchange for a commitment to allocate a portion of the debt reduction towards nature conservation. There are two categories of debt-for-nature swaps: public and private. From 1987 to 2015, the majority of nature conservation funds generated through these swaps (totaling approximately USD 1.25 billion), originated from the public sector (77% of the total funds). Debt for nature swaps support debtor countries in tackling two problems simultaneously: the reduction of their sovereign debt, which for most countries grew significantly as a result of the COVID-19 pandemic, and the reallocation of funds for climate and biodiversity protection. For creditor countries, the debt-for-nature-swaps improve the repayment capacity of (over-)indebted governments (Paul & Weber, 2023, p. 3 & 6).

Public debt-for-nature swaps generally include one or more creditor governments and an indebted country, which may receive TA from a NGO. The creditors establish eligibility criteria, both financial and political, and if the criteria are met, the indebted country restructures or repurchases the debt at a reduced price. The resources dedicated to nature conservation can take the form of either the interest payments made by the indebted country for debt restructuring or a percentage of the repurchase price for debt repurchase. Private debt-for-nature swaps typically include private creditors, an indebted country and one or more NGOs. The NGO buys back a portion of the indebted country's debt from the private creditors on the secondary market at a discounted rate. The indebted country then pays this debt back to the NGO at a higher price than the one paid by the NGO but below the nominal value of the original debt. The thereby generated amount is then invested into a fund administered by the NGO earmarked for environmental protection (Paul & Weber, 2023, p. 4).

Recently, there has been renewed interest in debt-for-nature swaps within the scientific community, with various publications advocating for their promotion in post-pandemic and climate change contexts, among the Bretton Woods institutions (International Monetary Fund (IMF) and World Bank) and major creditor governments such as China (Paul & Weber, 2023, p. 5). However, the implementation of debt-for-nature swaps presents numerous challenges including technical, financial, or governance-related issues, which restrict the scalability of these instruments. Nonetheless, recent debt-for-nature swaps were realized around debt refinancing, restructuring or

rescheduling or even debt cancellation mechanisms, for example in Barbados, Belize, Cape Verde or the Seychelles. The debt-for-nature swap in Belize in 2021 demonstrated the successful integration of nature outcomes into debt restructuring. The debt conversion allowed Belize through the issuance of blue bonds to repurchase a quarter of the country's total debt at a 45% discount rate tied to conservation commitments (30% of Belize's national waters as protected areas). This swap reduced Belize's external debt by 12% of GDP and allowed Belize to create an estimated 180 million USD in conservation funding over 20 years (The Nature Conservancy, 2021, p. 2). To increase the conservation commitment, the scheme could be backed by sustainability-linked bonds instead of blue bonds in order to anchor performance KPIs into the bond contract (Kulenkampff & Pipan, 2023, p. 14 & 16).

Switzerland already once realized a similar debt-swap with selected developing nations i.a. Niger, Mozambique, Peru and Nicaragua in the form of a "Entschuldungsfaszilität" capitalized with 400 million CHF on the occasion of its 700-year jubilee in 1991. The developing countries were encouraged (not obliged) to set-up "countervalue funds" with the buyback savings, that had to be used to fund development projects inter alia earmarked for climate change (Kappel, 2013). The results of these debt-swaps were ambiguous and thus Switzerland denied additional applications in the early 2000s (Federal Administration, 2023). Though, it agreed to a multi-bilateral debt-for-environment-swap, called the Polish Ecofund, granted to Poland together with other OECD states in scope of The Environmental Action Program for Central and Eastern Europe in 1992 (OECD & EU Phare, 1998, p. 2).

#### 4.5.5 Payments for ecosystem services

Fund volume	Public - private leverage factor	Distinguishing feature
Not a fund and depends on size of ecosystem and effort for upkeep.	Can be 1:1 or even higher depends on scheme and collaborating parties.	Payments to a steward of an ecosystem service as reimbursement for maintenance and upkeep.
Form of capital allocation	Type of capital allocation	Investee ticket sizes
Direct payments to ecosystem stewards.	Grants or service-fees.	Varies depending on scheme.

Ecosystem services are defined as the benefits people obtain from ecosystems from the Millennium Ecosystem Assessment (Millenium Ecosystem Assessment, 2005, p. v). According to Conservation International (2023), payment for ecosystem services (PES) describe "systems in which beneficiaries provide payments to a steward of an ecosystem service". In other words, it is a market-based mechanism, similar to environmentally related subsidies and taxes, to encourage the conservation of natural resources, that typically entails a sequence of payments made to land or resource managers. PES schemes differ in type and scale. A PES scheme can be a public payment (eg. government pays land managers to enhance ecosystems services on behalf of the wider public), a private payment (eg. corporates working with landowners through self-organized private deals) or a public-private payment. An example of a public-private PES is a collective action watershed PES, where an institution gathers resources from various stakeholders using the same water source, including private companies, NGOs, and government, to remunerate upstream landowners for actions that contribute to water quality improvement and other associated benefits (Salzmann,

Bennett, Carroll, Goldstein, & Jenkins, 2018, p. 135). The most common types of PES projects include carbon sequestration and storage, biodiversity protection and watershed protection. In terms of scope, a PES scheme can be international, national, catchment or local. The most prominent example of an international PES scheme are Reducing Emissions from Deforestation and Degradation (REDD+) projects, since carbon storage is an ecosystem service considered as a regulation service, specifically for climate regulation, although it can also be considered as a regulation service for the biogeochemical cycle of carbon (Department for Environment Food & Rural Affairs, 2013, p. 16).

The biodiversity and habitat PES sector is the least developed in terms of geographical scope and is the most difficult for countries to establish. Up to date, there are 120 biodiversity and habitat PES programs in 36 countries: 16 user-funded and 104 compliance programs. This sector has the least data on transactions or project implementation. However, it is estimated that global transactions range from USD 2.5 billion to USD 8.4 billion per year (Salzmann, Bennett, Carroll, Goldstein, & Jenkins, 2018, p. 138).

#### 4.6 Chapter conclusion

The country comparison demonstrates that Switzerland spends a comparative percentage of its ODA on international climate and biodiversity finance as Denmark and the Netherlands do, though less than Germany and the EU (see summary table below<sup>13</sup>). It further demonstrates that Switzerland's public-private leverage factor for international climate finance is comparable to, though slightly lower than, Denmark's and the Netherlands. Nonetheless, Switzerland's public-private leverage factor can already be considered quite high compared to Germany's, and especially compared to the aggregated OECD countries' public-private leverage factor of 5:1, respectively 4.5:1 including export credits (OECD, 2022, p. 4).

Reference year 2020	ODA Finance	International Biodiversity Finance	International climate finance (public & private)	Public-private leverage factor international climate finance	International public climate and biodiversity finance as % of ODA
<b>Switzerland</b>	USD 3.72 bn	USD 0.13 bn	USD 0.6 bn	2.3:1	14.5%
<b>Germany</b>	USD 29.32 bn	USD 1.3 bn (average 2016- 2020)	USD 8.9 bn	39:1	34%
<b>EU</b>	USD 76.15 bn	USD 0.99 bn (only EU institutions & average 2016- 2020)	USD 23.5 bn (only public)	N.a.	32%
<b>Denmark</b>	USD 2.64 bn	USD 0.022 bn (average 2016- 2020)	USD 0.39 bn	2.2:1	11%

<sup>13</sup> Sources and more details on numbers are indicated in respective tables in the introduction to Chapter 3, in Chapter 4.1, 4.2, 4.3 and 4.4.

<b>Netherlands</b>	USD 5.33 bn	USD 0.066 bn (average 2016-2020)	USD 1.27 bn	1.2:1	14%
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Other countries initiated or introduced instruments with the capacity to mobilize significant private sector investments for international climate and biodiversity finance such as e.g. the EU Global Energy Efficiency and Renewable Energy Fund, the Global Climate Partnership Fund, the Danish Climate Investment and SDG Investment Fund and the Dutch Fund for Climate and Development. The introduction of such PPP schemes or simply funds with high leverage potential, however, is partly facilitated by the fact that the DFIs of other countries are bigger in volume, more experienced in the collaboration with the private sector and have more experience with market based instruments. These aspects certainly influence the replicability for Switzerland.

With regard to sources, the introduction of a Swiss CBAM linked to the EU one and the reduction of free allowances allocations under the Swiss ETS (similar to the German one) are certainly options Switzerland should explore (see Chapters 5.2.3 and 5.3.4).

Instruments such as debt-for-nature swaps, the MDB risk transfers or liquidity guarantees are innovative and potentially relatively cheap to implement. However, implementation by Switzerland alone would be rather challenging, thus Switzerland could try to support such schemes in collaboration with other countries on a multilateral or multi bi-lateral level (see Chapters 5.2.9, 5.3.2 and 5.4.8).

Last but not least, the importance of TA and capacity building support mechanisms introduced or promoted by other countries (especially Germany and the Netherlands) should also be taken into account. Although the private international climate and biodiversity finance mobilized through TA is not (yet) attributable to a country, these support mechanisms are an important cornerstone for crowding in private sector investors (see Chapters 5.5.1 and 5.5.2).

## 5) Inventory of Switzerland's options for additional sources and instruments for international climate and biodiversity finance

The following Chapter provides an overview of options for additional, or the adaptation/expansion of existing sources, measures and instruments Switzerland could introduce in order to increase its contribution to international climate and biodiversity finance. Special attention is given to measures and instruments that facilitate the mobilization of private finance. It is to underline, that for all instruments listed, the public as well as the mobilized private investment pursue poverty alleviation and climate and/or biodiversity positive impact simultaneously as primary objectives, in order for the therewith allocated and mobilized finance to be counted towards Switzerland's international climate and biodiversity finance as well as its ODA. It is further to note, that in Chapters 5.2 to 5.4, only sources, measures and instruments that can be attributed to Switzerland's international climate and biodiversity finance according to the UNFCCC, resp. CBD methodology for biodiversity and the OECD DAC Riomarker criteria will be analyzed. In Chapter 5.5 additional instruments and measures, whose private finance mobilization might not (yet) be attributable to Switzerland's international climate and biodiversity finance will be pointed out.

## 5.1 Explanation of rating criteria

All of the suggested sources, measures and instruments for international climate and biodiversity finance will be qualitatively rated according to the following defined rating criteria.

- 1) **Potential impact:** The potential impact on climate mitigation and adaptation respectively biodiversity protection will be assessed. All instruments and measures will be rated as **high**, **medium** or **low** impact. However, it is to note that impact always depends on the projects supported by the financial instruments on the ground, thus the impact evaluation criteria assesses merely whether the instrument injects additional financing into the climate and biodiversity sector, that has the potential to support additional projects with international and sustainable climate and biodiversity impact on the ground.
- 2) **Political feasibility:** This second rating criteria assesses the ease of implementation for a new measure, instrument or source for international climate and biodiversity finance. **High** feasibility implies no change of any law or the constitution, so at the discretion of the Federal Council and/or the administration. **Medium** feasibility refers to a change of law, requiring at least parliamentary approval. **Low** feasibility refers to a change in the constitution, meaning that a public vote approval is needed. It is to note, that this criteria solely rates the processual effort necessary to pass a decision/law/constitutional base for a source, measure or instrument. It does not assess the likeliness (e.g. aptitude of political parties) of a favorable decision.
- 3) **Financial effectiveness:** This criterion assesses whether an instrument, measure or source is capable of generating **high** (more than 200 mio. CHF), **medium** (50-200 mio. CHF) or **low** (<50 mio. CHF) amounts of international climate and biodiversity finance per year. It does evaluate the estimated overall amount an instrument, measure or source respectively its adaptation would be capitalized with, but does not make a distinction between private and public finance.
- 4) **Leverage factor:** The leverage factor in turn assesses how much private climate and biodiversity finance an instrument, measure or source can mobilize with the initial public funding that capitalized it. The rating criteria are: **high** for public-private leverage ratio of: 1:3<; **medium**: 1:1-1:3, and **low**: <1:1. For most instruments, the second-level leverage factor (on investment level) is taken as the basis for the rating. For those instruments and selected sources for which the second-level leverage factor is not assessable, the first-level leverage factor (on fund level) is considered. Explanations thereto are written below the leverage factor rating of each option.
- 5) **Budgetary implications:** As a fifth criteria the budgetary implications for the Swiss Government of all instruments, measures and sources will be assessed. The criteria are: **additional budget required**, **budget reallocation required** or **budget neutral or positive** (if no additional budget required or additional budget generated).
- 6) **Administrative efficiency** (incl. cost-benefit analysis): Lastly, a high-level cost-benefit analysis will be conducted on each instrument, measure and source. They can either be classed as **efficient** (low design and implementation costs and efforts, high benefits such as e.g. high replicability, long-term application), **neutral** (design and implementation costs,

and efforts, but on par with benefits) or **non efficient** (high design and implementation costs and efforts, limited benefits). The authors do not conduct an overall economic efficiency analysis here, as this is beyond the scope of this study. They though note in case some instrument, e.g. new CO2 levy/tax, are particularly efficient e.g. due to the additional price on carbon.

## 5.2 Additional or expansion of existing sources

### 5.2.1 Redistribute more ODA finance towards climate and biodiversity

An option to increase funding for climate finance would be to increase the focus of public development cooperation on climate and biodiversity. This would require an adaptation of project planning and implementation to include more climate and biodiversity measures. With the same utilization of means, climate, biodiversity and development objectives could be achieved (Schweizerische Eidgenossenschaft, 2017, p. 15).

Description		
<p>Switzerland could earmark more of its ODA spending for climate and biodiversity projects in developing countries. This solution is very straightforward in regards to attribution, but has limited to no potential leverage for private climate or biodiversity finance. Though, the supported projects – which must be eligible to ODA – could target the piloting, scale-up and investment readiness of new technologies, business models and systemic implementation approaches in the climate and biodiversity sector in developing countries. This would subsequently result in the uptake of supported projects by private investors, which would indirectly unlock additional climate and biodiversity finance.</p> <p>It is to note, that this option would be at the expense of other development causes such as education, health, trade or others. It thus implies a financial erosion of other international cooperation sectors. For sustainable development as a whole, it basically constitutes a zero sum game.</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
N.a.	medium	low-medium
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	The redistribution would have to be approved by parliament.	This depends on the effective amount that would be redirected. However, it is likely that the amount would be only in a lower two-digit million range.
Leverage factor	Budgetary implications	Administrative efficiency
N.a.	budget reallocation required	non-efficient
Only relevant for instruments and selected sources.	This would imply that a higher percentage of the commitment credits	Time and effort required within the federal administration to reallocate

	budgets would be earmarked/reallocated for the environment. This would be at the cost of other development cooperation themes such as health, gender, migration, peacekeeping, etc.	budgets are considerable. Benefits are limited, given stagnating ODA-budgets and resources already committed with partners, only limited money could be reallocated to climate and biodiversity and would go at the expense of other international cooperation sectors. However, additional programs in the climate and biodiversity sector could be selected for long-term support (high replicability).
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### 5.2.2 Increase commitment credits for global environment and international cooperation

Description		
<p>Switzerland could also increase its commitment credits for the global environment and international cooperation whilst leaving the percentage of contributions for international climate and biodiversity finance at current levels. This would mean that a higher percentage of Switzerland's public budget would be redirected to these two commitment credits.</p> <p>Parliamentary approval for the increase of the two commitment credits may be challenging, especially considering the current budget condition. A motion, submitted in 2022 by council of state (Ständerat) member Claudio Sommaruga, to increase the two commitment credits was denied (Schweizerische Eidgenossenschaft, 2022a).</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
N.a.	medium	high
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	The increase of the commitment credits would require parliamentary approval.	Additional budget, if approved, would likely be in the three-digit million number - otherwise the initiation of parliamentary approval would not be worth the effort.
Leverage factor	Budgetary implications	Administrative efficiency
N.a.	budget reallocation or additional budget required	efficient
Only relevant for instruments and selected sources.	Government budget would have to be reallocated to the two commitment credits or additional budget (outside international cooperation credits) would be required.	If approved, the implementation costs would be small and benefits quite high.

### 5.2.3 Introduction of a Swiss CBAM

Description		
<p>Switzerland could introduce a Carbon Border Adjustment Mechanism (CBAM), aligned with the EU CBAM System, and earmark some of the thereby generated revenue for international climate and biodiversity finance. This would mean that Switzerland would apply a “carbon tax” on certain imports in order to avoid carbon leakage (=the outsourcing of polluting production in countries with no or less strict CO2 caps and allowances than either the Swiss or the EU ETS).</p> <p>However, a Swiss CBAM would mainly cover the steel and cement sectors, which do not or only to a limited degree conduct cross border trade. Thus, the revenues would be very limited. An analysis conducted by Ecoplan (2023, p. 3) for SECO estimates the revenues from the introduction of a Swiss CBAM for the year 2035 to max. around 80 million USD. Another option would be to put a carbon tax on all imports to Switzerland according to their carbon footprint. However, imports can only be taxed at the border, if goods produced and sold within Switzerland are facing the same tax. Hence, the introduction of carbon border taxes would simultaneously require the extension of the Swiss carbon levy on selected or all sectors (see Chapter 5.2.5). A respective parliamentary initiative (Nr. 22.451) was submitted by national council member Gerhard Pfister in 2022 (Die Bundesversammlung, 2022a). Similar to the EU CBAM, the introduction of a carbon tax on imports to Switzerland could be considered as an artificial border to trade by the WTO and thus foreign policy risks should be considered. In addition, the enforcement efforts for a Swiss CBAM or a Swiss carbon border tax could potentially be very high for the federal administration as well as for Swiss importers (Schweizerische Eidgenossenschaft, 2023a, p. 4). As mentioned in Chapter 4.2.1 through the initiative 21.432 Ryser, the Swiss administration is currently tasked with developing the regulatory base for the introduction of a Swiss CBAM in the form of an article 34b in the federal CO2 law.</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
N.a.	medium	low high in case of larger border tax
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	This would require a new regulation and thus parliamentary approval.	In general a Swiss CBAM would concentrate on steel and cement, which is hardly traded across borders - though if the CBAM would concentrate on “all” border trade, this would increase revenue.
Leverage factor	Budgetary implications	Administrative efficiency
N.a.	budget neutral or positive	non-efficient for CBAM neutral for carbon import tax

Only relevant for instruments and selected sources.	Additional budget sourced through CBAM.	As mentioned above, the introduction and enforcement costs are potentially high, whereas revenues are limited for CBAM, higher for larger border tax. From an economic efficiency perspective (and neglecting transaction costs), the CBAM should be efficient, as it puts a price on carbon as negative externality.
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#### 5.2.4 Earmark revenues from allowance auctions under the Swiss Emission Trading System (ETS)

Description		
<p>Switzerland could earmark a percentage of the revenues generated through its emission trading scheme ETS for international climate and biodiversity finance. However, the revenues generated through the Swiss ETS are currently limited to 8 - 35 mio. CHF (in between 2018-2022) with high yearly fluctuations (Schweizerische Eidgenossenschaft, 2023h). In order to generate more revenue and thus more funds for international climate and biodiversity finance, the number of free allowances must be gradually reduced (currently at 95%, see Chapter 3.1.3). This would also correspond to the intention of every ETS, which is the progressive reduction of carbon emissions and the direction the EU ETS is currently taking. Ecoplan assesses that the gradual reduction of free allowance allocations under the Swiss ETS will lead to yearly revenues of roughly 370 million USD in 2035 (Ecoplan, 2023, p. 3). As mentioned in Chapter 3.1.3, various propositions on how to earmark a percentage of the ETS revenue from 2025 onwards are under discussion in the national and state council (Federal Council business 22.061), thus an earmarking for international climate and biodiversity finance would have to compete with other causes, such as e.g. the promotion of electric vehicles, renewable energies, night train transportation or renewable aviation fuels (Die Bundesversammlung, 2022b).</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
N.a.	medium-high	high, if free allowances are reduced low, if mere extension to other sectors
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	Earmarking ETS revenue for international climate and biodiversity finance requires parliamentary approval, the reduction of free allowances only requires a change of the CO2 ordinance. However, since 2020 the Swiss ETS is coupled to the EU ETS. The reduction of free allowances (the ETS cap) would have to be coordinated through bilateral negotiations, for which Switzerland is clearly the smaller negotiating party (Bundesamt für	The financial effectiveness depends on the allowances that can be auctioned, the lower the cap for the free allowances, the higher the revenue. If current cap is maintained, financial effectiveness is low.

	Umwelt, 2019, p. 3).	
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
N.a.	budget reallocation required	neutral
Only relevant for instruments and selected sources.	Currently, ETS revenue is not earmarked for international climate and biodiversity protection and flows into the general federal administration budget, thus budget reallocation is required.	The design and implementation costs would be considerable. However the benefits and long-term replicability would be on par or even surpass the expenditures.

### 5.2.5 Earmark revenue from CO2 levy or introduce a new levy

#### Option 1) Earmark some of the revenue from existing CO2 levy on fossil thermal fuels

As mentioned in Chapter 3.1.3, Switzerland already introduced a CO2 levy in 2008, whose annual revenue (around 1.1-1.3 billion CHF) is not yet earmarked for international climate and biodiversity finance. A percentage of this revenue could be earmarked for international climate and biodiversity finance. However, it should be considered that the earmarking of a levy cannot exceed 50% of revenues. If it surpasses 50%, the levy turns into a tax and a change of the constitution is necessary for this alteration (Greinus, et al., 2021, p. 27). As more than a third of the current CO2 levy revenues is already earmarked for the buildings program and an additional 25 million CHF per year for the Swiss Technology Fund (see Chapter 3.1.3), only a little under 20% could be earmarked for international climate and biodiversity finance<sup>14</sup>. But already the earmarking of 10-20% would generate additional funds of 110-250 million CHF per year for international climate and biodiversity finance. However, the Federal Council, in its dispatch to the CO2-law from 2025 onwards, increases the levy revenues earmarked for the buildings program to 49%. Conditional upon parliamentary approval, these revenues are thus earmarked until 2030 to domestic causes (Federal Administration, 2023). An alternative option worth considering is the expansion of the CO2 levy to sectors beyond fossil combustible fuels or even to all CO2-emitting sectors. This would increase the revenue considerably and therewith, the additional funds that could be earmarked for international climate (and biodiversity) finance. An increase of the CO2 tonnage price for the levy exerts also much potential for the generation of additional funds. Currently the maximal price of the levy is CHF 120 per ton of CO2. This upper price-cap could be gradually increased (potentially made conditional on the reaching resp. failure to reach time-bound emission targets) to e.g. max. CHF 240 per ton CO2. This would not only lead to additional revenue that could be earmarked (up to the limit of 50% of the overall levy revenue) for international climate finance, but also send a strong market signal that could lead to considerable emission savings (Federal Administration, 2023).

<sup>14</sup>Though as mentioned in Chapter 3.1.3 already various propositions for additional earmarking of the levy are under discussion before the national and state council (Die Bundesversammlung, 2022b).

Rating		
Potential impact	Political feasibility	Financial effectiveness
N.a.	medium for earmarking, extension and CO2 price increase of levy LOW for changing the levy to a tax	low-high
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	Parliamentary approval is necessary to allow for earmarking of up to 50% of the CO2 levy revenue for climate and biodiversity (as long as biodiversity protection exerts CO2-co benefit) finance, as well as for a CO2 price increase and the extension of the levy to fossil fuels beyond heating fuels. The earmarking of more than 50% of the revenues, i.e. changing the levy to a tax would require a change of the constitution, hence a public vote.	Financial effectiveness depends on the percentage of the revenue that could be earmarked, the higher the percentage, the more funds.
Leverage factor	Budgetary implications	Economic efficiency
N.a.	budget reallocation required for earmarking budget neutral or positive if extension or price increase of levy or changing levy to tax	efficient
Only relevant for instruments and selected sources.	Existing revenue would have to be redistributed for the earmarking of existing levy revenue for international climate and biodiversity finance. The extension of the levy to fossil fuels beyond heating fuels, an increase in price or a change of the levy to a tax would be budget neutral or positive.	CO2 levy already exists, only revenue would have to be earmarked. From an economic efficiency perspective, the levy extension/price increase should be efficient, as it puts a price on carbon as negative externality.

### Option 2) New levy on air and maritime transport

Switzerland could introduce, independently or likely in alignment with OECD/G20 a CO2 or other climate levy on additional sectors, such as air or maritime transport and earmark some of the revenue for international climate and biodiversity finance. This would mean imposing a tax in the form of an additional fee per ticket at the point of ticketing for air travel and in the form of a price per ton of CO2 emitted at the point of bunker for maritime shipping, which would be collected by the airline or shipping company and subsequently, transferred to the responsible government. The governments would be obliged to transfer these funds to international climate funds such as the GEF or GCF. If all signatory

states to the Paris Agreement would introduce both levies, between USD 132 to 392 billion could be generated each year for international climate and biodiversity finance (Boyd & Keene, 2021, p. 2). How much of these funds Switzerland could raise and subsequently attribute to its international climate and biodiversity finance is not assessed; however, looking at the overall numbers, the amount could be significant.

Recent conclusion of talks among all member governments to the International Maritime Organization (including Switzerland), just (July 2023) denied the adoption of a CO2 levy for international maritime transport, but the option could be reconsidered in due time (Harvey, 2023).

The introduction of a domestic air levy priced at CHF 30-120 per ticket was foreseen as Chapter 5 in the revised CO2 Act, which was however denied at the polls on June 13, 2021. A domestic air levy would put a fee on each flight ticket sold for flights departing from a Swiss Airport (Schweizerische Eidgenossenschaft, 2021b).

### Rating

Potential impact	Political feasibility	Financial effectiveness
N.a.	low	high
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	Introduction of new levy requires constitutional or regulatory base, thus public vote necessary.	High amounts of finance could be raised. E.g. for the air levy, Switzerland reported 19.7 million air passengers in 2021 (Schweizerische Eidgenossenschaft, No Date, d). If all of these passengers paid an additional fee of only CHF 30, this generates CHF 591 in levy revenue, whereof max. 50% could potentially be earmarked for international climate finance.
Leverage factor	Budgetary implications	Administrative efficiency
N.a.	budget neutral or positive	efficient if international, neutral if domestic
Only relevant for instruments and selected sources.	Additional revenue that could be spent on international climate and biodiversity finance.	Implementation costs would be shared among nations, thus limited costs but potentially high benefits. If air levy would be implemented by Switzerland domestically, the revenues would be limited. From an economic efficiency perspective (and neglecting transaction costs), these levies should be efficient, as they put a price on carbon as negative externality.

**Option 3) New levy on methane**

A national option for Switzerland would be the introduction of a methane levy. It implies putting an incentive tax on agricultural long-lived gas and biogenic methane and using all or a percentage of the revenues for international climate and biodiversity finance. This levy would disproportionately affect farmers and make them pay for livestock methane emissions. The Swiss farmers association does have an interest in putting methane or CO<sub>2</sub> taxes on imported agricultural products, due to the fact that most imported produce is produced less environmentally friendly than domestic agricultural production. In order to introduce such an import tax, Switzerland would first have to introduce a national methane or CO<sub>2</sub> tax for agricultural produce to create a level playing field and comply with WTO standards. Thus, there could be political movement for the introduction of a methane tax, if an import tax is simultaneously applied (Federal Administration, 2023). New Zealand is one of the first countries to impose a similar levy announced in 2022 and applying from 2025 (Craymer, 2022).

**Rating**

<b>Potential impact</b>	<b>Political feasibility</b>	<b>Financial effectiveness</b>
N.a.	medium	high
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	Art. 74 of the federal constitution already provides the regulatory base for the introduction of a methane levy. Thus, only parliamentary approval would be necessary.	Annual methane emissions of Switzerland were around 4.975m tCO <sub>2</sub> per year in 2020 (The World Bank, 2023a), so revenues could be around CHF 500m per year, assuming a carbon price of CHF 100/tCO <sub>2</sub> (as for heating fuels). Thereof max. 50% <sup>15</sup> could be earmarked for international climate (methane) mitigation finance.
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
N.a.	budget neutral or positive	non-efficient
Only relevant for instruments and selected sources.	Additional revenue that could be spent on international climate and biodiversity finance.	Considerable transaction costs for implementation (difficulty to measure/attribute methane, small units (e.g. per farm)).

<sup>15</sup>As explained under Option 1 in Chapter 5.2.5, only max. 50% of levy revenue can be earmarked, else the levy turns into a tax. An alteration that requires a change of the constitutional base (Greinus, et al., 2021, p. 27).

### 5.2.6 Introduce new tax and earmark a percentage of the revenue

#### Option 1) Earmark revenue from petroleum tax

Switzerland introduced a mineral oil tax in 1997. The tax is put on crude oil, mineral oils, natural gas and their processed products and engine fuels and a surtax is put on engine fuels. In 2022 the tax and surtax generated 4.38 billion CHF in revenue, 40% of which flows into the government budget, 50% is earmarked for tasks associated with road transport and aviation and 10% for the federal road and agglomeration fund (Schweizerische Eidgenossenschaft, 2023f). A percentage of the government revenue could be earmarked for international climate and biodiversity finance. Another option would be to increase the tax per litre for unleaded petrol, diesel oil and extra light heating oil. This would increase the overall tax revenue generated and thus, in turn the amount that could be earmarked for international climate and biodiversity finance.

#### Rating

Potential impact	Political feasibility	Financial effectiveness
N.a.	medium	low-high
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	Tax is already introduced, only parliamentary approval for earmarking or increase of tax rate necessary.	Depends on the percentage that becomes earmarked.
Leverage factor	Budgetary implications	Administrative efficiency
N.a.	budget redistribution required for earmarking budget positive or neutral for increase of tax rate	efficient
Only relevant for instruments and selected sources.	Existing revenue would have to be redistributed for international climate and biodiversity finance. Budget neutral or positive if tax rate becomes increased.	Tax already exists, only revenue would have to be redistributed or tax rate increased.

#### Option 2) Introduce a windfall tax for high emission/ biodiversity impact sectors

Another option would be for Switzerland to introduce a windfall tax on specific cyclical sectors such as the energy sector, pharmaceuticals, financial sector, commodity traders etc. Thus in case, companies generate high profits due to favorable economic conditions, they would have to pay an additional tax on these profits. The tax revenue could be earmarked for international climate and biodiversity finance. Other countries such as e.g. Italy already introduced such windfall taxes on selected sectors. Though, it should be considered that windfall taxes should ideally be introduced EU or worldwide, in order to avoid

creating a comparative disadvantage for Switzerland (Federal Administration, 2023), or only applied to less mobile sectors such as energy.

### Rating

Potential impact	Political feasibility	Financial effectiveness
N.a.	low	low - high
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	The introduction of this new tax would need to be anchored in the constitution and thus, require a public vote.	Highly volatile depending on the year and economic situation, could potentially be very high in some years and low in others. However, the average yield per year across a longer-time period is likely medium to high, depending on taxation terms and rate.
Leverage factor	Budgetary implications	Administrative efficiency
N.a.	budget positive or neutral	efficient
Only relevant for instruments and selected sources.	New government budget generated, must be earmarked for international climate and biodiversity finance.	Introduction and implementation costs are considerable but long-term benefits outweigh costs.

### Option 3) Introduce an international financial transaction tax

Switzerland could independently or in collaboration with OECD/G20 introduce an international financial transaction tax and earmark some of the revenue generated for international climate and biodiversity finance. This would mean that Switzerland would tax the trading of bonds, stocks or other financial assets, e.g. in the form of a stock exchange turnover tax collected directly by the banks and brokers. To provide an indicative figure: In 2020 the Swiss financial sector managed over CHF 7'700 billion of national and international assets. Thereof around 80%, what equals CHF 6'160 billion, were invested in shares and bonds (SIX, 2022, p. 3). If Switzerland were to apply a stock exchange turnover tax of only 0.02%, it could generate annual revenues of more than CHF 1.2 billion that could be earmarked for international climate and biodiversity finance. Hence, financial effectiveness is very high. Though given the Swiss standing as a financial hub, considerable political backlash could be expected for the introduction of such a tax.

### Rating

Potential impact	Political feasibility	Financial effectiveness
N.a.	low	high

The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	The introduction of this new tax would need to be anchored in the constitution and thus, require a public vote.	As demonstrated in the description, the application of an infinitesimal tax rate (e.g. 0.02%), would generate annual funds of more than CHF 1.2 bn.
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
N.a.	budget positive or neutral	efficient
Only relevant for instruments and selected sources.	New government budget generated, must be earmarked for international climate and biodiversity finance.	Introduction and implementation costs are considerable but long-term benefits outweigh costs.

#### Option 4) Increase or introduce inheritance taxes

Currently, inheritance taxes are uniquely imposed and administered on a cantonal level. The cantons are applying moderate inheritance taxes and completely or partially exempt spouses or direct descendants from taxation. Therefore, the yearly revenue across all cantons is limited and amounted to 1.2 billion CHF in 2018 (Steuerkonferenz SSK, 2020, pp. 1-2).

Switzerland could introduce an inheritance tax on the federal level and earmark some of the revenue for international climate and biodiversity finance (compare Steuerkonferenz SSK, 2020, p. 1-2). This would increase tax equality across Switzerland and display a redistributive effect (Federal Administration, 2023). An initiative for a federal inheritance tax was put to public vote in 2015, but was denied at the polls (Schweizerische Eidgenossenschaft, 2015).

#### Rating

<b>Potential impact</b>	<b>Political feasibility</b>	<b>Financial effectiveness</b>
N.a.	low	medium
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	The introduction of this new tax would need to be anchored in the constitution and thus, require a public vote.	The generated revenue might be limited and the earmarked percentage for international climate and biodiversity finance even lower.
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
N.a.	budget positive or neutral	efficient
Only relevant for instruments and selected sources.	New government budget generated, must be earmarked for international climate and biodiversity finance.	Introduction and implementation costs are considerable but long-term benefits outweigh costs.

**Option 5) Put a tax on fossil commodity trading**

Another tax Switzerland could introduce is a fossil commodity trading tax. The revenue could be fully earmarked for international climate and biodiversity finance. The tax would yield the additional advantage of making fossil fuel trading more expensive for commodity traders and financial institutions. However, the cantons Zug and Geneva, where most of the commodity traders are located, and several political parties, that are hesitant about taxing economic activity, would likely oppose such a new tax due to the fear that the traders would simply relocate to other countries. Hence, a tax on fossil commodity trading would have to be introduced EU or even worldwide in order for Switzerland to adopt it without harming its economic position

**Rating**

<b>Potential impact</b>	<b>Political feasibility</b>	<b>Financial effectiveness</b>
N.a.	low	high
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	The introduction of this new tax would need to be anchored in the constitution and thus, require a public vote.	The fossil fuel commodity trading across Switzerland is high, thus even a small tax could produce significant revenue. E.g. even a 1% extra corporate profit tax on the largest five commodity traders in Switzerland would have yielded more than 140 mio. CHF in 2021, and more than 440 mio. in 2022 (Public Eye, 2023).
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
N.a.	budget positive or neutral	efficient
Only relevant for instruments and selected sources.	New government budget generated, must be earmarked for international climate and biodiversity finance.	Introduction and implementation costs are considerable but long-term benefits outweigh costs.

**Option 6) Increase automobile or road taxes**

An additional option Switzerland could consider is the increase of automobile or road taxes in order to tax polluting vehicle transportation more rigidly. Part of the tax revenue could be earmarked for international climate and biodiversity finance. Switzerland has several options how to introduce such a tax. One option would be to increase taxes for the purchase of petrol or diesel cars or to increase the yearly vehicle taxes. Part of these taxes are though on cantonal level, thus a constitutional base for a federal tax would have to be created. Switzerland could also simply increase the annual fee for the highway usage from currently 40 CHF to e.g. a 100 CHF. This would be efficient. Very innovative would

be the introduction of a rush hour tax, meaning taxing vehicles extra that are on the road during rush hour. The technology for the introduction of such a tax is available, though data privacy would likely be an issue. A rush hour tax would have the additional benefit of displaying a traffic calming effect and potentially incentivizing some road commuters to switch to public transportation (Federal Administration, 2023).

### Rating

Potential impact	Political feasibility	Financial effectiveness
N.a.	low for introduction of a rush hour tax medium for increase of tax rates	high
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	The introduction of new taxes such as a rush hour tax requires an anchorage in the constitution and thus, a public vote. The increase of the tax rate e.g. for highway usage, vehicle or petrol would only requires parliamentary approval.	Even a small tax increase could produce significant revenue. E.g. the increase of the annual fee for highway usage to 100 CHF would have generated additional annual revenue of CHF 540 million in 2022 (Schweizerische Eidgenossenschaft, 2023i).
Leverage factor	Budgetary implications	Administrative efficiency
N.a.	budget positive or neutral	efficient
Only relevant for instruments and selected sources.	New government budget generated, must be earmarked for international climate and biodiversity finance.	Introduction and implementation costs are considerable but long-term benefits outweigh costs.

### 5.2.7 Contribute to a trust fund by the IMF or an MDB through the rechanneling of special drawing rights (SDR)

#### Description

Switzerland could actively engage in multilateral discussions to create a climate and / or biodiversity focused fund managed by the IMF or an MDB, which could be sourced through the rechanneling of Special Drawing Rights (SDR)<sup>16</sup>. Switzerland, among other holders of the world's surplus SDRs, could rechannel some of its SDR reserves to this fund. The fund could then lend at concessional interest rates to developing countries with the condition that the loans would be used for climate and biodiversity projects. The SDR investors could also provide funding to cover the budget costs of the fund and conduct interest-swaps in order to keep the budget costs at a low level, making the concessional lending affordable (Setser & Paduano, 2023, par. 7). The SDR rechanneling to such a fund would, in the

<sup>16</sup>An SDR is an international reserve asset created by the IMF and refers to a claim on the freely usable currencies of IMF member countries. SDRs can thus provide countries with liquidity (IMF, 2023).

case of Switzerland, require a federal guarantee for a loan by the Swiss National Bank (SNB) to the fund. The loan would be denominated in SDRs (the IMF's and World Bank Group's unit of account) but would be provided by the SNB in hard currency. The procedure would follow the law on international monetary cooperation (Federal Administration, 2023).

The lessons learnt from the Resilience and Sustainability Trust (RST) managed by the IMF, could be used for the development of such a fund and for the rechanneling of SDRs. In May 2023, the Federal Council approved for the SNB to provide a loan over SDR 500 million (=CHF 620 million) to the RST. Part of the RST loans to developing countries are earmarked for climate mitigation measures (Schweizerische Eidgenossenschaft, 2023d), but the earmarking of SDR lending is limited, as SDRs are intended for general budgetary support and not specific project or program finance. The reception of funds can be made conditional upon e.g. the establishment of climate strategies, however the implementation of actual measures can not or only to a limited degree be steered or controlled by creditor countries, especially after the loans are disbursed. Hence, the actual climate and biodiversity impact of an SDR bond is questionable and dependent on the commitment and capacity of the debtor country. According to the Swiss federal administration, it is therefore questionable, whether the Swiss contribution to the RST will be accountable towards its international climate and biodiversity finance. To ensure the attribution of any future fund sourced through SDRs to international climate and biodiversity finance, the fund would have to be specifically targeted towards climate and/or biodiversity objectives (Federal Administration, 2023).

### Rating

Potential impact	Political feasibility	Financial effectiveness
N.a.	medium	high
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	The Swiss participation in such a fund would require parliamentary approval.	Likely in the three digit millions from Switzerland alone, combined with other countries likely amounts to billions.
Leverage factor	Budgetary implications	Administrative efficiency
N.a.	budget reallocation required	neutral
Only relevant for instruments and selected sources.	The SDR rechanneling would require an SNB loan in hard currency.	Costs are limited but the set-up of the Fund at the IMF or an MDB is very resource intensive, benefits are potentially quite high.

### 5.2.8 Use Potentate's money for international climate and biodiversity finance

Description		
<p>Switzerland adopted a strategy to lock, recover and repatriate potentate money and assets in 1986. In the case of illicit enrichment assets of government officials that enter the Swiss financial market, Switzerland tries to identify these funds, recover and redistribute them to the benefit of the country of origin of the funds the potentate in question "appropriated" them from (Schweizerische Eidgenossenschaft, No date, b, pp. 3-4). Switzerland could make it conditional that these repatriated funds shall be used as development finance with a percentage earmarked for climate mitigation and adaptation as well as biodiversity protection. However, the question remains whether these funds could be attributed to Switzerland's international climate and biodiversity finance, since the funds technically do not belong to Switzerland, but the country the funds were illicitly "collected" from and become redistributed to.</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
N.a.	medium	low-medium
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	This would require parliamentary approval.	Irregular financial flows, can potentially be quite high for some years and low for others. In between 1986-2016, Switzerland has restituted around USD 2 bn, what amounts to an average of USD 66.7 million per year (Schweizerische Eidgenossenschaft, No date, c, p. 8).
Leverage factor	Budgetary implications	Administrative efficiency
N.a.	budget reallocation required	efficient
Only relevant for instruments and selected sources.	Existing revenue would have to be redistributed for international climate and biodiversity finance.	Asset recovery strategy already exists, only revenue would have to be earmarked.

### 5.2.9 Support a debt-for-nature swap

Description
<p>60% of low-income countries are in, or on the border of, debt distress and are spending considerably more on debt servicing than on climate change mitigation and adaptation every year. These countries need urgent debt relief (Kozul-Wright, 2023). Currently 13 developing countries are official debtor countries to Switzerland with cumulated debts of 488.8 million CHF (incl. debts to Swiss private</p>

creditors). An additional four will likely be added in 2023/2024. Most of the debt balance consists of SERV-claims (SERV, 2023, p. 65 & Federal Administration, 2023).

As it did previously in 1991 and 1992 (see Chapter 4.5.4, although not uniquely for nature, but development in general), Switzerland could offer debt-for-nature swaps to some of these ODA partner countries. Either by simply cancelling a percentage or all of the debt under the condition of the implementation of climate and biodiversity projects in the debtor country (similar swap than Switzerland did in 1991). Or, by realizing a bonded debt-swap in consortium with other public and private creditors (see example presented in Chapter 4.5.4) (Federal Administration, 2023). Likely, such a debt-for-nature swap would be orchestrated in negotiations in scope of the Paris Club. Through the issuance of green or blue sustainability linked bonds, the creditors would allow the debtor nations to repurchase their debt at a discount rate and create a counter-value biodiversity or maritime conservation fund capitalized with the amount of the thereby generated savings. The negotiation of such multilateral debt swaps take time and the convincing of private creditors is challenging, but they ensure the fair treatment of all creditors. Many other creditor countries are equally interested/under pressure to mobilize additional international climate and biodiversity finance, and thus multilateral debt-for-nature swaps might be increasingly realized in the future (Federal Administration, 2023).

It should be considered that the debt carrying capacity of highly indebted countries is more efficiently improved through traditional debt restructuring, but it can absolutely make sense to use swaps to free up additional and targeted financial resources for e.g. climate and biodiversity projects. Also it is to be noted, that SERV, as a self-supporting entity, bears the costs of debt restructuring schemes normally by itself in case of recommendations through the Paris Club or similar international agreements. If Switzerland were to undertake additional debt relief efforts than the realistic solvency of a debtor country would sustain (=debt treatment beyond IMF recommendations), Switzerland would have to reimburse SERV. This could take the form of a swap. On the balance sheet of Switzerland, such a swap would, however, not be different from a grant (Federal Administration, 2023). Also important to consider is that in order for a debt-for-nature swap to achieve the aspired impact, there must be an arrangement for how the agreed upon KPIs from the sustainability linked bond or the climate and biodiversity development programs are verified and thus how it can be ensured that the counter-value funds live up to their mission statements.

### Rating

Potential impact	Political feasibility	Financial effectiveness
high	medium	medium-high
Depends on the governance, but the impact can be quite high, as the debt-for-nature swaps generate significant funding for biodiversity protection.	A debt-for-nature swap would require parliamentary approval.	Given the small amount of ODA country debts to Switzerland, a debt-for-nature swap would likely be initiated for sums in the low three digit millions, but could also be higher. In general, it is dependent on the level of eligible debt and demand for such swaps and for their activation by debtor countries. So

		fluctuation could be considerable.
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
low	budget neutral if debt is already written off budget reallocation required if debt is still on balance sheet	efficient
In a debt-for-nature swap negotiated in scope of the Paris Club, public and private creditors would be involved, thus public debt relief will crowd in debt relief from a limited amount of private creditors.	A debt for nature swap is budget neutral if the debt is already written off; if it is still on the balance sheet of Switzerland, a budget reallocation is required.	Potentially high set-up and monitoring costs, but long-term benefits are also considerable. When reallocation is involved, considerable transaction costs.

### 5.2.10 Issue a green bond and earmark proceeds

Another option for Switzerland to raise additional money is the issuance of a green bond, whose proceeds become earmarked for international climate and biodiversity finance. The advantage of a green bond issuance is that the investors would likely be predominantly institutional investors and thus a considerable amount of private finance could be mobilized. In order to not just re-finance existing projects with the green bond (=zero additionality), Switzerland should issue a sustainability-linked-bond (see Chapter 4.1.5), which defines clear climate and biodiversity KPIs for projects to be financed through the proceeds and have a project pipeline ready to invest in in developing countries.

#### Option 1) Swiss Government issues Green Bond directly

One option is that Switzerland itself issues a green bond, similar to the green confederation bond issued in October 2022 but as a forward-looking, sustainability-linked bond that finances new climate projects, rather than a classic use-of-proceeds bond refinancing existing projects. The green confederation bond raised 766 million CHF, however, bids went up to the one billion limit; thus the market demand is quite high. The Swiss government has already announced the issuing of additional bonds in the future (Schweizerische Eidgenossenschaft, 2022h). However, the green confederation bond refinanced existing climate projects in Switzerland. Therefore the bond did not affect the Swiss debt ceiling, though it also exerted zero additionality in regards to climate finance. If Switzerland were to issue a forward-looking green bond that finances new climate and biodiversity projects in developing countries, the bond would exert climate and biodiversity positive impact.

#### Rating

<b>Potential impact</b>	<b>Political feasibility</b>	<b>Financial effectiveness</b>
N.a.	medium	high

The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	For the issuance of a green bond (irrespective whether use of proceeds or forward looking bond), parliamentary approval is required.	The issuance of a green bond could raise up to a billion of funds for international climate and biodiversity finance
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
N.a.	budget neutral/positive and budget reallocation required	neutral
Only relevant for instruments and selected sources.	New government budget generated, must be earmarked for international climate and biodiversity finance. In addition, to comply with the Swiss debt ceiling, the taken-up debt through the green bond would have to be compensated elsewhere in the federal household budget.	Time and cost expenditure to increase Swiss debt ceiling are high, though benefits in terms of revenue are high as well.

### Option 2) SIFEM issues Green Bond

To avoid the increase of Switzerland's debt, not the Swiss confederation but SIFEM could issue a green bond. Since SIFEM is an autonomous organization albeit in the full ownership of the Swiss confederation, the issuing of a SIFEM green bond would affect the debt ceiling of Switzerland to a lesser degree, as it is SIFEM that would take up capital not Switzerland. Nonetheless, an increase of SIFEMs debt would reduce the valuation of the equity on the Swiss balance sheet since the equity-debt ratio of SIFEM would change. Ideally, SIFEM would issue a forward-looking, sustainability-linked bond, whose bond proceeds would not be used primarily for re-financing of the existing portfolio of SIFEM but mainly for new investments linked to specific performance criteria.

Also in the case of SIFEM, costs for the issuance of a green bond have to be evaluated against the benefits. If the issuance of a green bond incurs significant fees and structuring costs, it will make lending more costly for SIFEM and consequently the investees. Hence, ideally SIFEM would collaborate with an established bond issuance platform such as the one operated by Symbiotics or Innpack to keep costs and efforts in check.

### Rating

Potential impact	Political feasibility	Financial effectiveness
N.a.	medium -high	medium-high
The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	This requires the approval of the SIFEM board and the federal council. The SIFEM law (Schweizerische Eidgenossenschaft, No Date, a) does not	Given SIFEMs assets under management, the issuance of a green bond could raise a low to mid three digit million number.

	explicitly allow the issuance of bonds through SIFEM, the law does, however, also not deny this. Hence, it would have to be clarified if a regulatory basis would have to be created, which would require parliamentary approval.	
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
N.a.	budget neutral or positive or additional budget required	neutral-efficient
Only relevant for instruments and selected sources.	New SIFEM budget generated, must be earmarked for international climate and biodiversity finance. However, this depends on the sum of the bond issuance. In case of the issuance of a high volume bond, an additional equity contribution might be required to keep SIFEMs debt-equity ratio in check.	Depends on the fees and structuring complexity, if they are low, the green bond issuance can be quite efficient.

### 5.2.11 Offer SIFEM shares to private shareholders

<b>Description</b>		
<p>Currently SIFEM is fully owned by the Federal Government but its shares are regulated under private law (see Chapter 3.3.5). Art. 8 of the new SIFEM federal law (still in consultation, to be implemented from 2025 onwards, if adopted) states that only two-thirds of SIFEM must be held by the federal government (Schweizerische Eidgenossenschaft, No Date, a). One third of the shares could thus be bought by private investors. Hence, SIFEM could issue additional shares and put them up for public auction, up to the limit of a shareholder structure of 67% government ownership, 33% private ownership. The Dutch FMO has a similar shareholder structure, with even 49% of shares in private hands (see Chapter 4.4.1). With the increase of shares, SIFEM could considerably raise its budget and earmark a higher percentage of investments (currently 25% see Chapter 3.3.5) for international climate and biodiversity finance.</p> <p>With a change of the SIFEM law, SIFEM could even auction shares up to a shareholder structure of 51% government, 49% private ownership. This would further expand its capital base and therewith, the funds that could be earmarked for international climate and biodiversity finance, but is more complex in implementation as the law change would require parliamentary approval.</p>		
<b>Rating</b>		
<b>Potential impact</b>	<b>Political feasibility</b>	<b>Financial effectiveness</b>
N.a.	high (up to 33%) medium (up to 49%)	high

The impact on climate and biodiversity protection can only be evaluated for instruments, not for sources.	A change in ownership of SIFEM in accordance with the SIFEM law would only require approval by the federal council. In case of a change of the SIFEM law, parliamentary approval is required.	An increase of SIFEM shares could result in additional funds of around 230mio. (33%) to 300-350 million CHF (49%)(one time, not per year)(SIFEM AG, 2023, p. 4).
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
low	budget neutral or positive	efficient
First level public-private leverage factor would be below 1:1.	New SIFEM budget generated, must be earmarked for international climate and biodiversity finance.	Limited costs, but high benefits in terms of increased SIFEM revenue.

### 5.3 Additional or expansion of existing multilateral instruments

#### 5.3.1 Increase contributions to multilateral climate and/or biodiversity focused funds such as GEF and GCF

Description		
<p>In order to increase its public contributions to international climate and biodiversity finance and leverage additional private finance, Switzerland could increase its contributions to multilateral climate and biodiversity focused funds such as the GEF, the GCF, the AF or the CIFs. These funds have a proven track record of utilizing robust and recognized mechanisms for attributing funding to specific projects and initiatives. With more public funding allocated to these funds, Switzerland can support a range of programs aimed at biodiversity conservation, climate change mitigation and adaptation, and sustainable development. This increased funding will not only strengthen the capacity of these funds to deliver impactful projects but also contribute to international collaboration and the achievement of global sustainability goals. The GCF claims to reach a public-private investment leverage of more than 1:4 across its project portfolio (GCF, 2023). Meanwhile, the GEF private sector mobilization reaches 2:1, but is bound to ramp up in the coming years with an increasing growth of the non-grant portfolio (GEF, 2023b).</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
high	medium-high	medium
Multilateral funds are designed to support global environmental objectives and have a track record of successfully financing impactful initiatives (at the GCF, many projects are relatively recent,	Federal Council approval for increased contribution to multilateral environmental funds within existing commitment credits. Parliamentary approval required for the increase of commitment credit for additional	The increase of public funds would likely be in the two to lower three digit million range.

and ex post climate results are still very limited).	contributions to multilateral environmental funds and/or increase of the international cooperation commitment credit.	
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
low-medium	additional budget required/ budget reallocation required	neutral-efficient
Depends on specific fund (e.g. GEF 2:1, GCF private sector facility 1:4 investment level leverage).	Either additional budget or budget reallocation required to increase contributions to multilateral environmental funds.	GEF, GCF and other funds already exist and thus design and implementation costs are low. For budget reallocation considerable transaction costs are involved. Also benefits are not as high, as these funds bring about considerable administration and transaction costs.

### 5.3.2 Facilitate risk-guarantees for MDBs to increase climate and biodiversity lending

Description		
<p>Similar to the UK and AfDB “Room to Run Sovereign” transaction for Climate Finance (see Chapter 4.5.2), Switzerland could support a risk transfer of an MDB in collaboration with Swiss insurers and reinsurers and earmark the therewith freed-up lending capacity for developing countries for climate and biodiversity finance. The freed-up lending capacity if earmarked for climate and biodiversity loans to developing countries could likely be fully attributed to Switzerland’s international climate and biodiversity finance, as the insurers and reinsurers as the mechanism is only feasible if a government with a AAA credit rating backs it. Such a risk-transfer would have to be initiated by SECO/DEZA, which already considered it but came to the conclusion that the MDB’s needed to take on more risks on their own, before Switzerland could support such a risk-transfer. The MDBs, and especially their shareholders, would have to increase their risk-tolerance, which would already free-up considerable loan capacity on their balance sheet. Once one or likely all of the MDBs have undertaken this crucial step and shown their disposition to put more skin in the game, Switzerland could support – on its own or in collaboration with other states – a risk-transfer transaction earmarked for international climate and biodiversity finance. In a recent statement of the heads of the multilateral development banks, the MDBs declared to having undertaken initial steps in this direction, stating to have identified Capital Adequacy Framework measures to free up additional lending headroom in the order of USD 300-400 billion over the next decade (The World Bank, 2023b).</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
high	high	high

MDB lending allows developing countries to take out concessional loans for climate and biodiversity protection.	This might only require approval by the Federal Council. <sup>17</sup>	Such risk-transfers could free up considerable lending capacity (Room to Run Sovereign: 2 bn USD).
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
low	additional budget or budget reallocation required	neutral
Below 1:1 first level, more on second level but depends on specific fund terms.	For such a risk-transfer Switzerland would have to block this "risk insurance" in full or partially on its balance sheet, so additional budget required or at least budget reallocation necessary.	Considerable effort to work out the scheme, however benefits are quite high and scheme is replicable <sup>18</sup> .

### 5.3.3 Creation of Swiss single-donor environmental trust fund managed by a regional MDB<sup>19</sup>

Description		
Switzerland could provide a grant for the creation of a single-donor trust-fund managed by a regional MDB, specifically earmarked for "green" credit lines to financial institutions in developing countries. In order to mobilize private climate and biodiversity finance, the fund could be created as a PPP with Swiss institutional investors and/or only allocate partial financing for final projects supported by the financial institutions that receive loans from the fund. Another option would be to create a fund-of-funds that provides first-loss or mezzanine financing to environmental funds and therewith de-risks and mobilizes senior debt tranches from the private sector.		
Rating		
Potential impact	Political feasibility	Financial effectiveness
medium - high	high	medium - high
Depends on the conditions for the investment allocations.	Grant from commitment credits for global environment or international cooperation could be allocated, which does not require regulatory changes.	If no private co-investors allowed, the fund would likely be in the two-three digit numbers, if private co-financing then financial effectiveness could be high.

<sup>17</sup>It is to note, that for option 5.3.2 and most of the subsequent options, political feasibility would change to medium (parliamentary approval necessary) in case funds have to be shifted across the commitment credits and/or the commitment credits would have to be increased for the instrument to be realised. However, the rating bases itself upon the immediate approval process for the instrument in question and assumes that the instrument will be budgeted for in the approval process for the commitment credits every four years.

<sup>18</sup>Also for the administrative efficiency rating it is to note, that for option 5.3.2 and most of the subsequent options, the rating of administrative efficiency would have to be reconsidered in case funds would have to be shifted across commitment credits and/or the commitment credits would have to be increased for the instrument to be realised, as this incurs significant transaction costs. However, the rating bases itself upon the immediate approval process for the instrument in question and assumes that the instrument will be budgeted for in the approval process for the commitment credits every four years.

<sup>19</sup>The World Bank does no longer allow for single-donor trust funds (Federal Administration, 2023).

Leverage factor	Budgetary implications	Administrative efficiency
medium	additional budget or budget reallocation required	neutral
Low direct mobilization (likely 1:1 or below), could be up to 1:3 investment level mobilization (second level leverage) if fund does not just allocate loans, but also equity or grants, even higher in case of fund-of-fund.	Either additional budget or budget reallocation for Swiss-single donor trust-fund would be required.	High set-up costs compared to option 5.3.4, potentially high benefits and high replicability.

### 5.3.4 Invest in existing multi-bi trust funds managed by an MDB

Description		
<p>As an alternative option to a single donor trust fund, Switzerland could initiate the creation or simply invest equity or grant funding in existing multi-bilateral funds managed by an MDB earmarked for climate and biodiversity projects such as e.g. the GEEREF managed by the EIB (see Chapter 4.2.2). In contrast to a single-donor trust fund, this would allow for the pooling of resources with other governments and likely increase the mobilization of private climate and biodiversity finance therethrough.</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
medium - high	high	high
Depends on the conditions for the investment allocations.	Grant from commitment credits for global environment or international cooperation could be allocated, no legislative changes required.	Pooling of funds with other governments and potentially private co-financing would likely capitalize the fund in the higher three or even four digit millions.
Leverage factor	Budgetary implications	Administrative efficiency
medium-high	additional budget or budget reallocation required	efficient
Low direct mobilization (likely 1:1, potentially a bit more), could be up to 1:3 or higher on investment level (second level leverage), if fund does not just allocate loans, but also equity or grants and/or if fund acts as fund of fund (see GEEREF second and third level mobilization combined: 1:100).	Either additional budget or budget reallocation for multi-bi trust fund would be required.	Limited set-up costs, potentially high benefits and high replicability.

## 5.4 Additional or expansion of existing bilateral instruments

### 5.4.1 Tailor the mandate of SIFEM to more climate and biodiversity investments

Description		
<p>In SIFEM's strategic objectives 2021-2024 it is defined that at least 25% of all new investments have to be dedicated to international climate mitigation and adaptation (SIFEM AG, 2020 &amp; see Chapter 3.3.5). This percentage could be increased to e.g. 50 or even 70% and enlarged to also include a minimum biodiversity quota for the portfolio. This would mean shifting the existing fund-of-fund investment window of SIFEM to lay a stronger focus on climate and biodiversity finance ideally coupled with other SDG impacts.</p> <p>However, SIFEM is a development finance institution and its mandate does oblige it to cater also to SMEs in LDCs. Increasing the climate related impact investment criteria of SIFEM would decrease lending in other target dimensions (e.g. poverty reduction, decent work, gender, basic goods and services etc.)(Federal Administration, 2023).</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
high	high	low-medium
Could have a potentially high climate and biodiversity impact, as SIFEM would allocate more funding	Would imply a change of SIFEM's strategic priorities, could be done by the Federal Council according to Art. 9 of the SIFEM law (Schweizerische Eidgenossenschaft, No Date, a).	Depends on the investment quota increase for international climate and biodiversity investments, but likely in the two digit number range as SIFEM invests around 100 mio. USD in total per year overall.
Leverage factor	Budgetary implications	Administrative efficiency
high	budget reallocation required	efficient
The first level private sector leverage of SIFEM is below 1:1, though the investment (second level leverage) is at 1:5 and could be increased, if risk-taking instruments like first-loss equity or guarantees are used (see below).	Redistribution of SIFEM budget to more international climate and biodiversity finance.	Almost no costs, but also limited benefits in terms of additional money available for international climate and biodiversity finance.

### 5.4.2 Allow for SIFEM to allocate more “catalytic” capital

Description		
<p>Currently, SIFEM predominantly acts as fund-of-fund investing subordinate loans, equity and quasi equity to climate and biodiversity funds and financial institutions in developing countries. For the equity and quasi equity investments, SIFEM aspires market rate returns. For the loans, SIFEM grants improved conditions but has a clear mandate to not crowd-out private investors, hence lending to end investees is on the lower spectrum of private lending offers in developing countries. For equity and loan investments SIFEM aspires a minimum IRR objective of 3% (SIFEM AG, 2015, p. 4 and SIFEM AG, 2020, p. 4). Hence, SIFEM does allocate catalytic capital already, but is not as “catalytic” (=risk absorbant) as it could be.</p> <p>Many ventures and SMEs in the climate and biodiversity space have trouble obtaining debt or mezzanine financing, meaning a subordinate debt tranche that could be converted into equity in case of default. Mezzanine finance therewith reduces the risk of senior debt investors. SIFEM could be restructured to allocate more “catalytic” capital in the form of subordinated debt or preferred equity to SMEs in the climate and biodiversity space or to provide the mezzanine tranche in blended finance vehicles for international climate and biodiversity finance. Another option, with even higher leverage, could be the provisions of first loss funding – however this would only be possible to a small extent or with additional capital, given the current risk profile of SIFEM and its return objectives (see elaboration in Chapter 5.4.5). The leverage factor for private climate and biodiversity investments could be quite high, as the mezzanine tranche would derisk senior debt investments from impact or even institutional investors.</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
high	medium-high	medium
Many projects and ventures in the climate and biodiversity space would benefit from more mezzanine financing.	Could be implemented through a change of the investment strategy (board and Federal Council decision) or investment criteria (board and Federal Council decision). In case SIFEM were to allocate first loss tranches at very low interest rates, this would potentially be tangent to SIFEM law Art. 14 and thus require parliamentary approval.	Likely attracting investments in the two to low three digit millions.
Leverage factor	Budgetary implications	Economic efficiency
high	budget neutral	efficient
The first level leverage factor would remain at below 1:1, the second level leverage could increase to above 1:5.	Operation with existing budget, but more risk appetite.	Limited set up costs, high benefits in terms of increase of private climate and biodiversity finance, also the instrument addresses market failure.

### 5.4.3 Create a new Swiss green investment fund

Another option to increase its international climate and biodiversity finance is for the Swiss Government to set-up a new climate and biodiversity fund for developing countries either as Option 1) an additional purely public funding window managed by SIFEM; Option 2) a PPP fund managed by SIFEM; or Option 3) a public or public-private fund managed by another asset manager.

#### Option 1) Public Swiss green investment fund managed by SIFEM

Next to its existing SME investment window, SIFEM could create a new investment window with an investment strategy, terms and objectives uniquely focusing on climate and biodiversity investments with SDG co-benefits in developing and emerging markets. The “green” investment window would be similar to the SME window, act as fund-of-funds and invest equity, subordinate debt and mezzanine financing in funds and financial institutions that in turn invest in climate and biodiversity projects and ventures in developing countries. The creation of a separate investment fund would allow for specially adapted terms (grace periods, payback time and regularity, optimized interest rates) for the project types supported, whilst leaving the objectives and terms of the SME window untouched. It could also reduce costs (analysis of similar projects, less external expertise), increase efficiency and allow for SIFEM to comply with its development cooperation mandate not just in climate and biodiversity but also other sectors. By derisking private investments, the fund could display a considerable public-private leverage on investment level.

#### Rating

Potential impact	Political feasibility	Financial effectiveness
high	medium if increase of commitment credit high if redistribution of budget	medium
Depends on the sustainability criteria imposed to allocate investments.	This is a decision the SIFEM board of directors in agreement with the Federal Council could take, if financed by a redistribution of the current SIFEM budget. It would need Parliamentary approval, if funding beyond the existing commitment credit would be required.	A new funding window would likely be capitalized with a low three digit million number, if the sole investor is the Swiss government.
Leverage factor	Budgetary implications	Administrative efficiency
low to high (depending on use)	additional budget or reallocation of budget required	neutral
The first-level leverage ratio is 1:0, whereas it could be up to 1:3 or even higher on investment level depending on instruments used.	The fund set up requires additional or the redistribution of budget already earmarked to SIFEM.	Fund creation and set-up costs are considerable, though long-term benefits in terms of climate and biodiversity projects financed could be considerable.

**Option 2) PPP Swiss green investment fund managed by SIFEM**

The Swiss green investment fund/window managed by SIFEM could also be initiated in the form of a PPP fund. Similar to the Danish SDG investment fund, for whose creation the Danish government partnered up with six Danish pension funds (see Chapter 4.3.3), SIFEM could set-up a green investment fund, combining SIFEM capital, (Swiss government capital) and capital from institutional investors, whereby the latter act as majority investors, and create a fund that allocates equity, subordinate debt or mezzanine financing to funds and financial institutions in the climate and biodiversity sector or medium-term equity (4-6 years) to early-stage private companies in developing countries active in the climate and biodiversity space. A PPP fund would not only display a high leverage factor in regards to mobilized private climate and biodiversity investments on investment level, but also display a direct mobilization factor on fund level of 1:2-3 as well. However, when opening the fund up for private investors, their limited risk appetite should be considered. It is likely that a public-private Swiss Green Investment Fund could take less risk than a purely public one.

**Rating**

<b>Potential impact</b>	<b>Political feasibility</b>	<b>Financial effectiveness</b>
medium	medium if increase of commitment credit high if redistribution of budget	high
Less risky capital than Option 1, so additionality of investments might be reduced.	This is a decision the SIFEM board of directors in alignment with the federal council could take according to Art. 15 of the SIFEM law (Schweizerische Eidgenossenschaft, No Date, a), if financed by a redistribution of the current SIFEM budget. It would need parliamentary approval, if funding beyond the existing commitment credit would be required.	A PPP sub-fund could likely close in the mid-three digit millions.
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
medium-high	additional budget or reallocation of budget required	efficient
Depending on the fund structure the leverage ratio could be 1:2, or even 1:3 (fund level), and even higher on investment level. Especially, if partial financing is allocated to projects that require co-financing.	The fund set up requires additional or the redistribution of SIFEM budget.	Fund creation and set-up costs are considerable, though long-term benefits in terms of climate and biodiversity projects financed and the mobilization of private sector finance could be very high.

### Option 3) Swiss green investment fund managed by other asset manager

As a third option, the Swiss Government could also create a Swiss Green Investment Fund managed by another Swiss asset manager selected via a call for proposal or even managed by a bigger DFI than SIFEM such as KfW or FMO (the latter version is similar to the Swiss-Single Donor Trust Fund mentioned in Chapter 5.3.3).

In case of management by another asset manager, the Swiss Government would have to launch a call for proposals to select this asset manager and undergo complex negotiations for fund set-up, investment objectives, terms and strategy. This new fund could focus uniquely on allocating investments to international climate and biodiversity projects and ventures by providing either:

- green credit lines, loans and TA to financial institutions in developing countries that invest in climate and biodiversity projects;
- guarantees to financial institutions in developing countries that invest in climate and biodiversity projects;
- mezzanine financing (subordinated debt and preferred equity) to projects and ventures in developing countries;
- equity or first-loss tranches to blended finance vehicles for climate and biodiversity;

A Swiss Green Investment Fund managed by another Swiss asset manager or a DFI of another country, could equally be set up as a purely government fund or a PPP vehicle that is open for private sector investors as well.

### Rating

Potential impact	Political feasibility	Financial effectiveness
medium - high	medium	high
Depends on the sustainability criteria imposed to allocate investments.	This would require parliamentary approval.	If a new Swiss investment fund is created, the budget committed would be more than 200 million CHF to make the creation costs worthwhile.
Leverage factor	Budgetary implications	Administrative efficiency
low-high	additional budget required	non-efficient
The first level leverage is likely around 1:1 max. 1:2. The second level leverage depends on the type of capital the fund allocates, but if focussed on equity and mezzanine finance, the second level leverage factor can be 1:3 or higher, lower in case of loans.	Additional budget for the creation of the fund required, potentially in the form of a commitment credit.	Potentially overlaps with SIFEM, set-up costs could be quite high.

#### 5.4.4 Increase guarantees for climate and biodiversity investments

Many SMEs active in the climate and biodiversity sector in developing countries have difficulties obtaining access to (international) finance. Reasons may be that a company is relatively early-stage, has not received an (international) loan or equity investment before and/or lacks the collateral required by investors (SIDA, 2022). By providing guarantees to national and international investors in developing countries investing in climate and biodiversity SMEs, Switzerland could unlock considerable additional private sector investments for international climate and biodiversity finance. Important thereby is the allocation of partial guarantees in order to ensure that the financial institutions have skin in the game and perform a thorough due diligence on each project/venture invested in. Switzerland has different options to allocate such guarantees.

##### Option 1) Expand the Swiss Technology Fund mandate for SMEs in developing countries

An option to offer more guarantees would be to expand the Swiss Technology Fund and allow for enterprises from selected developing countries active in the climate and biodiversity area to apply for a guarantee. Already today companies that are based outside of Switzerland and generate their environmental benefit there can apply for guarantees from the technology fund, as long as a significant part of the value creation take place in Switzerland. Though, the loan provider (thus the financial institution for whose benefit the guarantee is spoken) must be based in Switzerland. To underwrite guarantees to companies in developing countries, the mandate of the Technology Fund would have to be expanded to allow for guarantee agreements with financial institutions in developing countries or Swiss impact investors investing in start-ups in developing countries. The former is rather complicated from a legal point of view. In addition, the management agency of the Swiss Technology Fund would have to expand its competencies for the evaluation of SMEs active in developing countries. The expansion of the Technology Fund mandate could first focus on e.g. three to five selected ODA partner countries of Switzerland. In these countries financial institutions could be selected (through a succinct due diligence e.g. with the support of Swiss impact investors such as Symbiotics or BlueOrchard or DFIs such as KfW or FMO which already have experience with many of these institutions), that are eligible for guarantees from the Technology Fund. SMEs that become approved for the guarantees by the Technology Fund and a loan from one of these local financial institutions or Swiss impact investors, will then receive a partial guarantee of the loan through the Swiss Technology Fund. However, it should be considered that the Swiss Technology Fund was first and foremost created as a location promotion instrument for Switzerland, and climate impact comes second. Thus political resistance to expand the mandate of the technology fund to companies outside of Switzerland may be quite high.

##### Rating

Potential impact	Political feasibility	Financial effectiveness
high	medium	medium
Supports the growth of start-ups in the climate and biodiversity space.	This would require a change of the legal basis of the Swiss Technology Fund and would therefore need parliamentary approval.	The Swiss Technology Fund allocated in 2022 roughly 17 Mio. CHF in guarantees, which means it facilitated full loans of around 23.5 Mio. CHF. An expansion of

		the mandate could thus generate additional international climate and biodiversity capital in the double-digit million area.
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Administrative efficiency</b>
high	additional budget or reallocation of budget required	neutral
The investment level leverage factor of the technology fund is currently 3:5, with a guarantee coverage of max. 60% of the loan amount but loan defaults are targeted at max. 30% (so far below 10%), which brings the leverage to 1:5< .	If the mandate of the Technology Fund is to be expanded, additional budget or the reallocation of budget is required.	The expenditure to bring about the legal changes and to perform the due diligence of the local financial institutions in ODA countries are significant, the benefits could though potentially be high as well and the instrument once established for a country is replicable. If additional budget, the option is relatively efficient, however, when reallocation is involved, considerable transaction costs occur.

### Option 2) Create separate guarantee fund managed by DFI or MDB

Another option could be to create a guarantee fund that is managed by SIFEM or alternatively to create or contribute to a guarantee fund of a development agency, DFI or MDB that is specialized to set up and manage guarantee funds, such as the Swedish International Development Cooperation Agency (SIDA) or US DFC. Switzerland would provide a grant for the set-up of or the contribution to the guarantee fund. The fund would then provide partial guarantees to financial institutions in developing countries that establish climate or biodiversity credit lines and lend to SMEs. However, the setting up of a guarantee fund blocks a large amount of the grant money unused for several years<sup>20</sup> and is thus an inefficient use of grant money, compared to e.g. TA provision. The volume of the guarantee fund, if Switzerland were to create one on its own, would also be limited, as Switzerland's ODA grant allocation is limited as well and has to be spread over a variety of programs. It should be considered whether there are options for Switzerland to either collaborate with other countries for the setup of or the contribution to a guarantee fund and/or to multiply the money in the guarantee fund, meaning e.g. to only hold 50% or even 30% of the guarantee fund as counter-value on the balance sheet. This would allow for a higher degree of private sector mobilization and the risk is moderate, as a full calling of the guarantee sum is very unlikely (Federal Administration, 2023).

<sup>20</sup>For the issuance of guarantees, the Swiss Administration evaluates the guarantee amount- according to term duration, financial rating of the recipient, and interest rate at time of issuance -that has to be booked on the balance sheet in similar fashion than a grant to ensure for sufficient liquidity in case the guarantee (resp. parts thereof) gets called. In case the default risk is higher than >50% (at the beginning or during the term) a reserve must be formed as a proxy for the evaluated guarantee amount (Federal Administration, 2023).

Rating		
Potential impact	Political feasibility	Financial effectiveness
high	high	medium
A big hindrance for climate and biodiversity projects and ventures in developing countries is the limited access to finance. By alleviating this obstacle, impact on project development and scaling could be quite high.	No legal changes required. The program could be structured as a common ODA program, with the added advantage that it facilitates private sector investments.	The financial effectiveness depends on the size of the guarantee fund. It can be increased if Switzerland collaborates with other countries either for the set-up of a new guarantee fund or by contributing to an existing guarantee fund.
Leverage factor	Budgetary implications	Administrative efficiency
high	budget reallocation or additional budget required	efficient
Looking at defaults to investment ratio, MDB guarantees display an investment level leverage factor of 1:5.	Budget reallocation required if funding from existing commitment credits or budget increase for funding beyond existing commitment credits.	Set up costs are substantive, but benefits in terms of climate and biodiversity projects financed and long-term replicability are quite high. The efficiency can be increased if Switzerland contributes to an existing guarantee fund.

### Option 3) Allocate grants to guarantee funds in ODA partner countries

Another option for the guarantee fund to efficiently allocate its guarantees would be to work with local guarantee agencies in ODA partner countries of Switzerland. Out of the commitment credits for international cooperation or the global environment, grants could be allocated to local guarantee funds in developing countries, which create "green" guarantee funds managed by them. The guarantee agencies would provide partial guarantees to financial institutions with e.g. renewable energy credit lines that lend to SMEs such as farmer cooperatives, renewable energy equipment distributors or small industrial companies. By working with local guarantee funds the allocation of guarantees becomes much more efficient and the effort of evaluating various financial institutions in each country can be safeguarded, only the evaluation of the local guarantee funds in each ODA country is necessary. In addition, the Swiss guarantee fund could be structured like or become embedded in a classic ODA development program; instead of giving funds to a project, the funds could be used to create these green "guarantee funds" with local guarantee agencies in ODA partner countries. Additionally, an accompanying TA program could be established to support financial institutions in the same ODA partner countries to establish "green" credit lines. Private sector leverage of this option would be quite high.

Rating		
Potential impact	Political feasibility	Financial effectiveness
high	high	low -medium
Working with local structures to improve guarantee conditions and therewith the likelihood of the allocation of loans for green projects in developing countries.	No legal changes required. The program could be structured as or become embedded in a common ODA program, with the added advantage that it facilitates private sector investments.	Overall funding to local guarantee funds will likely be in the two digit million numbers. Though the funding will be spread across different guarantee funds in different ODA countries.
Leverage factor	Budgetary implications	Administrative efficiency
medium-high	budget reallocation or additional budget required	efficient
First level leverage would be 1:0, though second level leverage could be around 1:2 or 1:3 in case of high defaults, and even up to 1:5 or more in case of low default rates. Default rates to be watched for such national guarantee instruments .	Budget reallocation required if funding from existing commitment credits or budget increase for funding beyond existing commitment credits.	Set up costs are substantive, but benefits in terms of climate and biodiversity projects financed and long-term replicability are quite high.

#### Option 4) Portfolio guarantees for Swiss Impact Asset Managers - subsidized by Swiss Government

Another option to support Swiss asset managers to invest in climate and biodiversity projects in developing countries is through the offering of portfolio guarantees. SECO is currently evaluating a partnership with SIDA, which offers such guarantees with market-based fees (Federal Administration, 2023). Switzerland via SIFI (see chapter 5.4.11) could take over parts or all of the fees for the portfolio guarantees of asset managers selected by SIFI through a call for proposals. This would ensure default guarantees up to a certain level for the climate and biodiversity funds of these asset managers and therefore reduce the risk for private investors. However, the demand for guarantees by the asset managers themselves is somewhat limited according to SECO. First loss tranches from the Swiss government for climate and biodiversity finance funds of these asset managers would be preferred and display a higher private sector leverage (Federal Administration, 2023).

Rating		
Potential impact	Political feasibility	Financial effectiveness
medium	high	high
Makes lending less costly for climate and	Implementation through SIFI does not	If Switzerland provides the guarantee

biodiversity investees in developing countries.	require any legal adjustments.	amount for several funds, it would have to block an amount in the three digit million number on its balance sheet. The portfolio guarantees would likely lead to an increase of especially private or DFI investments to impact funds, as the guarantees provides a certain security for portfolio performance.
<b>Leverage factor</b>	<b>Budgetary implications</b>	<b>Economic efficiency</b>
medium	additional budget or budget reallocation required	neutral
First level leverage is likely around 1:2 in case of a partial portfolio guarantee. Second level leverage depends on the type of finance made available by the supported funds.	Budget reallocation required if funding from existing commitment credits or budget increase for funding beyond existing commitment credits.	Costs for the set-up of the instrument are limited as already setup by SIDA, benefits are limited as well since market demand is rather low.

#### Option 5) Expand SERV guarantees for climate and biodiversity exports

In order to leverage more private climate and biodiversity investments, Switzerland could also further adapt the guarantee and export insurance conditions of SERV for exports in the climate and biodiversity sector. Already today SERV mobilizes a considerable share (89% in 2020) of Switzerland's international private climate finance (see Chapter 3.3.6). However, as SERV works demand-side oriented, the annual share of export insurances attributable to Switzerland's international climate finance varies greatly across different years. Options to foster more exports in the climate and biodiversity sector through SERV would either be to offer export insurances with favorable terms even more adapted to the nature of climate and biodiversity projects in developing countries (e.g. longer life-times, minimum premium and interest rates), to Swiss export companies and financial institutions active in the climate and biodiversity sector. However, such favorable terms would have to be multilaterally agreed upon and anchored in the OECD Arrangement on Officially Supported Export Credits. Already today the arrangement grants longer credit lifetimes and flexible payback arrangements for export insurances in the climate sector (SERV, 2023b). Another option would be to expand the product portfolio of SERV and offer e.g. export credits in addition to insurances in the climate and biodiversity sector. Private sector leverage, especially for the expansion of the product portfolio, is bound to be quite high. The offering of export credits must also be compliant with the OECD Arrangement on Officially Supported Export Credits (OECD, 2023a).

Rating		
Potential impact	Political feasibility	Financial effectiveness
medium	low-medium	medium
Additional exports in the climate and biodiversity sector.	This would require a federal law and thus parliamentary approval or even a public vote. In addition, compliance with the OECD Arrangement on Officially Supported Export Credits would potentially require multilateral negotiations.	Demand for additional export insurances and credits is moderate, thus double digit volume is likely.
Leverage factor	Budgetary implications	Administrative efficiency
high	additional budget required	efficient for improved conditions non-efficient for extension of product offer
The second-level leverage factor is above 1:3, looking at defaults to investment ratio.	The introduction of improved insurance conditions requires likely more budget as the SERV premiums are based on actual risk. The extension of the product offer requires additional budget as well.	The introduction of improved conditions is efficient (reasonable costs, but also high benefits and replicability). The introduction of e.g. export credits implies considerable costs (build up of new expertise) and potentially competition for Swiss financial institutions, which should be avoided.

#### 5.4.5 Provide first-loss tranches to climate and biodiversity funds

Description
<p>An additional measure to support the launch of and attract private investors funds providing equity or loans to climate and biodiversity projects in developing countries is the provision of first loss capital to these funds. The Swiss Government, either directly or e.g. through the SDG Impact Finance Initiative (SIFI) (see Chapter 5.4.10), could provide such first-loss tranches at zero (in the form of grants) or very low interest rates (equity) to these funds. The latter could be done via SIFEM. The first-loss tranche would absorb considerable investment risk and therewith leverage DFI capital (subordinated debt or mezzanine finance) and private investments (senior debt tranche). An example for such a blended finance vehicle is the GCPF managed by the Swiss Impact Investor responsAbility and specifically earmarked for climate projects in developing countries. The GCPF displays a public-private leverage factor of 3:2 (see Chapter 4.1.3).</p> <p>SECO and DEZA are currently preparing a call for proposals (to be launched for the first time in October 2023) for the allocation of such first-loss equity financing to impact funds via SIFI. Asset managers can apply for first loss tranches of up to 5 million CHF for their impact funds. The financing is not uniquely earmarked for climate and biodiversity funds, but also other impact funds. Nonetheless, a certain</p>

percentage will benefit impact funds in the climate and biodiversity sector (Federal Administration, 2023). After an initial evaluation of these first-loss allocations, their private sector finance leverage and contribution to fund close, the expansion of this first-loss funding application window could be envisaged, potentially with a specific allocation target to international climate and biodiversity funds.

### Rating

Potential impact	Political feasibility	Financial effectiveness
medium-high	medium (equity) to high (grant)	high
Depends on sustainability KPIs imposed for lending.	If the first-loss is allocated in the form of grants, no legal changes are necessary; In case of equity allocation through SIFEM and with an interest rate compatible with its 3% IRR target, no legal changes are necessary. If conditions are non-compatible with IRR of 3%, parliamentary approval is needed.	If the first-loss amount to be allocated by Switzerland were CHF 100 million, disbursed across four funds, around CHF 333 million of overall fund volume could be raised (first-loss tranche of 30%).
Leverage factor	Budgetary implications	Administrative efficiency
high	additional budget or budget reallocation required	efficient
If targeted to private investors, the first level leverage factor can be higher than 1:3. The second level leverage factor depends on type of capital allocated by supported funds.	Additional budget required or budget would have to be reallocated from commitment credits for international cooperation or the global environment to provide first loss tranches to climate and biodiversity finance funds.	Limited set-up costs (especially in the case of grants), high benefits in terms of projects financed and private finance mobilized through derisking.

#### 5.4.6 Support for Swiss Impact Asset Managers realizing first time investments

### Description

Many climate and biodiversity projects and ventures in developing countries are small-scale or early-stage with ticket sizes of below 1 million CHF and in need of structuring support before a first international investment can be realized. For many impact asset managers, such first-time, small-scale investments are just too expensive and would increase their fund operating costs to levels no longer supported by private sector investors. Hence, Switzerland could provide a service-fee to asset managers realizing first-time investments in climate and biodiversity projects or ventures in developing countries in order to keep the fund operating costs at cost-covering or even small profit-generating levels for the impact asset managers. Thereby the Swiss government would facilitate a number of first-time investments to climate and biodiversity ventures and projects in developing countries and would

hence make them ready to absorb co- and future investments. Although the direct mobilization factor is limited, indirectly this support would mobilize significant private climate and biodiversity finance. In addition, it would contribute to making more climate and biodiversity projects in developing countries investment-ready and therewith combat the problem, that investments typically are concentrated on few successful project developers (compare IRENA & Climate Policy Initiative, 2023, p. 14). In addition, this measure would strengthen the Swiss position as an (impact) investment hub, foster existing impact asset managers, and potentially attract additional investors.

### Rating

Potential impact	Political feasibility	Financial effectiveness
high	high	medium
The service-fee could facilitate a lot of first-time investments for climate and biodiversity projects in emerging markets, which is a crucial first step for market development and the absorption of subsequent investments.	Political feasibility is high, as it solely requires the approval of the Federal Council.	Direct volumes of funding as a consequence of service fee are limited, however indirectly the instrument might facilitate quite a lot of investments.
Leverage factor	Budgetary implications	Administrative efficiency
high, but potentially not attributable	additional budget or budget reallocation required	efficient
Service-fee has no implication on first level leverage ratio. But can lead to private investment allocated at a ratio of 1:3 (fee:investment) or more, all or parts of these first-time investments mobilized could potentially (if correlation is clearly proven e.g. through MoU) be attributed to Switzerland's international climate and biodiversity finance. In addition, the leverage factor will grow subsequently (1 <sup>st</sup> time investment triggers follow-ons), however these subsequent investments will not be attributable to Switzerland's international climate and biodiversity finance (correlation is too weak).	Additional budget or redistributed budget from the commitment credits for international cooperation or the global environment could be used to implement this instrument.	Limited set-up costs, high benefits in terms of projects first-time financed and potential follow-on investments facilitated through service-fee.

### 5.4.7 Provide exchange rate hedging support

Description		
<p>Another way for the Swiss government to support Swiss asset managers to invest in climate and biodiversity projects in developing countries is to support their exchange rate hedging. Asset managers that invest in various developing countries either have to maintain a very diverse portfolio or undertake costly exchange rate hedging deals in order to limit their exposure to foreign exchange rate fluctuations. Especially in the case of local currency lending, this support measure could be very impactful. By taking over part or all of the fees for basic hedging arrangements e.g. with the TCX fund, for Swiss asset managers investing in climate and biodiversity projects in developing countries, the Swiss government could reduce an important hurdle that prevents investors from underwriting such investments. This would also contribute to keeping fund opex costs at bay and make lending more affordable for investees in the developing countries.</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
high	high	medium
The exchange rate hedging support could facilitate investments otherwise not realized in climate and biodiversity projects in developing countries.	Political feasibility is high, as it solely requires a decision by the Federal Council and the Federal Administration is already an TCX investor.	Direct volumes of funding as a consequence of exchange rate hedging are limited, however indirectly the instrument might facilitate quite a lot of investments.
Leverage factor	Budgetary implications	Administrative efficiency
low	additional budget or budget reallocation required	non-efficient
The first level leverage factor could be above 1:3 (fee:investment) assuming investors are targeted who would otherwise not invest. In reality, however, the effects on fund level are small and thus, the leverage factor is low. In addition, it is not clear whether all the private investments mobilized through the exchange rate hedging support would be attributable to Switzerland's international climate and biodiversity finance.	Additional budget or redistributed budget from the commitment credits for international cooperation or the global environment could be used to implement this instrument.	Rather high set-up costs (first time), difficult to scale giving competitors.

#### 5.4.8 Establish or invest in a liquidity guarantee fund for climate impact investors

##### Description

An aspect that withholds many private investors from investing in (climate and biodiversity) impact funds is the illiquid nature of these funds. Private investors prefer liquid investments such as listed bonds and equities. Thus, in order to mobilize additional private sector investments into these funds, an effective leverage mechanism for Switzerland could be to support the provision of liquidity guarantees. An example is the Octobre Liquidity Guarantee Facility which allows private investors to exit their stake in an impact investment fund at any time based on its latest net asset value (see Chapter 4.5.1).

Switzerland (directly or via SIFI/SIFEM) could invest in the Octobre Liquidity Guarantee Facility and make their support conditional on international climate and biodiversity portfolios. Alternatively, Switzerland could initiate the creation of a similar liquidity guarantee facility for climate and biodiversity investment portfolios in developing countries of Swiss asset managers, which would pay a small guarantee premium to the fund. Switzerland could take a percentage of the commitment credits for international cooperation and the global environment, or request parliamentary approval for the increase of these credits, and provide the “base” capital for such a liquidity guarantee fund in the form of a grant. The fund would buy back shares (equity) from investors of these portfolios on the spot at net asset value if they want to sell and resell these assets to other investors as soon as possible. The fund would thus just have to be capitalized with a sufficient base to provide this bridge-financing. A liquidity guarantee would present a strong argument for many private investors to start investing in climate and biodiversity impact funds, as they do become an almost liquid asset with the guarantee facility. The liquidity guarantee facility would enable the creation of a quasi-secondary market for climate and biodiversity impact investments and thus mobilize significant private investments. It should be noted though that only first-time investments in these climate and biodiversity assets, which can be linked to the guarantee provision, could be attributed to Switzerland’s international climate and biodiversity finance. Re-investments (the reselling of an asset, which was sold by one investor to another investor) into these assets cannot be attributed to avoid double-counting.

##### Rating

Potential impact	Political feasibility	Financial effectiveness
high	high	high
Makes the whole impact investing market more liquid and so attracts additional investment for international climate and biodiversity finance.	If Investment is made through SIFI or SIFEM or in the form of a grant from the Federal Administration, then no legal changes are necessary.	Turning non-liquid assets into liquid ones is a strong investment argument for many private investors and thus, the instrument could generate a high amount of private climate and biodiversity finance.

Leverage factor	Budgetary implications	Administrative efficiency
can be high	additional budget or budget reallocation required	neutral
The second level leverage factor is likely beyond 1:3, as the instrument mobilizes private investments (not counting reinvestments (see text above)) from asset managers, that would otherwise not invest, and ideally rarely has to take any losses as it can resell assets at a reasonable price. However, a liquidity guarantee facility for non-listed assets is a new concept, thus the leverage factor is a theoretical value. Empirical evidence is currently not available.	Additional budget or redistributed budget from the commitment credits for international cooperation or the global environment could be used to implement this instrument.	Considerable time and cost expenditure for investment or set-up of liquidity guarantee facility, though benefits in terms of private finance mobilized and projects supported could be high as well. Replicability is not yet clear, as this is a new instrument.

#### 5.4.9 Tailor SIFI to the needs of asset managers in the climate and biodiversity sector

##### Description

The SDG Impact Finance Initiative (SIFI) was launched by SECO, UBS Optimus Foundation, Credit Suisse Foundation and DEZA in 2021 with the declared goal of mobilizing 1 billion CHF for the SDGs with 100 million CHF in donations. The initiative aims at supporting the design and development of new impact investment products, the scaling and mainstreaming of impact investment solutions and the improvement of investment framework conditions in developing countries. To achieve these objectives, SIFI can allocate design and seed funding in the form of grants, TA, results-based financing and first loss investments and potentially guarantees to asset managers that applied to the instrument through a call for proposals (SDG Impact Finance Initiative, 2020). The first call for proposals specifically targeted impact investing vehicles with a climate focus and awarded five feasibility grants to climate finance initiatives (SDG Impact Finance Initiative, 2023). The second call is focussing on biodiversity and life under water.

SIFI could be strengthened by catering more directly to the needs of impact investors and asset managers in the international climate and biodiversity sector but also other SDG relevant sectors. For example, is SIFI currently targeting very innovative and sometimes niche project ideas, rather than supporting the launch of more traditional and scalable impact investment funds. This positions SIFI more as an early project support facility, of which several are available to the industry, rather than an innovative catalyst, anchor investor or guarantor. Already more advanced impact investment product projects, ready to be launched, or products being in an early sub-scale phase, do not yet benefit from SIFI's activities. This group of projects however has high potential to channel additional funding into international climate, biodiversity and other SDG projects and would benefit from SIFI funding to scale.

Additionally, a stronger collaboration between SIFI and SIFEM could be encouraged. In particular, funds that received a feasibility grant through SIFI, could, once the funds are set-up and the investment strategy and terms make sense, whenever possible also receive an anchor investment to foster fund

close and therewith make available more private investments for international private and biodiversity finance. Young, already launched but sub-scale funds could significantly benefit from the signalling effect of anchor or early growth phase funding from SIFEM. Also, it would be very interesting for SIFI's target audience, if SIFEM was able to allocate just 10% of its overall funds to catalytic investments in new or young impact products, with the aim of capital preservation. Thus SIFEM would invest money that in most cases can be fully paid back or redeemed and re-invested in new products at a later stage. Access to such catalytic anchor funding from SIFEM, with portions of say CHF 5-10m per launched impact fund, would be instrumental for asset managers and developers of new impact investment product. Naturally though SIFEM could only make such investments if they are compliant with its investment strategy and the portfolio manager underwrites a positive evaluation.

The improvement and tailoring of SIFI to the needs of asset managers could facilitate the establishment of additional impact funds for international climate and biodiversity finance and therewith mobilize private investments.

### Rating

Potential impact	Political feasibility	Financial effectiveness
high	high	medium
Impact funds are a market-based means to support climate and biodiversity ventures and projects, impact must be additional, measurable and intentional.	SIFI already exists as an instrument, but a decision by SIFI investors would be necessary to adapt/expand its mandate.	The restructuring of SIFI would allow for additional fund establishment and close in the climate and biodiversity sector.
Leverage factor	Budgetary implications	Administrative efficiency
high, but likely not attributable	budget neutral	efficient
The potential to leverage additional private finance through the establishment of these funds is high, though the attribution to Switzerland's climate and biodiversity finance is not possible with current methodologies.	Only operational adaptations of SIFI, no additional funds needed.	The restructuring of SIFI would allow for a decrease of transaction costs for the allocation of SIFI grants.

#### 5.4.10 Be an anchor investor for Swiss international climate and biodiversity impact funds

### Description

A challenge for many impact funds in the climate and biodiversity space - but also for impact investors in other sectors - is the initial fundraising to achieve a first fund close. It is a cumbersome process and takes a long time. By acting as an anchor investor in private equity or debt impact funds for climate and biodiversity finance, Switzerland could facilitate buy-ins from additional (private sector) investors and

therewith facilitate fund close. By assuming this position, Switzerland would help build investor confidence, create a solid foundation for the fund, and encourage other investors to join, thereby mobilizing private investments for international climate and biodiversity protection.

In 2003, Switzerland through SECO already invested 3 million CHF into the micro-finance fund managed by ResponsAbility and therewith mobilized significant private investment. The fund is today capitalized with more than 1 billion CHF. SECO received its investment back in full after four years (de Sa Kirchknopf, 2021, par. 3). SECO and/or other federal offices could realize additional investments with a similar structure or increasingly provide anchor investments through SIFEM.

Alternatively, the AHV, IV and EO Fonds "Compenswiss" could act as anchor investor into these impact funds. If Compenswiss were to invest only 0.25% of its assets under management as anchor investments in different impact funds, this would already generate around CHF 100 million in anchor investments per year (Barmettler, 2022). As long as the anchor investments in impact funds are compatible with the overall Compenswiss portfolio risk and return strategy, they would be compliant with the Compenswiss law (Schweizerische Eidgenossenschaft, 2017b).

### Rating

Potential impact	Political feasibility	Financial effectiveness
high	high	medium-high
Through the signaling effect of Switzerland as anchor investor, fund close of climate and biodiversity funds is likely to accelerate.	No legal changes are necessary for the federal administration to allocate direct equity or grants as anchor investments. In the case of SIFEM investments feasibility should be high as the decision can be made at the level of the SIFEM board of directors in alignment with the federal council. As long as the anchor investments are compatible with the Compenswiss portfolio risk and return strategy, the Compenswiss board could take the investment decision by itself.	Anchor investments could trigger significant follow-on investments by DFIs and/or private investors.
Leverage factor	Budgetary implications	Administrative efficiency
medium to high	neutral for Compenswiss reallocation of budget or additional budget required for SIFEM or federal administration	efficient
The public-private first-level leverage is likely below <1:3 if pari passu terms with other investors, can be beyond 1:3 if more risks are taken.	Neutral, if anchor investments would be made by AHV Fonds, budget reallocation or increase would be required, if investment would stem from SIFEM or federal administration budget.	Selection and evaluation of investee funds (at a very early stage) requires considerable time and costs, though benefits in terms of new funds closed, follow-on investments mobilized and final projects financed could be high.

## 5.4.11 Adapt SECO Start-up Fund

Description		
<p>Currently, the mandate of the SECO Start-up Fund is restricted to the allocation of loans for Swiss start-ups active in developing countries and does not apply a specific climate nor biodiversity finance target. The fund currently struggles to allocate more than three to four investments per year as the Swiss start-up and SME landscape only encompasses a limited number of actors that comply with the investment criteria.</p> <p>The SECO Start-up Fund mandate could be extended to allow for the allocation of loans to international start-ups and SMEs from selected ODA partner countries. In addition, special loan terms (patient, lowered interests, longer grace period) e.g. adapted for small-scale decentralized or productive use of renewable energy projects could be granted for projects and ventures in the climate and biodiversity sector. This would yield two advantages. For one the investee landscape for the SECO Start-up fund would increase and thus facilitate loan allocation. Secondly, the climate and biodiversity lending of the SECO Start-up Fund would increase and provide important seed and growth capital to start-ups in the sector. However, for the lending to international start-ups and ventures, a mechanism that allows for a relatively cost-efficient recovery of loans abroad would have to be developed, in order to decrease default risks (Federal Administration, 2023).</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
high	low	low
Soft loans with low interest rates, longer life-times and small ticket size (below CHF 1 million) are much needed among ventures in the climate and biodiversity sector.	This would require a change of the legal base of the SECO Start-up Fund and thus, parliamentary approval is necessary.	Additional loan allocation through expansion of mandate is likely below 50 million CHF.
Leverage factor	Budgetary implications	Administrative efficiency
low-medium	neutral or budget reallocation required	efficient
The partial loans will raise co-investments with a min. 2:1 leverage ratio as start-up fund loans finance up to 2/3 of total project costs of applicants. The leverage ratio can also be higher up to a 1:2-3 depending on the type of projects supported (second level leverage).	It is unlikely that many more loans will be allocated through the expansion of the SECO Start-up Fund, thus budget neutral or limited budget reallocation required.	Instrument already exists, extension to international ventures and more climate and biodiversity investments is efficient.

## 5.4.12 Extension of REPIC to international projects and other sectors

Description		
<p>Another option to analyze in detail would be to extend the REPIC mandate to allow for:</p> <ul style="list-style-type: none"> <li>- Option 1) the allocation of grants to international project developers active in selected ODA countries;</li> <li>- Option 2) the allocation of grants to additional sectors in the climate and biodiversity area such as e.g. nature-based solutions or regenerative agriculture;</li> <li>- Option 3) the allocation of soft (i.e. patient lifetimes, longer grace periods, low interest) loans.</li> </ul> <p>All three options would allow for additional catalyzing investments in the international climate and biodiversity area. Especially, the first option would significantly enlarge the REPIC investee landscape. The extension of REPIC acknowledges the financing gaps in the climate and biodiversity sector, especially for growth and rollout-capital and capitalizes on the established foundation, knowledge, and expertise of the existing mechanism. REPIC demonstrates a public-private leverage factor of 1:1-1:2 and thus, the expansion of the mandate would also facilitate additional private investments.</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
high	high (new sectors) medium (non-Swiss entities) low (loans)	low
REPIC addresses a market scarcity in terms of the provision of seed and growth stage catalyzing capital for start-ups in the climate and biodiversity sector.	The expansion of REPIC to new sectors does not necessitate any legal adjustments and could be decided by a decision of all REPIC partners, the expansion of the instrument to international ventures or the offering of loans, requires parliamentary approval,	The extension of the instrument to additional sectors or international ventures would likely catalyze less than CHF 50 mio. in funding.
Leverage factor	Budgetary implications	Administrative efficiency
medium, can raise to high	reallocation of budget or additional budget required	efficient for new sectors and non-Swiss entities non-efficient for loans
The REPIC leverage factor is between 1:1-2 as REPIC grants finance max. 50% of project costs of applicants, could increase to 1:3< if higher co-financing requirement or selection of ventures and SMEs able to mobilize high amounts of co-financing.	Depends on the type of REPIC extension, potentially additional budget resp. budget reallocation required.	REPIC already exists, enlargement is cost-efficient and addresses market hurdles. However, the provision of loans competes with the SECO Start-up Fund and is thus non-efficient.

## 5.4.13 Increase of PIDG contribution

Description		
<p>Another option to consider is an increase of Switzerland's contribution to PIDG (see Chapter 3.2.3). PIDG demonstrated in 2022 a direct public-private leverage ratio of a little above 1:2.7 and an investment level leverage of a little below 2:1 (PIDG, 2022, p. 9). Hence, next to SERV, PIDG is Switzerland's most effective tool with regards to the mobilization of private sector investments for international climate and biodiversity finance. The overall financing volume and leverage factor of PIDG for climate and biodiversity is even bound to increase. In its new strategy for 2023-2030 PIDG put climate action, nature and sustainable development at the forefront and committed to double its yearly commitment value, aiming to attract USD 1.6 billion in additional funding and delivering more than USD 9 billion in new commitments (PIDG, 2022, pp. 6-7).</p> <p>Switzerland committed 75 million USD for PIDG for the period 2022-2026 (SECO, 2023a, p. 1). Starting from 2026 onward, Switzerland could increase this commitment and use a bigger share of the commitment credit for international cooperation for a PIDG contribution. In addition, Switzerland is currently in discussions with the KliK Foundation to evaluate whether Switzerland could support the mobilization of carbon revenue (from mandatory carbon markets) for PIDG projects in the countries that have a corresponding adjustment with Switzerland e.g. Senegal, Morocco, Malawi and Ghana (Federal Administration, 2023). These discussions could be an interesting perspective to mobilize additional private climate and biodiversity finance beyond ODA sources, but these additional private investments would not be accountable towards the Swiss international climate finance, as compensatory investments can not be accounted for thereunder.</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
high	medium to high	medium
PIDG has strong climate and biodiversity impact targets for its projects.	A large increase of the contributions for PIDG would require parliamentary approval as this would require a new commitment credit, smaller ones could be done by a decision of the Federal Council.	Switzerland could increase its PIDG contribution to the lower three digit million area.
Leverage factor	Budgetary implications	Administrative efficiency
medium, with potential for high	additional budget or budget reallocation required	efficient
The first-level leverage factor of PIDG in 2022 was 1:2.7, could potentially increase to beyond 1:3 in the future.	Additional budget or budget reallocation from the commitment credit of international cooperation for PIDG would be required.	PIDG is an established instrument, the KliK negotiations would certainly incur costs and time expenditures, but potential benefits would also be high.

#### 5.4.14 Support the establishment of a climate risk insurance facility

Description		
<p>Another means to mobilize investments for climate and biodiversity protection in developing countries is through insurance. Switzerland in collaboration with a Swiss insurer or re-insurer could offer an insurance solution that e.g. incentivizes developing countries or cities to invest in climate resilient infrastructure. An example would be the climate insurance-linked resilient infrastructure financing initiative (CILRIF) supported by the Lab (see Chapter 4.1.4). The CILRIF is a long-term “known price” insurance solution that incentivizes cities to invest in climate-resilient infrastructure. It enables cities to access affordable, long-term climate insurance with pre-arranged premiums. The premiums decrease according to the cities’ investments in climate resilience (The Lab, 2023a). Similar insurance schemes that give vulnerable countries an additional incentive to invest in climate change adaptation and provide them with liquidity in case of environmental disasters have been implemented under the InsuResilience Global Partnership, such as the African Risk Capacity Replica (ARC), that provides index-based insurance coverage to member countries for medium-frequency events such as droughts or floods. Switzerland (DEZA) is already a donor to the ARC, together with the EU, Germany, France and other countries. Another example is the Caribbean Catastrophe Risk Insurance Facility, which was the first multi-country risk pool in the world and provides member countries with liquidity in case of natural disasters (InsuResilience Global Partnership, 2023).</p> <p>By increasing its contribution to ARC, investing in already established insurance schemes or by providing co-funding in the form of grants to a similar insurance offer from a Swiss insurance or re-insurance company, the Swiss government could mobilize climate change adaptation spending by governments and municipalities in developing countries.</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
high	high	medium
Insurance scheme could facilitate additional adaptation finance.	Depends on the form the insurance scheme is construed, if contribution to existing insurance scheme in the form of a grant, feasibility is high, solely federal council approval is needed.	Co-investment of Switzerland and one or several Swiss insurers could likely raise a low three digit million number.
Leverage factor	Budgetary implications	Administrative efficiency
low	budget reallocation or additional budget required	neutral
The insurance solution would predominantly mobilize public spending for climate change adaptation, not private finance.	For the establishment of the insurance scheme, additional budget or the reallocation of budget from the commitment credits for international	Set-up costs are considerable, benefits as well, thus likely an economically efficient instrument.

	cooperation or the global environment is required.	
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## 5.5 Enabling and accompanying measures

Next to the instruments mentioned in Chapters 5.3 and 5.4, where the private investments mobilized are fully or partially attributable to Switzerland's international climate and biodiversity finance, there are a range of instruments who display indirect private sector leverage. Such instruments will be listed below. By lobbying among the international community for the establishment of stringent attribution rules for the indirect mobilization of private climate and biodiversity finance e.g. through TA, Switzerland would potentially be able to attribute some of these measures to its international climate and biodiversity finance in the future. However, regardless of their attribution potential, the following instruments play an enabling role for instruments listed in Chapter 5.3 and 5.4 and are thus important to elaborate and potentially expand.

### 5.5.1 Establish technical assistance facility to facilitate access to finance

Description		
<p>A lot of SMEs and start-ups in developing countries active in the climate and biodiversity sector have no or limited experience with fundraising and accessing finance, especially from international investors. Investors that would be interested in these SMEs, projects or ventures can often not afford to provide all the structuring and absorption support themselves. Thus, the build-up of one or several TA facilities that support SMEs, projects and ventures in the biodiversity and climate sector to access finance would be an important market facilitating mechanism. The facilities would support climate and biodiversity ventures with financial readiness (pitch deck, financial model and business plan support incl. accompanying documents and required audits) and structuring support, linking them with potential investors and providing transaction support in order to facilitate financial close. To increase the chances for financial close and to especially support young or rural climate and biodiversity ventures, the offering of first year management support would have an additional facilitating component and increase investor confidence. By setting financial close as a success indicator for the TA facility, the mobilization - albeit indirect - of private climate and biodiversity finance could even be tracked. The European program GET.invest Finance Catalyst, managed by GIZ, or is an example of such a TA facility directed to the mobilization of renewable energy investments in developing countries (GET Invest, 2023).</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
high	high	medium
Addresses a market hurdle and supports start-ups to access finance.	Grant from the commitment credits for international cooperation could be used, so no legal changes necessary.	Facilitates considerable investment volumes for the supported ventures.

Leverage factor	Budgetary implications	Administrative efficiency
high (if attributable)	additional budget or budget reallocation required	neutral
The TA mobilizes considerable private investments (1:3<). But it is unclear/unlikely whether it can be attributed to Switzerland's international climate and biodiversity finance under OECD methodology.	Additional budget required or budget from the commitment credits would have to be allocated to support the build-up and operation of the TA facility.	Costs for build-up and expert recruitment are considerable, however, TA can be an efficient measure to get projects (first-time) financed.

### 5.5.2 Technical assistance for financial institutions

Description		
<p>As a complementing measure to the TA facility for SMEs (see Chapter 5.5.1), Switzerland could expand the TA to financial institutions (banks, micro-finance institutions, insurance and guarantee providers) in developing countries to develop credit lines for renewable energy, energy efficiency or other projects in the climate and biodiversity sector. Many local institutions only offer agricultural or industrial credit lines, whose terms (especially tenure, grace period and repayment schedules) are not adapted for projects in the climate and biodiversity sector. Additionally, especially in the case of renewable energy and energy efficiency projects, financial institutions lack the inhouse capacity or necessary partnerships to assess the quality of installations, which is an important factor for the underwriting of credits.</p> <p>Many DFIs and MDBs that provide green credit lines to financial institutions in developing countries already provide a type of TA. Nonetheless, Switzerland - e.g. in collaboration with actors from the Swiss financial sector - could specifically support the financial institutions to build up and manage specific credit lines for climate and biodiversity investments. The causality of the TA and the investments allocated through these credit lines, would then also become clearer which could potentially facilitate attribution.</p> <p>Ideally Switzerland would couple the TA facility for SMEs mentioned in Chapter 5.5.1 and the TA facility for financial institutions and offer both support measures in selected ODA partner countries. This would facilitate market creation.</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
high	high	medium
Addresses a market hurdle and facilitates the offering of green credit lines.	Grant from the commitment credits for international cooperation could be used, so no legal changes necessary.	Facilitates considerable investment volumes from the supported financial institutions.

Leverage factor	Budgetary implications	Administrative efficiency
can be high, but not attributable	additional budget or budget reallocation required	neutral
The TA likely mobilizes considerable private investments (1:3<). But it cannot be attributed to Switzerland's international climate and biodiversity finance under OECD methodology.	Additional budget required or budget from the commitment credits would have to be allocated to support the build-up and operation of the TA facility.	Costs for build-up and expert recruitment are considerable, however, if TA leads to creation of new credit lines, benefits in terms of climate and biodiversity projects financed can be high and develop ripple effect.

### 5.5.3 Continue advocacy for attribution of indirect private sector finance mobilization

Description		
<p>As mentioned in the introduction for this Chapter, in order for Switzerland to attribute more of the private sector investments mobilized for climate (to a lesser degree for biodiversity, as there are also non-mobilised investments attributable under OECD DAC) through TA, it has to advocate for the establishment of stringent attribution rules among the international community. Also, the attribution of private finance mobilized through TA would prevent the crowding-out of TA support measures in exchange for other IZA or climate interventions with a more direct private sector mobilization angle. TA measures are important for market development, technology transfer and capacity building, hence their reduction would leave important market barriers unaddressed (compare Schweizerische Eidgenossenschaft, 2019a, p. 20). Switzerland did already take-up respective negotiations with OECD DAC and compiled a two year pilot incl. a study on a TA attribution methodology (soon to be finalized). According to this study, private climate finance mobilized through TA could be attributed if a clear causal link can be demonstrated between the intervention of an official actor and a secured private investment in the case of direct support in accessing external financing and public-private partnership transaction advise.</p> <p>In addition, Switzerland – as it did in the past – should continue to lobby for the establishment of clear attribution and distribution formulas for climate and biodiversity finance allocated and mobilized by the MDBs and DFIs. The MDBs and DFIs should be obligated to share their data in a comparable and transparent way and adhere to internationally defined uniform attribution rules. This would further increase the private climate and biodiversity finance attributable to Switzerland (compare Schweizerische Eidgenossenschaft, 2019a, p. 20).</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
low	n.a.	high
No change of action, but better attribution and avoidance of double counting.	This is not a decision by Switzerland itself but requires international consensus and does therefore not fit the assessment criteria.	In particular, attribution rules for MDBs would add to the international climate finance amount of Switzerland, though, only on paper.

Leverage factor	Budgetary implications	Administrative efficiency
no leverage	budget neutral	non-efficient
No actual change in leverage, but clear attribution would increase on paper leverage for Switzerland.	No additional budget required, but considerable staff time to develop and establish the methodologies.	Incurs extra transaction costs for data, collection, processing, reporting and calculations.

#### 5.5.4 Improve biodiversity reporting

Description		
<p>As mentioned in Chapter 3.1.2 according to the CBD decisions the attribution of non-mobilized biodiversity finance to a country's international biodiversity finance efforts is possible. Thus foreign direct investments from Switzerland for biodiversity actions in developing countries could be fully attributed to Switzerland's international biodiversity finance contribution. However, as explained in Chapter 1, Switzerland does currently only measure private biodiversity finance to a very limited degree. It is thus recommended that Switzerland establishes methodologies to better track, measure and report private international biodiversity finance (ideally positive and negative financial flows). For example the purchase of biodiversity credits by Swiss companies or private investors could be attributed to Switzerland's international biodiversity finance as long as these companies do not claim the biodiversity protection supported through the purchase of these credits in their own value chain (avoidance of double counting). This would increase the share of Switzerland's biodiversity finance considerably.</p>		
Rating		
Potential impact	Political feasibility	Financial effectiveness
low	high	high
No change of action, but more attribution.	The development and establishment of methodologies to track, measure and report international private biodiversity finance from Swiss companies requires not even a Federal Council decision. But it will take time to develop.	No change in actual investment, but on paper much higher volumes of international biodiversity finance could be shown.
Leverage factor	Budgetary implications	Administrative efficiency
no leverage	budget neutral	neutral
No change in actual investments / FDI, but more private international biodiversity finance would be reported and could be attributed to Switzerland.	No additional budget required, but considerable staff time to develop and establish the methodologies.	Incurs extra transaction costs for data collection, processing, reporting and calculations, but potentially a lot of funds could be attributed to Switzerland's international biodiversity finance.

## 6) Conclusion and Recommendations

As written in Chapter 1, the international expectations for a significant increase of the financial contributions from developed countries for climate action in developing countries will continuously grow over the coming months. The new collective quantified goal for climate finance is bound to increase from a yearly 100 billion USD today, to a significantly higher amount, preliminary assessments range from 139 billion USD (lower bound of estimates) up to 1300 billion USD (upper bound of estimates) per year from 2025 onwards. Whereas the CBD commitments for international biodiversity finance agreed at the CBD COP15 will increase from 20 billion to 30 billion per year by 2030. As written in the introduction, the Swiss fair share contribution to these funding targets is bound to increase considerably. In addition, the CBD Panel of Experts on Resource mobilization (2020, pp. 3-4) assesses the global annual funding gap for biodiversity protection at USD 12 to 804 billion USD annually, whereas the Rockefeller Foundation and BCG assess the annual climate mitigation financing gap at up to 3 trillion USD and an adaptation financing gap of up to 500 billion USD annually, even by 2025 (The Rockefeller Foundation & BCG, 2022, p. 14). So, the time to act and develop additional sources, instruments and channels for international climate and biodiversity finance is now. **To comply with its obligations under the UNFCCC, the Paris Agreement and the CBD and to meet the various international and domestic expectations, Switzerland needs innovative approaches to access new sources and utilize the therethrough generated funds to mobilize additional private investments for international climate and biodiversity finance.**

The present study provides an overview of Switzerland's current sources, channels and instruments for international climate and biodiversity finance, outlines innovative channels and instruments used by other countries and proposes a range of options to expand or adapt Switzerland's sources, channels and instruments for international climate and biodiversity finance. Thereby the paper lays a special focus on channels and instruments that target the mobilization of private sector investments. All options are described briefly, yet concise and rated according to high-level criteria. However, the scope of the study stops there. The selection, exclusion, further description and development of certain options is intentionally not part of the present study. It is up to the Federal Administration to pursue the development of sources, channels and instruments, which it considers to have the most potential for adoption, financial effectiveness, impact and private sector leverage.

Nonetheless, the authors would like to close the study with some recommendations for the Federal Administration but also the people, members of parliament and members of the Federal Council that will be tasked with developing and/or approving the sources, instruments and measures proposed in the present study:

- 1) **New sources:** A lot of the instruments outlined in Chapters 5.3 and 5.4 require a reallocation or redistribution of federal budget, thus the expansion, earmarking or introduction of new sources for international climate and biodiversity finance is important. Among the sources outlined in Chapter 5.2, the **realization of a debt-for-nature swap** (see Chapter 5.2.9), especially if the debt is already written off, the **SIFEM issuance of a green forward-looking, "sustainability linked" bond** (see Chapter 5.2.10) or the **auctioning of additional SIFEM shares to private investors** (see Chapter 5.2.11) might be options which could be fairly possible and efficient to implement. In addition, the **introduction of a Swiss CBAM** (see Chapter 5.2.3) or the **expansion of the Swiss ETS** (see Chapter 5.2.4) coupled with the earmarking of some percentage of the proceeds for

international climate and biodiversity finance could equally be options to continuously (re-) evaluate in the coming years.

- 2) **Finance generated through new or expanded sources should be, in part at least, invested into instruments mobilizing private finance:** The OECD identified the top challenges for the mobilization of private investments for climate action and biodiversity protection in developing countries as follows:

- the high risks perceived;
- the low levels of return expected;
- the lack of project pipelines and bankable/sizable investment opportunities;
- the lack of financial innovation in institutions' portfolios.

The availability of bankable investment opportunities was identified as the main mobilization driver for private climate and biodiversity finance (OECD, 2023b, p. 38 & 43). Thus, Switzerland should **focus on options that specifically target the reduction of these market barriers for private sector investments**, such as for example outlined in Chapters: 5.4.2, 5.4.3, 5.4.4, 5.4.5, 5.4.6, 5.4.7, 5.4.8, 5.4.9, or 5.4.12. The reduction of these barriers should also be kept in mind for the design of new instruments. In addition, **the technical assistance to climate and biodiversity projects, ventures and SMEs in developing countries** (see Chapter 5.5.1) should also be further expanded even though the therethrough mobilized investments are not (yet) directly attributable to Switzerland's private climate and biodiversity finance according to current accounting methodologies, as the lack of bankable investment opportunities constitutes a bottle neck for public and private sector international climate and biodiversity finance. **Concessional financing and risk capital are not the only scarcity, investable projects with additional and intentional impact in the climate and biodiversity sector are as well.**

- 3) **Rechanneling existing resources to initiatives with higher private sector mobilization:** The implementation/expansion of instruments with a high public-private leverage factor does not necessarily require the introduction of new sources for international climate and biodiversity finance. **The volume of Swiss international climate and biodiversity finance can be increased by redirecting existing resources to instruments with higher private sector leverage.** E.g. in the case of Swiss international climate finance, CHF 390m of public finance mobilized around CHF 169m of private finance<sup>21</sup>, implying a public-private leverage ratio of 2.3:1. Compared to the aggregated OECD countries' public-private leverage for international climate finance of 5:1 respectively 4.5:1 including export credits (OECD, 2022, p. 4), Switzerland already displays a high private finance leverage ratio. Using more high-leverage instruments like equity, first-loss, mezzanine finance or guarantees, Switzerland could improve its public-private ratio to between 1:2<sup>22</sup>, so the CHF 300m of public could mobilize up to CHF 600m of private finance for climate action (higher ratios of up to 1:3 or even 1:5 are theoretically possible with full equity/guarantee portfolio but not especially practicable given the strong political backings for public good / NGO

<sup>21</sup>Additionally CHF 100 million in private finance were mobilize through the share of Switzerland in MDB financing, but this is not included in the leverage factor here, neither is it included in Switzerland's overall international climate and biodiversity finance reporting.

<sup>22</sup>For this calculation, we assumed that min. 25% of climate finance would be used for equity/first loss with a leverage of 1:3 and min. 25% for guarantess with a leverage of 1:5.

grants and TA). In addition, the supported activities should be countable as ODA, which implies that the mobilised private funds must also have poverty alleviation as a primary objective.

**When focusing on instruments with a higher private sector leverage**, it should however also be considered that these instruments are easier to implement and demonstrate a higher private sector mobilization potential in countries that have a more advanced financial market and offer predictable and stable macroeconomic conditions. It also favors climate mitigation projects over adaptation ones, as the former are usually more bankable than the latter. Thus, **they carry an inherent bias away from LDCs towards developing and emerging countries and away from adaptation towards mitigation**. Though, it is the LDCs that contribute least to climate change but disproportionately carry the consequences (Acevedo, Mrkaic, Pugacheva, & Topalova, 2017). Thus, climate and biodiversity finance flows that cater to LDCs, such as outlined in Chapter 5.2.9, 5.3.1 or 5.4.14 should not be neglected, along with traditional ODA via grants and TA.

- 4) **Risk taking:** Some of the instruments and channels proposed in the study **require a greater risk-appetite from the Swiss government**, e.g. in case of guarantees or first loss investments, but also e.g. the ways in which certain financial instruments could be carried on the Swiss balance sheet (Chapter 5.4.4). Examples are listed in Chapters 5.3.2, 5.4.2, 5.4.3, 5.4.4, 5.4.5, 5.4.8, 5.4.10, 5.4.11 and 5.4.12. **When considering the introduction of such channels and instruments, these risks should be evaluated also in relation to the risks and dangers imposed by the proliferation of climate change and biodiversity degradation**. A SwissRe study suggests that with the current climate trajectory of 2°- 2.6° degree warming, the OECD countries are bound to face a GDP decrease of 11% by 2050, whereas developing countries are bound to face GDP decreases of 20-30% due to climate change (SwissRe, 2021). Even more worrying are the security threats due to climate change induced hazards, UNEP identified in various studies (UNEP, 2023). Hence, non-action or business as usual is very expensive and risky in the long-term. This does not mean that Switzerland shall go easy on its fiduciary duty towards the population, but **a greater risk appetite for the mobilization of international climate and biodiversity finance may be the safer choice in a mid to long-term perspective, than deferred or reluctant action now**.
- 5) Last but not least, it shall be underlined that the global cumulated national fossil fuel subsidies are still considerably larger than the global investments in climate finance (Bonnell, et al., 2022, p. 6). If one looks at the Swiss import spending for fossil fuel (excl. national fossil fuel subsidies, gas, coal and electricity imports) in 2021, it amounts to over 4 billion CHF, so almost eight times the value of Switzerland's international climate finance in 2020 (Schweizerische Eidgenossenschaft, 2022i, p. 34). A similar discrepancy is present in the biodiversity sector, where UNEP (2022, p. 15) assesses the global nature-negative finance flows e.g. for non-biodegradable fertilizers or fauna and flora harming pesticides to be three to seven times superior to nature-positive finance flows. For Switzerland specifically a study compiled by Gubler, Ismail and Seidl (2020, p. 3) showed that Switzerland disburses annually around CHF 40 billion of biodiversity-negative subsidies, compared to a mere billion in biodiversity-positive finance flows. **Thus, measures that convert these climate and biodiversity negative financial flows into positive ones, or that make subsidies and guarantees in different sectors conditional on climate and/or biodiversity positive outcomes, might be the ones with the highest potential to contribute to climate and biodiversity protection in the long-run.**

## Bibliography

- Acevedo, S., Mrkaic, M., Pugacheva, E., & Topalova, P. (2017, September 27). *The Unequal Burden of Rising Temperatures: How Can Low-Income Countries Cope?*. Retrieved from IMF Blog: <https://www.imf.org/en/Blogs/Articles/2017/09/27/the-unequal-burden-of-rising-temperatures-how-can-low-income-countries-cope#:~:text=Hurting%20the%20poorest%20the%20most&text=Even%20though%20low%20income%20countries,hottest%20parts%20of%20the%20Earth.>
- Adams, A., von Krosigk, L., Möhring, K., Wiegler, K., Berliner, J., Rossmann, C., & Spindemann, L. (2021). *Materials on Development Finance Protecting nature's riches, preserving the basis for our existence*. KfW Development Bank.
- Adaptation Fund. (2022). *RESOURCE MOBILIZATION STRATEGY 2022-2025*. Bonn: Adaptation Fund.
- African Development Bank Group. (2022, October 20). *United Kingdom and London Market Insurers enter new risk transfer partnership for climate action*. Retrieved June 22, 2023, from African Development Bank: <https://www.afdb.org/en/news-and-events/press-releases/african-development-bank-united-kingdom-and-london-market-insurers-enter-new-risk-transfer-partnership-climate-action-55664>
- Agri3 Fund. (2020). *Agri3 Fund*. Retrieved June 27, 2023, from Agri3 Fund: <https://agri3.com/>
- BMZ. (2021). *Deutschland steigert Klimafinanzierung für Schwellen- und Entwicklungsländer 2021 auf 5,34 Milliarden Euro*. Retrieved from BMZ: <https://www.bmz.de/de/aktuelles/aktuelle-meldungen/deutschland-steigert-klimafinanzierung-2021-125970#:~:text=Klimawandel%20und%20Entwicklung%20Deutschland%20steigert,auf%20ein%20neues%20Höchstniveau%20gesteigert.>
- BMZ. (2023). *The Legacy Landscapes Fund – conserving biological diversity for humankind*. Retrieved June 26, 2023, from BMZ: <https://www.bmz.de/en/issues/biodiversity/legacy-landscapes-fund>
- Bonnel, A., Livesey, R., König, M., Oliver, P., Sedemund, J., & Watson, C. (2022). *Global Landscape of Climate Finance*. Climate Policy Initiative.
- Boyd, D., & Keene, S. (2021). *Air Travel and Maritime Shipping Levies: Making Polluters Pay for Climate Loss, Damages and Adaptation*. UN Human Rights Office.
- Buchner, B., Clark, A., Falconer, A., Macquarie, R., Meattle, C., Tolentino, R., & Whetherbee, C. (2019). *Global Landscape of Climate Finance 2019*. Climate Policy Initiative.
- Bundesamt für Umwelt. (2019). *Verknüpfung der Emissionshandelssysteme Schweiz-EU*. Schweizerische Eidgenossenschaft.
- Bundesamt für Umwelt. (2023a). *Das Klima- und Innovationsgesetz fördert den Einsatz klimafreundlicher Technologien*. Schweizerische Eidgenossenschaft.
- Bundesamt für Umwelt. (2023b, April 14). *International environmental financing*. Retrieved June 12, 2023, from BAFU: <https://www.bafu.admin.ch/bafu/en/home/topics/international-affairs/topics-and-conventions/international-environmental-financing.html>
- CBD. (2006, February 11). *Article 20. Financial Resources*. Retrieved from The Convention on Biological Diversity: <https://www.cbd.int/convention/articles/?a=cbd-20>
- CBD Panel of Experts on Resource Mobilization. (2020). *Overview of the Panel's Reports for SBI-3 Special Session*. CBD.
- CIF. (2023). *CIF Overview*. Retrieved from CIF: <https://www.cif.org/about-cif>
- Climate Partnerships 2030. (2023). *About the Climate Partnerships*. Retrieved June 19, 2023, from Danish Governments Climate Partnerships 2030: <https://climatepartnerships2030.com>
- Conservation International. (2023). *Stabilizing Our Climate by Protecting and Restoring Nature*. Retrieved June 27, 2023, from Conservation International: <https://www.conservation.org/priorities/stabilizing-our-climate-by-protecting-and-restoring-nature>

- Convergence. (2017). *Case Study Danish Climate Investment Fund*. Convergence.
- Craymer, L. (2022, October 10). *New Zealand farmers to face livestock emissions charges under new plan*. Retrieved July 10, 2023, from Reuters: <https://www.reuters.com/business/environment/new-zealand-price-agricultural-long-lived-gases-methane-separately-2022-10-10/>
- Danish Climate Investment Fund. (2023). *Facts about the Danish Climate Investment Fund*. Retrieved June 19, 2023, from IFU: <https://www.ifu.dk/wp-content/uploads/2019/07/Facts-about-the-Danish-Climate-Investment-Fund.pdf>
- Danish Ministry of Climate, Energy and Utilities. (2022). *Denmark's Eighth National Communication and Fifth Biennial Report under the United Nations Framework Convention on Climate Change*. Danish Ministry of Climate, Energy and Utilities.
- de Koning, M., Lang, S., Münchmayer, T., & Knigge, M. (2023). *Innovative sustainable financing to halt biodiversity loss and climate change*. Nature Trust Alliance, Pont, Legacy Landscape Fund, CNF & Blue Action Fund.
- de Sa Kirchknopf, L. (2021). *Impact Investing - Switzerland's pioneering role*. Die Volkswirtschaft.
- Department for Environment, Food & Rural Affairs. (2013). *Payments for Ecosystem Services: A Best Practice Guide*. Department for Environment, Food & Rural Affairs.
- Deutsche Klimafinanzierung. (2023a). *Die „Internationale Klimaschutzinitiative“ (IKI)*. Retrieved June 20, 2023, from Deutsche Klimafinanzierung: <https://www.deutscheklimafinanzierung.de/instrument/die-%E2%80%9Einternationale-klimaschutzinitiative%E2%80%9C-iki/>
- Deutsche Klimafinanzierung. (2023b, May 9). *Direct access to German climate finance: expanding pioneering work*. Retrieved June 15, 2023, from Deutsche Klimafinanzierung: <https://www.germanclimatefinance.de/2023/06/14/direct-access-to-german-climate-finance-expanding-pioneering-work/>
- Deutsche Klimafinanzierung. (2023c). *Global Energy Efficiency and Renewable Energy Fund (GEEREF) » The German contribution to International Climate Finance*. Retrieved June 21, 2023, from German Climate Finance: <https://www.germanclimatefinance.de/overview-climate-finance/channels-german-climate-finance/global-energy-efficiency-and-renewable-energy-fund-geeref/>
- Deutscher Bundestag. (2018). *Die CO<sub>2</sub>-Abgabe in der Schweiz, Frankreich und Großbritannien*. Deutscher Bundestag.
- Deutscher Bundestag. (2022). *Erster Erfahrungsbericht der Bundesregierung zum Brennstoffemissionshandelsgesetz*. Deutscher Bundestag.
- DFCD. (2019). *Executive Summary*. DFCD.
- Die Bundesversammlung. (2022a, June 17). *22.451 | Ein neues schlankes und wirksames CO<sub>2</sub>-Gesetz | Geschäft | Das Schweizer Parlament*. Retrieved July 7, 2023, from Parlament CH: <https://www.parlament.ch/de/ratsbetrieb/suche-curia-vista/geschaeft?AffairId=20220451>
- Die Bundesversammlung. (2022b, September 16). *22.061 | CO<sub>2</sub>-Gesetz für die Zeit nach 2024.Revision | Geschäft | Das Schweizer Parlament*. Retrieved August 23, 2023, from Parlament CH: <https://www.parlament.ch/de/ratsbetrieb/suche-curia-vista/geschaeft?AffairId=20220061>
- Die Bundesversammlung. (2023). *21.432 | Grundlagen für ein CO<sub>2</sub>-Grenzausgleichssystem schaffen | Geschäft | Das Schweizer Parlament*. Retrieved July 17, 2023, from Parlament CH: <https://www.parlament.ch/de/ratsbetrieb/suche-curia-vista/geschaeft?AffairId=20210432>
- Donor Tracker. (2023, April 21). *Issue Deep Dive: undefined/undefined*. Retrieved June 22, 2023, from Donor Tracker: [https://donortracker.org/donor\\_profiles/netherlands/climate](https://donortracker.org/donor_profiles/netherlands/climate)

- Dorna, M., & Tanner, J. (2019). *Critical challenges facing the green bond market*. Baker McKenzie & International Financial Law Review.
- Dröge, S. (2021). *Ein CO<sub>2</sub>-Grenzausgleich für den Green Deal der EU*. Retrieved June 16, 2023, from Stiftung Wissenschaft und Politik: <https://www.swp-berlin.org/10.18449/2021S09/>
- Dümmler, P., & Anthamatten, J. (2020). *Weiterhin wachsende Kosten der Landwirtschaft*. Bern: Avenir Suisse.
- Ecoplan. (2023). *Einnahmen aus CO<sub>2</sub>-Grenzausgleichsmechanismen*. SECO.
- EIB. (2016). *The climate finance pioneer*. Retrieved June 21, 2023, from European Investment Bank: [https://www.eib.org/attachments/thematic/the\\_climate\\_finance\\_pioneer\\_en.pdf](https://www.eib.org/attachments/thematic/the_climate_finance_pioneer_en.pdf)
- European Commission. (2021, April 13). *Questions and Answers: Preliminary Figures on 2020 Official Development Assistance*. Retrieved from European Commission: [https://ec.europa.eu/commission/presscorner/detail/en/qanda\\_21\\_1704](https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_1704)
- European Commission. (2022a, December 15). *COP15: Commission, Member States and other donors commit to increase global biodiversity finance\**. Retrieved from European Commission: [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_22\\_7767](https://ec.europa.eu/commission/presscorner/detail/en/ip_22_7767)
- European Commission. (2022b). *Eighth National Communication and Fifth Biennial Report from the European Union under the UNFCCC*. European Commission.
- European Commission. (2023a). *Biodiversity financing - Environment*. Retrieved June 22, 2023, from European Commission: [https://ec.europa.eu/environment/nature/biodiversity/financing\\_en.htm](https://ec.europa.eu/environment/nature/biodiversity/financing_en.htm)
- European Commission. (2023b, March 13). *EU action on biodiversity financing | Knowledge for policy*. Retrieved June 27, 2023, from Knowledge for policy: [https://knowledge4policy.ec.europa.eu/biodiversity/eu-action-biodiversity-financing\\_en](https://knowledge4policy.ec.europa.eu/biodiversity/eu-action-biodiversity-financing_en)
- European Commission. (2023c). *EU at COP15 global biodiversity conference*. Retrieved June 27, 2023, from European Commission: [https://environment.ec.europa.eu/topics/nature-and-biodiversity/eu-cop15-global-biodiversity-conference\\_en](https://environment.ec.europa.eu/topics/nature-and-biodiversity/eu-cop15-global-biodiversity-conference_en)
- European Commission. (2023d). *International climate finance*. Retrieved June 22, 2023, from Language selection | Climate Action: [https://climate.ec.europa.eu/eu-action/international-action-climate-change/international-climate-finance\\_en](https://climate.ec.europa.eu/eu-action/international-action-climate-change/international-climate-finance_en)
- European Commission. (2023e, June 20). *Questions and Answers: An adjusted package for the next generation of own resources*. Retrieved July 3, 2023, from European Commission: [https://ec.europa.eu/commission/presscorner/detail/en/qanda\\_23\\_3329](https://ec.europa.eu/commission/presscorner/detail/en/qanda_23_3329)
- European Commission. (2023f). *Sustainable Finance*. Retrieved from European Commission: [https://commission.europa.eu/business-economy-euro/banking-and-finance/sustainable-finance\\_en](https://commission.europa.eu/business-economy-euro/banking-and-finance/sustainable-finance_en)
- European Investment Bank. (2022). *NCFF - Natural Capital Financing Facility*. Retrieved June 27, 2023, from European Investment Bank: <https://www.eib.org/en/products/mandates-partnerships/ncff/index.htm>
- European Union. (2023). *EU Investment support*. Retrieved June 27, 2023, from InvestEU: [https://investeu.europa.eu/index\\_en](https://investeu.europa.eu/index_en)
- Federal Administration. (2023). Information provided by members of the Federal Administration either during Interviews, Workshop or written communication.
- Federal Ministry for Economic Affairs and Climate Action. (2022a). *Climate Action in Figures*. Federal Ministry for Economic Affairs and Climate Action (BMWK).
- Federal Ministry for Economic Affairs and Climate Action. (2022b). *Eighth National Communication and fifth Biennial Report of the Federal Republic of Germany under the United Nations Framework Convention on Climate Change*. Federal Ministry for Economic Affairs and Climate Action.

- Federal Office for the Environment. (2021). *Schweizer Klimafonds: Finanzierung von Massnahmen zur Verminderung von Treibhausgasemissionen im Ausland*. Bern: Schweizerische Eidgenossenschaft.
- Federal Office for the Environment. (2022a, October 17). *Emissions trading scheme for installation operators*. Retrieved June 13, 2023, from BAFU: <https://www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/reduction-measures/ets/installations.html>
- Federal Office for the Environment. (2022b). *Switzerland's Eight National Communication and Fifth Biennial Report under the UNFCCC*. Swiss Federal Office for the Environment.
- Federal Office for the Environment. (2023a). *2017-2021 Summary Sheet International Biodiversity Finance*. Federal Office of the Environment.
- Federal Office for the Environment. (2023b). *CO2 levy*. Retrieved June 13, 2023, from BAFU: <https://www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/reduction-measures/co2-levy.html>
- Federal Office for the Environment. (2023c). *Swiss International Biodiversity relevant Investments*. Federal Office of the Environment.
- FMO. (2019). *Access to Energy Fund Investment Strategy 2019-2028*. FMO.
- GCF. (2023). *Private sector financing*. Retrieved July 10, 2023, from Green Climate Fund: <https://www.greenclimate.fund/sectors/private>
- GCPF. (2009). *Key investor information on GCPF*. Retrieved June 21, 2023, from Global Climate Partnership Fund: <https://www.gcpf.lu/fund-facts.html>
- GCPF. (2021). *Global Climate Partnership Fund Quarterly Report 2021*. GCPF.
- GCPF. (2022). *GCPF Impact Report 2022-2023*. Luxembourg: GCPF.
- GCPF. (2023). *Investing*. Retrieved June 21, 2023, from Global Climate Partnership Fund: <https://www.gcpf.lu/investing.html>
- GEEREF. (2023). *What GEEREF Is*. Retrieved June 21, 2023, from GEEREF: <https://geeref.com/about/what-geeref-is.html>
- GEF. (2023a). *Funding*. Retrieved from GEF: <https://www.thegef.org/who-we-are/funding>
- GEF. (2023b). *Private Sector*. Retrieved July 10, 2023, from GEF: <https://www.thegef.org/what-we-do/topics/private-sector>
- GET Invest. (2023). *Mobilising investment in renewable energy*. Retrieved July 11, 2023, from GET.invest: Home: <https://www.get-invest.eu>
- Global Climate Partnership Fund. (2021, December 1). *Global Climate Partnership Fund mobilizes USD 100 million in private capital to fight climate change*. Retrieved July 3, 2023, from Global Climate Partnership Fund: <https://gcpf.lu/press-release-detail/global-climate-partnership-fund-mobilizes-usd-100-million-in-private-capital-to-fight-climate-change.html>
- Granoff, I., Nassiry, D., Bird, N., Humphrey, C., Carter, P., Lemma, A., & Prizon, A. (2017). *Six development finance proposals to expand climate investment*. ODI.
- Green Climate Fund. (2019). *Policy for contributions to the Green Climate Fund for the first replenishment*. Green Climate Fund.
- Green Climate Fund. (2023a). *About GCF*. Retrieved June 12, 2023, from Green Climate Fund: <https://www.greenclimate.fund/about>
- Green Climate Fund. (2023b). *Making blended finance work for nature-based solutions* (Vol. Working paper No.5). Green Climate Fund. Retrieved from <https://www.greenclimate.fund/sites/default/files/document/making-blended-finance-work-nature-based-solutions.pdf>

- Greinus, A., Killer, A., Sutter, D., Peter, M., Bertschmann, D., Zimmermann, M., Maritz, S., (2021, April 7). *Ausgestaltung und Verteilungswirkung einer CO<sub>2</sub>-Lenkungsabgabe auf fossile Treibstoffe oder Kontingentierung*. INFRAS.
- Gubler, L., Ismail, S. A., & Seidl, I. (2020). *Biodiversitätsschädigende Subventionen in der Schweiz*. Eidgenössische Forschungsanstalt für Wald, Schnee und Landschaft.
- Guzman, S., Kowalzig, J., & Melkie, M. (2023). *Options for the Structure of the New Collective Quantified Goal*. German Government.
- Harvey, F. (2023, July 7). *Shipping emissions levy delayed but goals for greenhouse gas cuts agreed*. Retrieved July 10, 2023, from The Guardian: <https://www.theguardian.com/environment/2023/jul/07/shipping-emissions-levy-delayed-but-goals-for-greenhouse-gas-cuts-agreed>
- IDFC. (2022, November 9). *International Climate Initiative (IKI): A new financing for IDFC Climate Facility on sustainable urban development - IDFC*. Retrieved June 20, 2023, from International Development Finance Club: <https://www.idfc.org/news/international-climate-initiative-iki-a-new-financing-for-idfc-climate-facility-on-sustainable-urban-development/>
- IFU. (2017). *FACTS ABOUT DANISH SDG INVESTMENT FUND*. Retrieved June 28, 2023, from IFU: <https://www.ifu.dk/wp-content/uploads/2019/07/Fact-sheet-final-SDG-.pdf>
- IFU. (2022a). *DANISH SDG INVESTMENT FUND IMPACT REPORT 2021*. IFU.
- IFU. (2022b). *IFU Annual Report 2021*. IFU.
- IKI. (2021). *Seed Capital Assistance Facility (SCAF) | Internationale Klimaschutzinitiative (IKI)*. Retrieved June 28, 2023, from Die Internationale Klimaschutzinitiative: <https://www.international-climate-initiative.com/en/project/seed-capital-assistance-facility-scaf-14-i-201-global-m-low-carbon-development/>
- IKI. (2023a). *Nachhaltige Finanzierung von Klimaschutz, Biodiversität und Anpassungsmaßnahmen | Internationale Klimaschutzinitiative (IKI)*. Retrieved June 20, 2023, from Die Internationale Klimaschutzinitiative: <https://www.international-climate-initiative.com/themen/nachhaltige-finanzierung/>
- IKI. (2023b). *Über die IKI | Internationale Klimaschutzinitiative (IKI)*. Retrieved June 20, 2023, from Die Internationale Klimaschutzinitiative: <https://www.international-climate-initiative.com/ueber-die-iki/>
- IMF. (2023). *Special Drawing Rights*. Retrieved July 7, 2023, from International Monetary Fund: <https://www.imf.org/en/Topics/special-drawing-right>
- InsuResilience Global Partnership. (2023). *Programmes & Projects*. Retrieved July 12, 2023, from InsuResilience Global Partnership: <https://www.insuresilience.org/implementation/programmes-projects/#projects>
- International Carbon Action Partnership. (2022). *German National Emissions Trading System*. International Carbon Action Partnership.
- International Carbon Action Partnership. (2023). *Swiss ETS*. Retrieved June 26, 2023, from International Carbon Action Partnership: <https://icapcarbonaction.com/en/ets/swiss-ets>
- International Finance Corporation. (2023). *Biodiversity Finance Reference Guide*. International Finance Corporation.
- Investment Fund for Developing Countries. (2022). *IFU's Climate Policy (April 2022)*. Investment Fund for Developing Countries.
- IRENA & Climate Policy Initiative. (2023). *Global Landscape of Renewable Energy Finance*. International Renewable Energy Agency.
- Kappel, R. (2013, April 30). *Die schweizerische Entschuldungsfazität – eine Zwischenbilanz*. Retrieved July 3, 2023, from OpenEdition Journals: <https://journals.openedition.org/sjep/1253>

- KfW. (2023). *KfW Green Bond Portfolio*. Retrieved June 28, 2023, from KfW: <https://www.kfw.de/nachhaltigkeit/About-KfW/Sustainability/Sustainable-Banking-Operations/Responsible-Investment/KfW-Green-Bond-Portfolio/>
- Kollmuss, A. (2018). *Die Schweiz und ihre Klimaverpflichtungen im Ausland*. Alliance Sud.
- Kozul-Wright, R. (2023, June 14). *A climate finance goal that works for developing countries*. UNCTAD. Retrieved August 10, 2023, from UNCTAD: <https://unctad.org/news/climate-finance-goal-works-developing-countries>
- Kulenkampff, A., & Pipan, G. (2023). *More for less - Scaling Sustainability-linked Sovereign Debt*. Sustainability-Linked Sovereign Debt Hub & Nature Finance.
- Léautier, F., Al-Mohsen, A., Beato, P., Humphrey, C., & Karsenti, R. (2022). *Boosting MDBs' investing capacity*. An Independent Review of Multilateral Development Banks' Capital Adequacy Framework.
- Legacy Landscapes Fund. (2023a). *Annual Report 2022*. Legacy Landscapes Fund.
- Legacy Landscapes Fund. (2023b). *Our Approach*. Retrieved June 26, 2023, from Legacy Landscapes Fund: <https://legacylandscapes.org/what-we-do/our-approach/>
- Lottje, C. (2020). *Der Schweizer Beitrag an die internationale Klimafinanzierung*. Stuttgart: Alliance Sud.
- Millenium Ecosystem Assessment. (2005). *Ecosystems and Human Well-being: Synthesis*. Island Press.
- Ministry of Economic Affairs and Climate Policy of the Netherlands. (2022). *Eighth Netherlands National Communication Under The United Nations Framework Convention on Climate Change*. Ministry of Economic Affairs and Climate Policy of the Netherlands.
- Ministry of Foreign Affairs of Denmark. (2021). *THE WORLD WE SHARE Denmark's Strategy for Development Cooperation*. Ministry of Foreign Affairs of Denmark.
- Naran, B., Connolly, J., Rosane, P., Wignarajah, D., Wakaba, G., & Buchner, B. (2022, October 27). *Global Landscape of Climate Finance: A Decade of Data - CPI*. Retrieved June 26, 2023, from Climate Policy Initiative: <https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-a-decade-of-data/>
- NatureFinance & Carbone 4. (2023). *Harnessing Biodiversity Credits for People and Planet*. GEF.
- NDC Partnership. (2023). *Danish Climate Investment Fund*. Retrieved June 16, 2023, from NDC Partnership: <https://ndcpartnership.org/funding-and-initiatives-navigator/danish-climate-investment-fund>
- Octobre. (2023). *Octobre Liquidity Guarantee Facility*. Octobre.
- OECD. (2017). *Private finance for climate action*. OECD.
- OECD. (2020). *A comprehensive overview of global biodiversity finance*. OECD.
- OECD. (2022a). *Green, social, sustainability and sustainability-linked bonds in developing countries: How can donors support public sector issuances?* OECD.
- OECD. (2022b). *Climate Finance Provided and Mobilized by Developed Countries in 2016-2020*. OECD.
- OECD. (2023a). *Arrangement and Sector Understandings*. Retrieved July 4, 2023, from OECD: <https://www.oecd.org/trade/topics/export-credits/arrangement-and-sector-understandings/>
- OECD. (2023b). *PRIVATE FINANCE MOBILISED BY OFFICIAL DEVELOPMENT FINANCE INTERVENTIONS*. OECD.
- OECD. (2023c). *Total flows by donor (ODA+OOF+private)*. Retrieved June 12, 2023, from OECD Statistics: <https://stats.oecd.org>
- OECD. (2023d). *A Decade of Development Finance for Biodiversity*. Paris: OECD Publishing.

- OECD & EU Phare. (1998). *Swapping Debt for the Environment: The Polish Ecofund*. OECD & EU Phare.
- Paul, Q., & Weber, P.-F. (2023). *Debt-for-nature swaps: a two-fold solution for environmental and debt sustainability in developing countries?* Banque de France.
- PIDG. (2022). *Strategy 2023-2030*. PIDG.
- Public Eye. (2023). *Switzerland - the commodities hub*. Retrieved from Public Eye: <https://www.publiceye.ch/en/topics/commodities-trading/switzerland/commodities-hub>
- Salzmann, J., Bennett, G., Carroll, N., Goldstein, A., & Jenkins, M. (2018). *The global status and trends of Payments for Ecosystem Services*. Nature Sustainability.
- Santikarn, M., Kardish, C., Ackva, J., & Haug, C. (2019). *THE USE OF AUCTION REVENUE FROM EMISSIONS TRADING SYSTEMS*. International Carbon Action Partnership.
- SCAF. (2022). *SEED CAPITAL ASSISTANCE FACILITY*. Retrieved July 2, 2023, from UNEP: <https://wedocs.unep.org/bitstream/handle/20.500.11822/31625/SEEDC.pdf?sequence=1&isAllowed=y>
- Schweizerische Eidgenossenschaft. (2015). *Eidgenössische Volksinitiative 'Millionen-Erbschaften besteuern für unsere AHV (Erbschaftssteuerreform)*. Retrieved from Schweizerische Eidgenossenschaft: <https://www.bk.admin.ch/ch/d/pore/vi/vis414.html>
- Schweizerische Eidgenossenschaft. (2017). *Bericht des Bundesrats in Erfüllung des Postulats der aussenpolitischen Kommission des Nationalrats 15.3798 vom 2. Juli 2015*. Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (2019a). *Konzept zur verstärkten Mobilisierung des Privatsektors für klimafreundliche Investitionen in Entwicklungsländer*. Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (2019b). *Transparenz bezüglich nichtfinanzieller Belange und Sorgfaltspflichten und Transparenz bezüglich Mineralien und Metallen aus Konfliktgebieten und Kinderarbeit*. Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (2021a). *Federal Council brings ordinance on mandatory climate disclosures for large companies into force as of 1 January 2024*. Retrieved from Schweizerische Eidgenossenschaft: <https://www.admin.ch/gov/en/start/documentation/media-releases.msg-id-91859.html>
- Schweizerische Eidgenossenschaft. (2021b). *CO2-Abgabe und Flugticketabgabe*. Retrieved from Schweizerische Eidgenossenschaft: <https://www.bafu.admin.ch/bafu/de/home/themen/thema-klima/klima--dossiers/klimaschutz-und-co2-gesetz/co2-abgabe-und-flugticketabgabe.html>
- Schweizerische Eidgenossenschaft. (2022a). *22.4246 | Schrittweise Erhöhung des Beitrags der Schweiz an die internationale Sicherheit | Geschäft | Das Schweizer Parlament*. Retrieved June 30, 2023, from Parlament CH: <https://www.parlament.ch/de/ratsbetrieb/suche-curia-vista/geschaeft?AffairId=20224246>
- Schweizerische Eidgenossenschaft. (2022b). *Botschaft zu einem Verpflichtungskredit für die globale Umwelt 2023-2026*. Bern: Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (2022c, February 1). *Green Climate Fund*. Retrieved June 12, 2023, from Schweizerische Eidgenossenschaft: <https://www.eda.admin.ch/deza/en/home/partnerships-mandates/partnerships-multilateral-organisations/weitere-organisationen-netzwerke/fvc.html>
- Schweizerische Eidgenossenschaft. (2022d). *Prüfauftrag des EJPD vom 23. Februar 2022; Analyse Vorschläge EU-Richtlinien über Sorgfaltspflichten und Berichterstattung zur Nachhaltigkeit und möglicher Anpassungsbedarf im Schweizer Recht*. Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (2022e, August 15). *Rückverteilung der CO2-Abgabe*. Retrieved July 11, 2023, from BAFU:

- <https://www.bafu.admin.ch/bafu/de/home/themen/klima/fachinformationen/verminderungsmassnahmen/co2-abgabe/rueckverteilung.html>
- Schweizerische Eidgenossenschaft. (2022f). *Sustainable Finance Schweiz*. Bern: Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (2022g). *Swiss Climate Scores*. Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (2022h, October 12). *The federal government has successfully issued the first green Confederation bond*. Retrieved July 10, 2023, from Schweizerische Eidgenossenschaft: <https://www.efv.admin.ch/efv/en/home/aktuell/a/greenbonds.html>
- Schweizerische Eidgenossenschaft. (2022i). *Schweizer Aussenhandel 2021*. Bern: Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (2023a). *Auswirkungen von CO<sub>2</sub>-Grenzausgleichsmechanismen auf die Schweiz*. Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (2023b). *BBI 2023 810 - Bundesbeschluss über einen Verpflichtungskredit für die globale Umwelt 2023-2026*. Retrieved July 13, 2023, from Fedlex.admin.ch: <https://www.fedlex.admin.ch/eli/fga/2023/810/de>
- Schweizerische Eidgenossenschaft. (2023c, June 16). *Bundesrat will den CO<sub>2</sub>-Emissionshandel ohne Grenzabgaben weiterentwickeln*. Retrieved June 16, 2023, from Schweizerische Eidgenossenschaft: <https://www.admin.ch/gov/de/start/dokumentation/medienmitteilungen.msg-id-95765.html>
- Schweizerische Eidgenossenschaft. (2023d, May 17). *Federal Council approves Switzerland's contribution to International Monetary Fund's Resilience and Sustainability Trust*. Retrieved July 7, 2023, from Schweizerische Eidgenossenschaft: <https://www.admin.ch/gov/en/start/documentation/media-releases.msg-id-95219.html>
- Schweizerische Eidgenossenschaft. (2023e). *Klimaschutz im Ausland*. Bern: Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (2023f). *Mineral oil tax*. Retrieved July 10, 2023, from Schweizerische Eidgenossenschaft: <https://www.bazg.admin.ch/bazg/en/home/informationen-firmen/inland-abgaben/mineraloelsteuer.html>
- Schweizerische Eidgenossenschaft. (2023g). *Voluntary Contribution to the Adaptation Fund*. Retrieved June 12, 2023, from Schweizerische Eidgenossenschaft: <https://www.eda.admin.ch/deza/en/home/countries/horn-africa/sudan.html/content/dezaprojects/SDC/en/2021/7F10779/phase1>
- Schweizerische Eigenossenschaft. (2023h, August). *Emissionshandelsregister*. Retrieved August 18, 2023, from Emissions Registry: <https://www.emissionsregistry.admin.ch/crweb/public/auction/dates.action?token=GTTFC2FMF5Z0BA4G0JY9JUA929274022>
- Schweizerische Eigenossenschaft. (2023i). *Fragen und Antworten zur Autobahnvignette*. Retrieved from Schweizerische Eidgenossenschaft: <https://www.uvek.admin.ch/uvek/de/home/uvek/abstimmungen/abstimmung-autobahnvignette/faq-autobahnvignette.html#:~:text=Gut%20%2C%20Millionen%20davon,Autfahrern%20a us%20dem%20Ausland%20beigesteuert.>
- Schweizerische Eidgenossenschaft. (No date, a). *BBI 2023 56 - Bundesgesetz über die Entwicklungsfinanzierungsgesellschaft SIFEM (SIFEM-Gesetz)(Entwurf)*. Retrieved July 12, 2023, from Fedlex.admin.ch: <https://www.fedlex.admin.ch/eli/fga/2023/56/de>

- Schweizerische Eidgenossenschaft. (No date, b). *Strategie der Schweiz zur Sperrung, Einziehung und Rückführung von Potentatengeldern („Asset Recovery“)*. Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (No date, c). *No Dirty Money – The Swiss Experience in Returning Illicit Assets*. Schweizerische Eidgenossenschaft.
- Schweizerische Eidgenossenschaft. (No date, d). Civil aviation. Retrieved from Schweizerische Eidgenossenschaft: <https://www.bfs.admin.ch/bfs/en/home/statistics/mobility-transport/cross-sectional-topics/civil-aviation.html>
- SDG Impact Finance Initiative. (2020, May 20). *SDG Impact Finance Initiative*. Retrieved June 29, 2023, from SDG Impact Finance Initiative: [https://static1.squarespace.com/static/621358027796196a0fba669b/t/6230655ce113133b09f406c8/1647338845341/SDGImpactFinanceInitiative\\_2pager\\_final.pdf](https://static1.squarespace.com/static/621358027796196a0fba669b/t/6230655ce113133b09f406c8/1647338845341/SDGImpactFinanceInitiative_2pager_final.pdf)
- SDG Impact Finance Initiative. (2023, January 11). *News & Announcements – SDG Impact Finance Initiative*. Retrieved June 29, 2023, from SDG Impact Finance Initiative: <https://www.sdgimpactfinance.org/news-and-announcements>
- SECO. (2023a). *Private Infrastructure Development Group*. Schweizerische Eidgenossenschaft.
- SECO. (2023b). *Secostartupfund - Loan Application*. Retrieved June 13, 2023, from SECO Startup Fund: <https://www.secostartupfund.ch/en/loan-application.html>
- SERV. (2023a). *Geschäftsbericht 2022*. Zurich: SERV.
- SERV. (2023b, July 21). Information provided via Email to M. Menz, South Pole.
- Setser, B., & Paduano, S. (2023). *Using an SDR Bond Creatively to Boost Concessional and Climate Finance*. Council on Foreign Relations.
- SIDA. (2022, September 13). *Sida's guarantee instrument*. Retrieved June 29, 2023, from Sida.se: <https://www.sida.se/en/for-partners/private-sector/sidas-guarantee-instrument>
- SIFEM AG. (2015). *Swiss Investment Fund for Emerging Markets: Investment Guidelines*. SIFEM.
- SIFEM AG. (2020, November 25). *Strategic Objectives 2021-2024 of the Federal Council for SIFEM AG - 1 Introduction*. Retrieved July 10, 2023, from Swiss Investment Fund for Emerging Markets: [https://sifem.ch/fileadmin/user\\_upload/sifem/pdf/en/en\\_Strategic\\_Objectives\\_2021-2024\\_of\\_the\\_Federal\\_Council\\_for\\_SIFEM\\_AG.pdf](https://sifem.ch/fileadmin/user_upload/sifem/pdf/en/en_Strategic_Objectives_2021-2024_of_the_Federal_Council_for_SIFEM_AG.pdf)
- SIFEM AG. (2023). *Business and Financial Report 2022*. Geneva: SIFEM AG.
- SIX. (2022). *Willkommen auf dem Finanzplatz Schweiz*. SIX Swiss Exchange.
- Spaleck, J., Stadelmann, M., Egler, H., Costa, N., Dietrich, U., Horka, P., & Schmidt, T. (2020). *Final Report: Options to develop the REPIC instrument*. South Pole.
- Steuerkonferenz SSK. (2020). *Erbschafts- und Schenkungssteuern*. Steuerkonferenz SSK, Schweiz.
- SwissRe. (2021, April 26). *Why no action on climate change is not an option*. Retrieved July 11, 2023, from Swiss Re: <https://www.swissre.com/risk-knowledge/mitigating-climate-risk/no-action-climate-change-not-option.html>
- The Federal Council. (2022, June 29). *Federal Council launches Swiss Climate Scores for climate transparency in financial investments*. Retrieved June 26, 2023, from Schweizerische Eidgenossenschaft: <https://www.sif.admin.ch/sif/en/home/documentation/press-releases/medienmitteilungen.msg-id-89524.html>
- The Lab. (2021). *AMAZONIA SUSTAINABLE SUPPLY CHAINS MECHANISM*. The Lab.
- The Lab. (2022). *The Global Innovation Lab for Climate Finance*. The Lab.
- The Lab. (2023a). *Climate Insurance-Linked Resilient Infrastructure Financing (CILRIF)*. Retrieved July 11, 2023, from The Global Innovation Lab for Climate Finance: <https://www.climatefinancelab.org/ideas/climate-insurance-linked-resilient-infrastructure-financing-cilrif/>

- 
- The Lab. (2023b). *Impact*. Retrieved July 13, 2023, from The Global Innovation Lab for Climate Finance: <https://www.climatefinancelab.org/impact/>
- The Nature Conservancy. (2021). *Case Study Belize Blue Bonds for Ocean Conservation*. The Nature Conservancy.
- The Nature Conservancy. (2022, September 19). *New biodiversity commitments announced at high level event in NYC*. Retrieved June 26, 2023, from The Nature Conservancy: <https://www.nature.org/en-us/newsroom/new-biodiversity-commitments-world-leaders-declare-un-biodiversity-summit-priority/>
- The Rockefeller Foundation & BCG. (2022). *What Gets Measured Gets Financed*. The Rockefeller Foundation & BCG.
- The World Bank Group. (2020). *Mobilising Private Finance for Nature*. The World Bank Group.
- The World Bank. (2023a). *Methane emissions (kt of CO2 equivalent) - Switzerland*. Retrieved from The World Bank Data: <https://data.worldbank.org/indicator/EN.ATM.METH.KT.CE?locations=CH>
- The World Bank. (2023b). *Statement of the Heads of Multilateral Development Banks Group: Strengthening Our Collaboration for Greater Impact*. Retrieved from The World Bank: <https://www.worldbank.org/en/news/statement/2023/10/13/statement-of-the-heads-of-multilateral-development-banks-group-strengthening-our-collaboration-for-greater-impact>
- UNDP. (2018). *BIOFIN The Biodiversity Finance Initiative WORKBOOK 2018*. UNDP.
- UNEP. (2022). *State of Finance for Nature. Time to act: Doubling investment by 2025 and eliminating nature-negative finance flows*. NEP and ELD.
- UNEP. (2023). *Climate change and security risks*. Retrieved July 11, 2023, from UNEP: <https://www.unep.org/explore-topics/disasters-conflicts/what-we-do/disaster-risk-reduction/climate-change-and-security>
- UNFCCC. (2023). *Introduction to Climate Finance*. Retrieved June 12, 2023, from UNFCCC: <https://unfccc.int/topics/introduction-to-climate-finance>
- Warmerdam, W., Pham Van, L., Walstra, J., & Achterberg, E. (2022). *Mobilised private climate & biodiversity finance*. Ministry of Foreign Affairs of the Netherlands.

## Annex

### Annex 1 - List of conducted interviews

The authors thank all interview participants for their valuable and insightful contributions to the present study.

Date of interview	Name of interviewee	Function of interviewee	Name of interviewer
June 21, 2023	Arnaud Gillin	Partner & Co-Founder, Innpact	M. Menz, South Pole
June 22, 2023	Christopher Humphrey	Senior Researcher, ETH NADEL and ODI, Ex-World Bank	M. Menz, South Pole
June 26, 2023	Antoine Prédour	Head of Climate Finance, ResponsAbility	M. Stadelmann & M. Menz, South Pole
June 29, 2023	Christian Speckhardt	Impact Investment Expert, Simpact	M. Stadelmann & M. Menz, South Pole
July 10, 2023	Martin Lanz	Economist, SECO	M. Menz, South Pole
July 12, 2023	Caroline Wehrle	Senior Policy Advisor, SIF	M. Menz, South Pole
July 12, 2023	Christian Brändli	Deputy Head, Section Private Sector Development, SECO	M. Menz, South Pole
July 17, 2023	Luzia Halter	Scientific Collaborator, Expenditure Policy Department, Federal Financial Administration	M. Menz, South Pole
July 19, 2023	Alowin Moes	Senior Economist, Federal Tax Administration	M. Menz, South Pole
July 20, 2023	Alexander Siegenthaler	Senior Advisor, SECO	Email exchange

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## Annex 2 - List of workshop participants

The workshop was held on July 6, 2023 with the following participants. The authors thank all workshop participants for their valuable and insightful contributions to the present study.

<b>Name</b>	<b>Function</b>
Gabriela Blatter	Principal Policy Advisor, BAFU
Lucretia Landmann	Senior Policy Advisor, BAFU
Raphael Bucher	Head Section Climate Policy, BAFU
Matthias Bachmann	Senior Policy Advisor, DEZA
Rene Kaspar	Scientific Collaborator, DEZA
Francoise Salamé	Head Climate Network, SECO
Julien Volery	Program Manager, SECO
Alexander Siegenthaler	Senior Advisor, SECO
Martin Lanz	Economist, SECO