
HOW SNB'S COLLATERAL FRAMEWORK IS CONTRIBUTING TO A HOTTER WORLD

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SNB



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*Contributors: Ivo Mugglin, Asti Roesle,
Jonas Kampus, Maurizio Degiacomi*

*Acknowledgments: Olivier Christe, Pierre
Monnin, Eric Jondeau, Chiara Colesanti Senni,
Maud Abdelli, Amandine Favier,
Stephan Kellenberger*

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SNB Coalition, Climate Alliance Switzerland
<https://www.unsere-snb.ch/>
<https://notre-bns.ch/>

- This report analyzes the eligibility criteria of the SNB collateral framework for repo purchases and analyses the SNB General Collateral Basket, which lists all assets that have been currently pledged as collateral and thereby are considered high quality liquid assets.
- Central banks have many instruments to execute their monetary policy targets. Amongst others the targeted refinancing lines, the repo and swap lines. All of these have the collateral framework as an underlying frame, that defines the assets that are eligible to be transferred by the bank to the central bank as an insurance, in case they are not able to repay the loan.
- In the case of the SNB: the foreign exchange portfolio still is the most important instrument to execute the monetary policy goals along with the setting of the interest rates. But it is not the only instrument.
- The repo purchases operations were important before 2010. Then became nearly irrelevant between 2010 and 2021, as there were no liquidity constraints. Since the interest rates have been increasing (since 2022), the SNB is decreasing the foreign exchange portfolio and financial institutions need more liquidity. As repo transactions seem to be gaining importance again, the collateral framework becomes more important.
- Climate change and biodiversity loss are financial risks. This is acknowledged by the NGFS (Network of Central Banks and Supervisors for Greening the Financial System) and multiple central banks and financial supervisors.
- Several central banks have started integrating climate and broader environmental factors into the collateral framework. Either by integrating these considerations into the eligibility criteria, or modulating the haircut according to the environmental performance of the issuing entity.
- NGFS has given clear indications about how to use collateral (should not increase risks, should integrate climate and biodiversity risks; should potentially support transition). Since 2019 the SNB is part of the NGFS.
- Method:
For the environmental analysis of the collateral framework of the SNB, a two-step method was applied firstly, the SNB's instruction sheet on collateral eligible for SNB repos was reviewed. Secondly, the SNB GC Basket was analyzed as these represent the assets that are considered HQLA by the instruction sheet on collateral eligible for the SNB. The SNB GC Basket was filtered such that only the issuers were visible. Of these 198 issuers, 127 were from sovereign countries/regions or corporate entities. These were matched with the results from 11 environmental performance analysis from NGOs and think tanks. Based on this analysis, 6 case studies were selected (on Canadian banks, Shell, government bonds, federal government bonds, deforestation, Nestlé and Novartis), focusing on cases of particular environmental relevance or interest.

- General conclusions
 - Overall, the environmental analysis of SNB's collateral framework exemplifies SNB's failure and unwillingness to include the growing challenges posed by the climate and biodiversity crisis into its risk management. Ignoring these risks will threaten the economy and its orderly transition as well as the future of all of us in the long run and go against the Central Bank's mandate to ensure price and financial stability.
 - This is inconsistent with the central bank's own aim for maintaining the credit risk standards, such that the implementation of monetary policy is assured, and contradicts the prudential mandate to minimize stability risks.
 - The analysis of the SNB GC Basket indicates that the SNB's collateral framework does not seem to follow the rules it has set out in the instruction sheet on collateral eligible for SNB repos - this is a consistency problem in itself.¹ The same problem applies for the bank's investment guidelines that stipulate they should not invest in assets that generate "systematically serious environmental damage". As an analysis of the Klima Allianz has shown, this is not the case as several highly environmentally damaging assets are currently in the foreign exchange portfolio.²
- Specific conclusions
 - Climate and biodiversity/deforestation aspects are not included explicitly in the eligibility criteria mentioned in the SNB's instruction sheet on collateral eligible for SNB repos.
 - Climate and biodiversity/deforestation aspects are not considered as financial risks, as there are entities such as Shell, several Canadian Banks, and Canadian sovereign bonds from tar sand producing regions that have been broadly recognized to be among the worst environmental performing issuers. The Swedish Riksbank for example has divested from the four Canadian regions based on their very high CO2 emissions.³ This is a lack of consistency with the mandate of a central bank, that requires to manage risks in order to assure price stability and contribute to financial stability.
 - There is a lack of coherence between the eligibility criteria mentioned in the SNB's instruction sheet on collateral eligible for SNB repos, and the relatively small amount of assets that are currently deposited as collateral for a credit by the SNB (2777 bonds from 198 issuers). The criteria are broad and would allow much broader set of assets to be considered as collateral.
 - SNB's GC Basket has a clear "carbon-bias", which perpetuates that highly climate- and biodiversity-damaging issuers still receive favourable credit conditions (e.g. lower cost of capital). Thus, SNB sends a clear market signal to the financial actors, indicating that negative environmental performance is not a financial risk (against scientific evidence) and thereby prolongs the status quo of the economy, and transition risks are increased.

¹https://www.snb.ch/en/mmr/reference/repo_mb26/source/repo_mb26.en.pdf

²<https://www.unsere-snb.ch/themen/problematische-investitionen/>

³<https://www.ft.com/content/076e9978-06c2-11ea-9afa-d9e2401fa7ca>

– Recommendations

Since SNB might start to use collateral operations on a larger scale in the future, the timing is right for SNB to revisit its collateral framework. We recommend the SNB to:

- Include climate and biodiversity/deforestation criteria in their eligibility criteria mentioned in the SNB's instruction sheet on collateral eligible for SNB repos. This is good risk management.
- Include an exclusion list of issuing companies and countries/regions into the SNB's instruction sheet on collateral eligible for SNB repos. Based on the analysis of the SNB GC Basket, the assets from Shell, Canadian Banks and the four Canadian regions should be considered as non-investable due to their high financial risks.
- Review the haircuts applied to eligible assets and add the climate and biodiversity/deforestation performance of the issuer as an additional factor to determine the haircut.
- Collaborate with the NGFS and other central banks to determine an environmentally friendly collateral framework.
- Actively follow and support the Swiss Confederation's goal of aligning financial flows in a climate-friendly manner, according to the new Federal "Climate and Innovation" act.

Context: Green Central Banking

In order to maintain a chance to keep nature within the planetary boundaries, the next seven years are crucial to halve greenhouse gas emissions (compared to 2020 - IPCC, 2022), as well as stop biodiversity loss and recover/restore it by 2030 (IPBES, 2018). To align the economic system with environmental goals, about 5 to 7 trillion USD are needed yearly until 2030 (Filho et al. 2022). The funding for this will come from public institutions, but also from private financial institutions such as banks, insurance companies, etc. Even more importantly the funding for currently environmentally damaging economic activities needs to be reoriented to transition-worthy and green economic activities.

Central banks and financial supervisors are key to the achievement of the climate and biodiversity goals (NGFS, 2019; Bolton et al. 2020; NGFS, 2022). They define the 'rules of the game' that financial sector actors (e.g. banks, insurance companies, etc.) need to follow, which again invest in, lend to and insure real economic companies. Central banks have a significant influence on the economy (Dikau and Volz, 2019; Schoenmaker, 2021), and indirectly on environmental degradation, which is mainly driven by the current economic structure (Dasgupta, 2021; IPCC, 2022; WWF, 2022). Altaghlibi et al. (2022) show that the adaptation of four monetary policy instruments (capital requirements, collateral frameworks, Asset Purchase Programmes, and Refinancing Operations) can lead to a reduction of 5% to 12% of yearly greenhouse gas emissions.

Since the inception of the Network for Greening Financial Systems (NGFS) by the end of 2017, many central banks have announced commitments specifically regarding climate change and to a lesser extent biodiversity loss (WWF, 2022; Positive Money 2021). It is increasingly accepted that the mandate of central banks and financial supervisors requires them to integrate climate change (NGFS, 2019) and biodiversity loss (NGFS, 2022). However, there are diverging opinions regarding the breadth of the mandate, the instruments that central banks and financial supervisors can and should use to tackle the environmental crisis, and how these interventions are legitimised.

The NGFS (2021) concludes that "the menu of options available to central banks to factor climate-related risks into their operational framework is potentially large", specifically highlighting the credit operations, collateral policies and asset purchases as the most important policy fields.⁴ Despite this recognition, central banks and financial supervisors still focus most of their efforts on improving disclosure requirements regarding climate- and nature-related financial risks of financial institutions. The adaptation of core monetary policies and financial regulation is not yet common practice.

"Within our mandate, we are taking further concrete steps to incorporate climate change into our monetary policy operations. And, as part of our evolving climate agenda, there will be more steps to align our activities with the goals of the Paris Agreement."

(ECB President Christine Lagarde, 04.07.2022)

⁴ https://www.ngfs.net/sites/default/files/media/2021/06/17/ngfs_monetary_policy_operations_final.pdf

Collateral Framework and Climate Change, Biodiversity Loss

Collateral Framework and Climate Change, Biodiversity Loss

Central banks have different tools to implement their monetary policy goals, of which the most famous is the adaptation of the interest rate. But central banks can also do credit operations such as targeted refinancing operations, repo activities and swap lines. These tools provide liquidity to financial institutions such that they can execute their payments to other banks as part of their daily operations. However, the central banks only provide this liquidity against ‘guarantees’, a form of insurance, which is called collateral. The collateral framework thereby determines the criteria that the assets need to fulfil in order to be pledged as ‘guarantee’ against central bank money. These assets are a form of security for the central bank, in case the bank is unable to repay its loan. In short, Dafermos (2022) rightly underlines that “collateral frameworks are at the core of liquidity operations of several central banks around the world”. They thereby play a key role in the implementation of monetary policy and financial stability targets that central banks pursue.

Central banks determine in their collateral framework the eligibility criteria that an asset needs to fulfil in order to be considered a

high quality liquid asset (HQLA). Usually central banks use a variety of criteria such as the credit rating, ticket size of bond, currency, etc. as necessary conditions to determine an eligible asset. Mainly sovereign bonds, and to a lesser extent corporate bonds can then be pledged to secure central bank credit operations, targeted refinancing lines, repo activities, SWAP lines, etc. Further, central banks apply “haircuts” that are designed to reflect possible volatility of the eligible collateral asset, and thereby serve as a risk mitigation measure. The value of the asset is thereby not considered at a market price on a given day, but a discount rate (haircut) is deduced from the price, to account for the potential future loss. Usually the credit quality (i.e. credit rating), the maturity (amount of years) and the coupon types are used as criteria for the haircuts.

The collateral framework of central banks and the list of eligible assets is an extremely powerful instrument, as it affects also

“We will increasingly address climate risks in our risk control and collateral frameworks, including by eventually making climate-related corporate disclosures compulsory for bonds to remain eligible as collateral in our refinancing operations.”⁵

(Isabel Schnabel, member of the ECB’s executive board, 10.01.2023)

⁵ <https://www.ecb.europa.eu/press/key/date/2023/html/ecb.sp230110~21c89bef1b.en.html>

the financial prices and the allocation of capital more widely in the financial system. Commercial banks, insurance companies, asset managers, etc. orient themselves of the central banks' collateral for their own credit operations *inter pares* (see Bindseil et al., 2017). Further, Dafermos (2022) rightly underlines that "assets deemed eligible by the central bank as collateral automatically become more valuable to the banking sector (and the financial sector more widely), which increases the demand for them. The eligible assets also appear as safe assets to investors and creditors, who may also be more willing to finance eligible companies at lower interest rates. Thereby not only the value of the asset increases, but also the borrowing costs (in form of the interest rate) is lower for the issuing entity (government, company).

Despite the importance of collateral frameworks, central banks rarely include environmental and social considerations, and just nine central banks (all in EMEA and APAC) currently have some sort of expectation in this area (SUSREG annual report 2022)⁶. Thus, it is important to continue to assess

how central banks are modulating the collateral frameworks to support green financial flows. There is a vibrant scholarly debate regarding this issue (Campiglio et al. 2018; Monnin 2018; McConnell et al. 2020; Breitenfeller et al. 2021; Dafermos et al. 2021; Vestergaard and Gabor 2021; Boneva et al. 2022;). And there are some concrete actions being taken by some central banks starting to integrate climate risks into their collateral framework (e.g. European Central Bank), using their own credit rating methodology.⁷ However, thorough environmental assessments of central banks eligible asset lists are currently sparse. A public climate and biodiversity analysis of the Swiss National Bank General Collateral Basket has not been done yet (to the best knowledge of the authors).

⁶ https://wwf.panda.org/discover/our_focus/finance/greening_financial_regulation/?7296466/susreg-annual-assessment-2022

⁷ https://wwf.panda.org/wwf_news/?5149466/Driving-sustainability-from-within

Collateral framework of the Swiss National Bank (SNB)

The SNB has a mandate to secure price stability and contribute to financial stability in Switzerland. The SNB states that to achieve its monetary policy goals, it uses instruments such as open market operations, standing facilities and interest on sight deposits at the SNB. Historically the SNB implemented its monetary policy through repo transactions.

This changed in 2010 in the aftermath of the financial crisis, during which the foreign investment portfolio became increasingly important to target the exchange rate of the Swiss Franc in relation to other currencies such as the Euro and the US Dollar. The figure below indicates that repo transactions were again used in the aftermath of the Covid-crisis and the inflationary tendencies in the economy.

For the repo transactions, the SNB defined criteria (type of securities, currency of issue, eligible issuers, credit rating requirements, recognized ratings, eligible markets, issued

volume and procedure) in the “instruction sheet on collateral eligible for SNB repos”⁸. Based on this criteria list, the banks pledge collateral assets. The ones that are currently pledged can be found and downloaded on the website (collateral.snb.ch) and are called SNB General Collateral Basket (hereafter: SNB GC Basket).

All assets listed in the SNB GC Basket are considered high quality liquid assets, and financial institutions using a repo transaction need to provide 110% of the transaction amount in eligible assets. Based on the instruction sheet it seems that the SNB does not use specific haircuts depending on the asset type, its maturity or the credit rating.

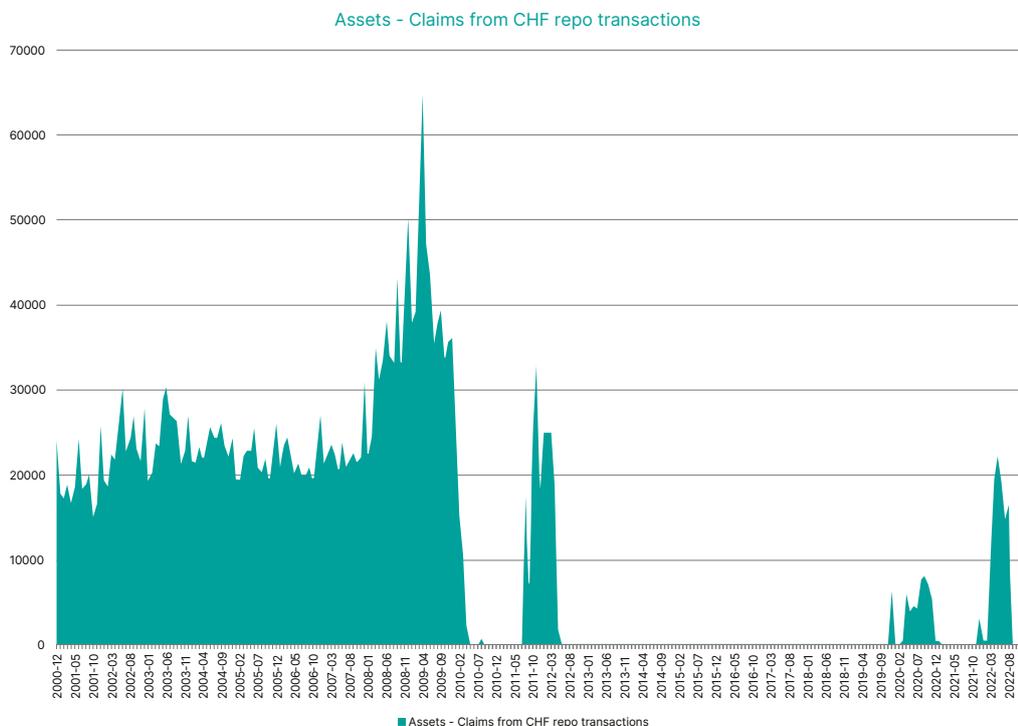


Figure 1: Asset claims from repo transactions in CHF (between SNB and financial actors active in Switzerland)

⁸ https://www.snb.ch/en/mmr/reference/repo_mb26/source/repo_mb26.en.pdf

Two-step method for analyzing climate and biodiversity/deforestation impacts and risks of issuers that are eligible within SNB GC Basket

Two-step method for analyzing climate and biodiversity/deforestation impacts and risks of issuers that are eligible within SNB GC Basket

For the environmental analysis of the collateral framework of the SNB, a two-step method was applied. Firstly, the SNB's instruction sheet on collateral eligible for SNB repos was reviewed. Secondly, the SNB GC Basket was analysed as these represent the assets that are considered HQLA by the instruction sheet on collateral eligible for the SNB.⁹ The SNB GC Basket was filtered such that only the issuers were visible. Of these 198 issuers, 127 were from sovereign countries/regions or corporate entities. These were matched with the results from 11 environmental performance analysis from NGOs and think tanks. Based on this analysis, 6 case studies were selected, focusing on cases of particular environmental relevance or interest.

The SNB General Collateral Basket¹⁰ comprised a total of 2'777 bonds or bond-like securities as of 26.10.22 (the content of the basket has hardly changed up to the publication date of this report). The issuers are private companies as well as governmental (national and regional) or suprastate organisations and institutions.

The focus of this analysis is to examine the climate and biodiversity/deforestation impacts and risks of the issuing private companies, organisations, and institutions. Thus, we focus on the issuers rather than the individual bonds. The dataset was narrowed accordingly. That is, if multiple bonds are listed per issuer, they have been aggregated. This results in a list of 198 entries.

This list was further filtered for bonds issued by private companies as well as sovereigns (national and regional), identifying

the parent company or issuing government in each case. The restriction to private companies and sovereigns was based on data availability in order to be able to perform an appropriate climate and deforestation review (see table below listing the criteria and data used for the analysis). This step narrowed the review to 127 private companies and sovereigns in the SNB General Collateral Basket.

The review was conducted using ratings and research from mostly internationally active NGOs or NGO coalitions (see table below). The sources and URLs can be found in a separate excel file.¹¹ Furthermore, the excel file also contains the detailed results of the assessment of climate and deforestation risks in the SNB General Collateral Basket (black text colour) as well as all non-assessed entities (brown text colour). For the entities where no information was found, the issuer could not be assessed and therefore the assessment remained blank.

Based on this analysis, the authors decided to deep dive the analysis of six case studies analysing one issuer or a group of issuers. These were selected as they were particularly interesting from a climate and/or deforestation point of view. Five cases show particularly climate and forest-unfriendly issuers, whereas one case study showcases a positive case.

⁹ <https://collateral.snb.ch/en/instruments>

¹⁰ <https://collateral.snb.ch/en/instruments>; accessed 26.10.22

¹¹ https://www.unsere-snb.ch/wp-content/uploads/2023/09/230216_Repo_SNB_FossilFuels_Deforestation_Analysis_hiddencolumnsforpublication.xlsx

Two-step method for analyzing climate and biodiversity/deforestation impacts and risks of issuers that are eligible within SNB GC Basket

Policy/Strategy Assessment	Research Organisation
Forest 500	Global Canopy
Forest&Finance Policy Assessments	Profundo
Oil&Gas Policy Tracker	Reclaim Finance
Coal Policy Tool	Reclaim Finance
InsureOurFuture	Reclaim Finance/ The Sunrise Project
Ranking climate and biodiversity metrics	ShareAction
Corporate Climate Responsibility Monitor 2022	NewClimateInstitute
Climate Change Performance Index (CCPI)	CCPI (Germanwatch e.V., NewClimate Institute, Climate Action Network International)
Finance Data	
Forest&Finance Financial Data	Profundo
Banking on Climate Chaos (BoCC)	Profundo
Financing and Investment GCEL	Urgewald/ Profundo
Financing Controversial FF project	Profundo
(2016-)2021 Fossil Fuel Financing as a % of Total Financing	Profundo
Financing and Investment GOGEL	Urgewald/ Profundo
Other data	
Hydrocarbon Production & Exploration (GCEL, GOGEL)	Urgewald
SNB General Collateral Basket	SNB

Table 1: Data used in the analysis of the SNB General Collateral Basket with regard to climate, biodiversity and deforestation risks.

Based on the data sources, the 127 issuers (sovereigns and corporates) were analysed. The initial analysis allowed to identify particularly relevant and interesting case studies – from an environmental point of view. The following 6 case studies were picked out as they were particularly interesting from a climate- and biodiversity/deforestation point of view. 5 cases are linked to negative environmental performance, whereas the case study on the Banque Postale indicates that there are also a few issuers with a relatively good environmental performance.

Canadian Banks

The SNB General Collateral Basket includes bonds from four Canadian banks. This is questionable in terms of climate risks, because they are among the most exposed to the fossil fuel industry worldwide. The largest Canadian bank,¹² the Royal Bank of Canada, has even increased the share of financing to the fossil industry in its total financing since signing the Paris Climate Agreement in 2015 and is now at around 13%.¹³ In 2022, it provided more than \$40 billion USD to the fossil fuel industry, the most of any bank globally¹⁴ and among the bank's highest level since signing the Paris Climate Agreement.¹⁵ Around seven billion U.S. dollars of this went directly to the development of new fossil resources.¹⁶

The percentage of financing to the fossil industry is even higher at the Bank of Nova

Scotia (also known as Scotiabank) and the Canadian Imperial Bank of Commerce (CIBC), the third and fifth largest Canadian¹⁷ banks. With 15% each, they are clearly the most exposed banks to the fossil fuel industry in the entire SNB General Collateral Basket and the fourth and fifth most exposed major banks worldwide.¹⁸ The fourth Canadian bank in the SNB General Collateral Basket, the Bank of Montreal, also has a very high exposure to the fossil fuel industry, at 10%. This trend is also reflected in the banks' respective policies which are seen as weak and lacking impact to address their fossil fuel financing. Thus, none of the Canadian banks in the SNB collateral basket has guidelines that significantly restrict financing to the fossil industry.¹⁹ The degree of climate-related financial risks due to the high exposure of Canadian banks to the fossil industry would require further investigation.

Shell

Shell was the seventh largest producer of oil and gas of all companies worldwide in 2021.²⁰ Research by the NGO Urgewald also shows that Shell has invested around 2.3 billion US dollars a year in the development of new fossil deposits since 2020 - the third highest figure of all oil and gas companies worldwide. As a result, the British company is, for example, the second most important producer of oil and gas from the deep sea.²¹

¹² <https://www.investopedia.com/terms/b/bigfivebanks.asp>; accessed 7.2.23

¹³ https://www.bankingonclimatechaos.org/wp-content/uploads/2023/05/Methodology-FAQ_Banking-on-Climate-Chaos-2023.pdf; accessed 1.9.23

¹⁴ <https://www.bankingonclimatechaos.org/>; accessed 5.9.23

¹⁵ In each of 2017, 2018, and 2021, RBC provided about the same amount to the fossil fuel industry. URL: <https://www.bankingonclimatechaos.org/>; accessed 5.9.23

¹⁶ https://www.bankingonclimatechaos.org/wp-content/uploads/2023/08/BOCC_2023_vF.pdf; page 48, accessed 5.9.23;

¹⁷ In absolute terms, Bank of Nova Scotia provided about \$29 billion to the fossil industry in 2022, and CIBC provided about \$18 billion. URL: <https://www.bankingonclimatechaos.org/>; accessed 5.9.23

¹⁸ https://www.bankingonclimatechaos.org/wp-content/uploads/2023/05/Methodology-FAQ_Banking-on-Climate-Chaos-2023.pdf; accessed 5.9.23

¹⁹ <https://coalpolicytool.org/> and <https://oilgaspolicytracker.org/>; accessed 7.2.23

²⁰ GOGEL. URL: <https://gogel.org/>; Update vom November 2022

²¹ GOGEL. URL: <https://gogel.org/>; Update vom November 2022

The company invested a total of around \$23 billion to \$27 billion in 2022 for its entire corporate activities.²² A breakdown of where this money is invested shows the company's planned development. Between 55% and 70% went into fossil infrastructure last year, according to the company's own statement, and only just 12% into so-called "renewables and energy solutions." It is striking that Shell invests about twice as much in marketing as in renewables (20-25%).²³ But that's not all: In an in-depth study for the year 2021, the US NGO Global Witness even comes to the conclusion that Shell has only invested 1.5% in the expansion of wind and solar power plants.²⁴ Because of this discrepancy between actions and words, the organisation filed a greenwashing complaint with the U.S. Securities and Exchange Commission (SEC) early this year. A spokeswoman for the organisation told the Guardian that "this business unit is fundamentally mislabeled, it has very

little in the way of renewables and investors could be lulled into thinking Shell is doing far more on renewables than it is."²⁵ Meanwhile, the carbon major has quietly shelved its plan to shrink its carbon footprint.²⁶

Sovereign bonds

In addition to corporate bonds, the SNB General Collateral Basket also lists government bonds of exclusively European countries. The fact that the SNB pays insufficient attention to climate policy factors in its assessment is shown by the fact that sovereign bonds from countries such as the Czech Republic, Belgium or Ireland are listed. The Climate Change Performance Index (CCPI)²⁷, a widely respected monitoring tool for tracking the climate change performance of countries, assigns these three countries to the second worst category "Low". In the case of Belgium, the CCPI experts point to the low share of renewable energy (9.8%).²⁸ They criticise the

CAPITAL ALLOCATION - NEXT PHASE 2021 DELIVERY AND OUTLOOK

	Net debt end-2021: \$53 billion	GROWTH PILLAR: THE FUTURE OF ENERGY			TRANSITION PILLAR: ENABLING OUR STRATEGY		UPSTREAM PILLAR: FUNDING OUR STRATEGY
		Shell	Marketing	Renewables and Energy Solutions	Integrated Gas	Chemicals and Products	Upstream
Cash capex	Base Cash Capex	\$19-22 billion	~\$3 billion	\$2-3 billion	~\$4 billion	\$4-5 billion	~\$8 billion
	2021 Actuals	\$20 billion ✓	\$5 billion		\$9 billion		\$6 billion
	2022 Outlook	Lower end of \$23-27 billion	~\$5-6 billion	~\$3 billion	\$4-5 billion	\$4-5 billion	~\$8 billion
	Beyond 2025		35-40%		30-40%		25-30%
Underlying Opex	Net debt > \$65 billion	< \$35 billion p.a.					
	2021 Actuals	\$35 billion ✓					
Divestments		\$4 billion p.a. on average					
	2021 Actuals	\$15 billion ✓					
CFFO	2021 Actuals			~10%	~40%		~50%
	Beyond 2025			~25%	~45%		~30%



Shell plc | February 3, 2022

2022 Cash capex split by business is rounded and will be managed within the overall 2022 range.

Figure 2: Shell's spending in different business areas in 2021 and 2022 (Outlook).

²² <https://www.follow-this.org/shell-still-not-reporting-investments-in-renewable-energy-around-90-in-fossil-fuels/>; accessed 7.2.23

²³ <https://www.follow-this.org/shell-still-not-reporting-investments-in-renewable-energy-around-90-in-fossil-fuels/>; accessed 7.2.23

²⁴ <https://www.globalwitness.org/en/campaigns/fossil-gas/shell-faces-groundbreaking-complaint-misleading-us-authorities-and-investors-its-energy-transition-efforts/>; accessed 7.2.23

²⁵ <https://www.theguardian.com/business/2023/feb/01/shell-renewable-energy-spending-sec-global-witness>; accessed 7.2.23

²⁶ <https://www.bloomberg.com/news/features/2023-08-31/shell-silently-abandoned-its-100-million-a-year-plan-to-offset-co2-emissions#xj4y7vzkg>; accessed 8.9.23

²⁷ <https://ccpi.org/>; accessed 7.2.23

²⁸ <https://ccpi.org/country/bel/>; accessed 7.2.23

same for the Czech Republic and also point out that its climate targets do not exceed EU commitments.²⁹

Finally, in the case of Ireland, the CCPI experts praise tighter and legally binding climate targets from 2022, but criticise the fact that their implementation has so far been delayed in many areas or has not taken place at all.³⁰ Finally, there is Norway, whose climate protection performance CCPI rates as "high", but notes that the country is among the 20 countries with the largest developed oil and gas reserves and even wants to increase gas production by 2030. According to CCPI experts, this is not compatible with the 1.5 degree target.³¹

Sovereign bonds from regions

In addition to bonds issued by governments, the SNB General Collateral Basket also includes bonds issued by regions (cantons, federal states and provinces). Outside Switzerland, 21 such regions are listed, six of them outside Western Europe. Although

these regions could not be systematically analysed for climate or deforestation risks in the present study (lack of data basis), those outside Western Europe are particularly striking from this point of view.

On the one hand, the small number raises questions about the selection criteria; on the other hand, the majority of the regions listed are heavily dependent on oil, gas or coal production. Of particular note is the Canadian province of Alberta, where much of Canada's oil is produced from tar sands and its economy is largely based on it. If Alberta, with its 4.6 million inhabitants, were an independent country, it would be the world's 6th largest oil producer behind China and ahead of Iran, the United Arab Emirates or Kuwait.³² Since Alberta has the fourth largest oil reserves in the world (9% of the world's reserves)³³, the province is also counting on their production in the future. In 2022, Alberta's former Energy and Environment

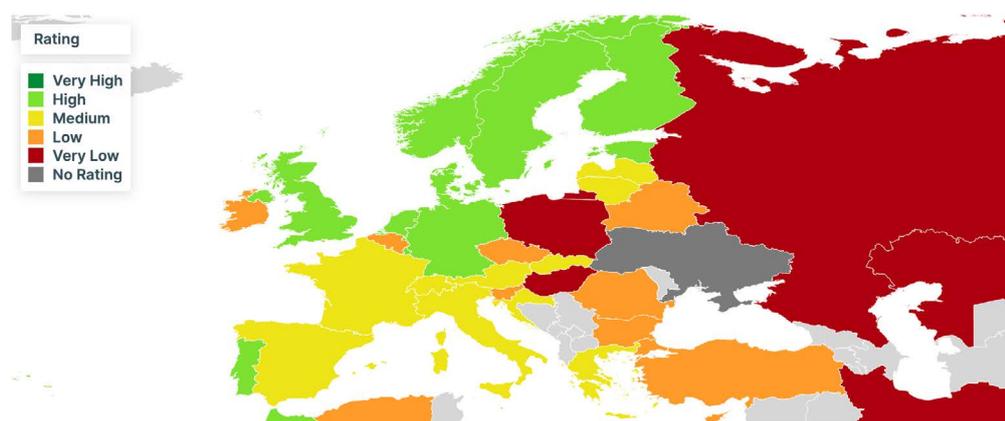


Figure 3: Graphical representation of the climate protection performance of European countries according to the organisation CCPI.

²⁹ <https://ccpi.org/country/cze/>; accessed 7.2.23

³⁰ <https://ccpi.org/country/irl/>; accessed 7.2.23

³¹ <https://ccpi.org/country/nor/>; accessed 7.2.23

³² Alberta produced 3.73 million barrels of oil per day in 2022, an all-time high. URL:<https://www.bnnbloomberg.ca/alberta-hits-record-oil-production-1.1880530>; accessed 7.2.23. This places Alberta sixth behind the United States (11.2 million b/d), Russia (10.1 million b/d), Saudi Arabia (9.3 million b/d), Iraq (4.1 million b/d), and China (4 million b/d), and ahead of Iran (3.1 million b/d), the United Arab Emirates (3.1 million b/d), Brazil (2.9 million b/d), Kuwait (2.5 million b/d), and Norway (1.8 million b/d). Source:<https://news.yahoo.com/top-20-oil-producing-countries-165001901.html>; accessed 7.2.23

³³ <https://open.alberta.ca/dataset/b0052a09-2d40-40bd-aafc-a4a2d7977d0e/resource/6c9acf93-8885-4bec-af78-141856e93580/download/energy-alberta-crude-oil-reserves-fact-sheet-2022-09.pdf>; accessed 7.2.23

Minister Sonya Savage announced that she would take legal action against the emission limits set by the central government.

She told the state broadcaster CBC: "The only way you can achieve the emissions reduction is to reduce production. Then that's a fundamental violation of provincial jurisdiction."³⁴

In addition to sovereign bonds of the province of Alberta, the SNB General Collateral Basket includes bonds from the Canadian provinces of British Columbia and Saskatchewan, the two most important oil and gas producing regions of the country behind Alberta, which also have significant reserves.³⁵ In all three provinces fossil fuel expansion projects such as the Coastal GasLink Pipeline or the Trans Mountain Pipeline Expansion are currently underway.³⁶

The fourth of a total of six non-European regions from which the SNB General Collateral Basket carries bonds is the Australian³⁷ province of Queensland, one of the two most important coal-producing regions in Australia, which holds around 14% of global reserves.³⁸ Queensland is largely dependent on coal production³⁹ and since 2019 the Indian coal giant Adani has been building one of the world's most controversial⁴⁰ coal mines here (Carmichael).

Interestingly, sovereign bonds of Queensland and Alberta have been ditched by the Swedish Riksbank from their foreign reserves portfolio in 2019, as these assets were related to "too high CO2 emissions".⁴¹

World's Largest Oil Reserves in 2021 (Billion Barrels)

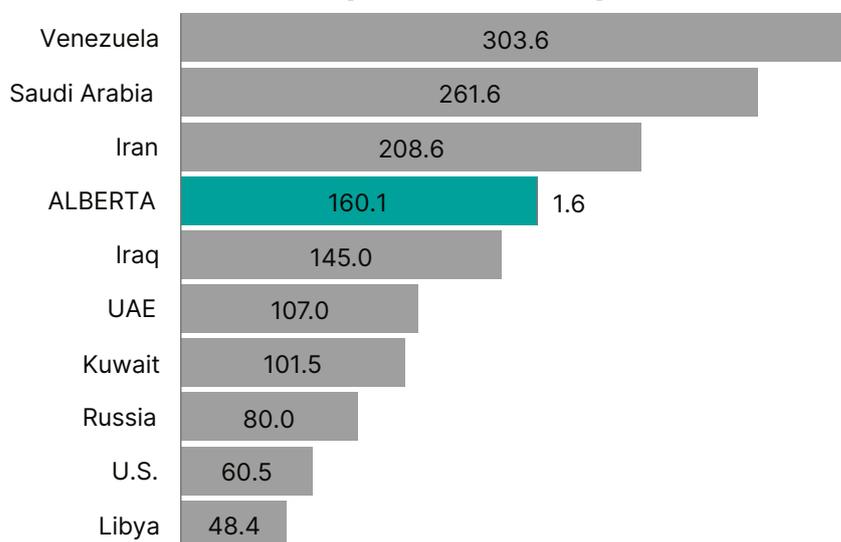


Figure 3: Graphical representation of the climate protection performance of European countries according to the organisation CCPI.

³⁴ <https://www.cbc.ca/news/canada/calgary/alberta-federal-government-oil-gas-emissions-constitution-1.6661484>; accessed 7.9.23

³⁵ <https://www.statista.com/statistics/484821/canadian-region-natural-gas-reserves/>; accessed 7.2.23

³⁶ <https://gogel.org/reputational-risk-projects>; accessed 18.9.23

³⁷ <https://www.nsenerybusiness.com/features/six-largest-coal-producing-countries/>; accessed 7.2.23

³⁸ <https://ourworldindata.org/grapher/coal-proved-reserves?tab=table>; accessed 7.2.23

³⁹ About 70% of the exports of the Australian province of Queensland are coal. URL: <https://www.treasury.qld.gov.au/queenslands-economy/economic-dashboard/>; https://s3.treasury.qld.gov.au/files/Queensland%E2%80%99s-Coal-Industry-and-Long-Term-Global-Coal-Demand_November-2022.pdf; https://www.qrc.org.au/wp-content/uploads/2021/12/Coal2021.pdf?__cf_chl_tk=KiXxniKIQPU_7MNON2jvWYC9fGFYS_xj2DS5BPArPBo-1675784397-0-gaNycGzNCmU; accessed 7.2.23

⁴⁰ See <https://www.ft.com/content/b30d88b0-56b5-43ff-9ec1-83aced10e46f>

⁴¹ <https://www.theguardian.com/environment/2019/nov/15/swedens-central-bank-dumps-australian-bonds-over-high-emissions>

Deforestation

460,000 square kilometres of tropical forests were cleared for commercial agriculture between 2013-2019, three-quarters of them illegally. This is almost equivalent to the area of Germany that has disappeared illegally for new cropland and pasture in just seven years. The lion's share goes to Brazil at 180,000 square kilometers.⁴² Because of the key role forests play in combating both climate heating and biodiversity loss, their protection is highlighted in the 2015⁴³ Paris Climate Agreement as well as in the outcome document of the 15th World Biodiversity Summit in December 2022.⁴⁴ Thus, the requirement in both conventions to align financial flows with their respective goals applies particularly to forest conservation. Due to the leverage effect of the SNB General Collateral Basket for the Swiss financial industry (and in turn its global significance), the SNB has an increased responsibility.

However, an analysis of the SNB General Collateral Basket in this regard shows that the Swiss National Bank does not pay attention to whether financial institutions take sufficient measures to reduce deforestation risks in their portfolios when selecting them. Many banks whose bonds are included in the SNB basket have no or completely insufficient guidelines in this regard. This is shown by studies of the research service provider Profundo⁴⁵ and the NGO Global Ca-

nopy.⁴⁶ Particularly poor ratings are given to the Canadian banks 'Bank of Nova Scotia' and 'Royal Bank of Canada', as well as the French 'BPCE', which are all represented in the SNB General Collateral Basket. They give only slightly better marks to the Spanish Santander and the British HSBC.

However, these inadequate guidelines have a particularly serious impact on the latter two, Santander and HSBC. This is because they do particularly strong business with companies that are exposed to increased deforestation risks due to their business model. Between 2016-2022 alone, the two banks provided more than US\$11 billion and almost US\$8 billion⁴⁷ respectively to companies that Profundo classifies as belonging to the 'tropical forest risk sector'⁴⁸.

The term deforestation risk becomes more concrete when looking at the companies financed by these two banks: more than US\$700 million and US\$630 million, respectively, were provided by Santander and HSBC since 2016 to the Brazilian beef company Marfrig, which is responsible for at least 1200 square kilometres of illegally deforested forest between 2009-2022, mainly in the Amazon. This is the conclusion of a research based on satellite images

⁴² Research by the US-based NGO Forest Trends .URL: https://www.forest-trends.org/wp-content/uploads/2021/05/Illicit-Harvest-Complicit-Goods_rev.pdf; accessed 24.2.23

⁴³ Paris Climate Accord. URL: https://treaties.un.org/doc/Treaties/2016/02/20160215%2006-03%20PM/Ch_XXVII-7-d.pdf; accessed 24.2.23

⁴⁴ Final Declaration of the 15th Conference of Parties of the Biodiversity Convention 2022. URL: <https://www.cbd.int/article/cop15-cbd-press-release-final-19dec2022>; accessed 24.2.23

⁴⁵ <https://forestsandfinance.org/bank-policies/>; accessed 16.2.23

⁴⁶ <https://forest500.org/rankings/financial-institutions>; accessed 16.2.23

⁴⁷ <https://forestsandfinance.org/bank-policies/>; accessed 16.2.23

⁴⁸ <https://forestsandfinance.org/methodology/>, accessed 16.2.23

by the 'Center for Climate Crime Analysis' (CCCA) on behalf of the Swiss NGO 'Society for Threatened Peoples' (GfbV) from 2022.⁴⁹ CCCA examined the suppliers of only two selected slaughterhouses of Marfrig. All deforestation in Marfrig's supply chains, on the other hand, has been investigated by the US research NGO 'Mighty Earth' and comes to more than 500 square kilometres in the years 2019-21 alone.⁵⁰ According to Mighty Earth, the same applies to the meat processor Minerva and even to double the extent for the world's largest slaughterhouse 'JBS'. Both banks financed Minerva with more than US\$ 70 million only in the last two years, Marfrig with about US\$ 50 million and HSBC

the largest amazon deforester, JBS, also with almost US\$ 50 million.⁵¹ That Santander is not reconsidering such business relationships is demonstrated by a new financing to JBS in September 2023 for more than US\$300 million, in which the Spanish bank participates in a coordinating role and as the only European bank.⁵²

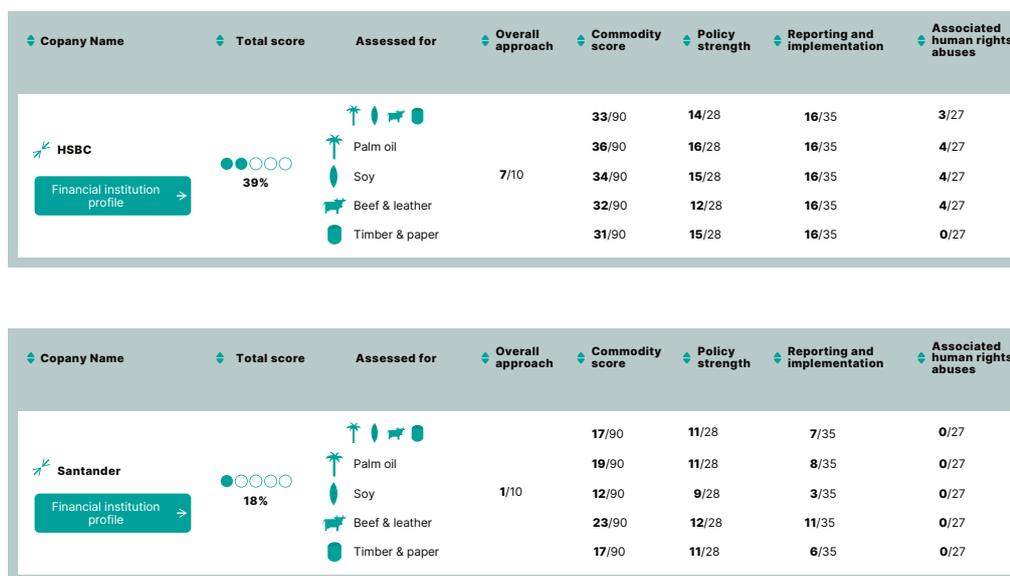


Figure 5: Evaluation of deforestation risk prevention policies of Spanish 'Santander' as well as UK 'HSBC' carried out 2022 by Global Canopy.⁵³

⁴⁹ <https://www.gfbv.ch/wp-content/uploads/report-ccca-def.pdf>; accessed 16.2.23

⁵⁰ <https://www.mightyearth.org/2021/04/28/mighty-earths-new-monitoring-data-reveals-deforestation-connected-to-soy-trader-and-meatpackers-in-brazil-more-than-doubled-over-two-year-period/>

⁵¹ Santander 2021 financing to Minerva (\$74.2 million), Marfrig (\$50.9 million) and JBS (\$47.6 million). URL: <https://forestsandfinance.org/data/>; accessed 16.2.23x

⁵² https://cms.santander.com.br/sites/WPS/documentos/arq-jbs-prospectopreliminar/23-08-26_032907_cra_jbs_176-emissao_prel.pdf; accessed 6.9.23

⁵³ Evaluation of the deforestation risk prevention guidelines of the Spanish bank Santander. URL: <https://forest500.org/rankings/financial-institutions?search=santander&>; accessed 16.2.23

Nestlé, Novartis and Greenwashing

The SNB General Collateral Basket also includes bonds issued by three largest listed Swiss companies: Nestlé, Roche and Novartis. Two of them, Nestlé and Novartis, have been assessed in detail by the German think tank 'New Climate Institute' in a large-scale study "Corporate Climate Responsibility Monitor".⁵⁴ Although both stand out for their progressive climate pledges - Nestlé wants to be climate neutral by 2050, Novartis even wants to have a carbon neutral supply chain by 2030 - the New Climate Institute's investigation shows major shortcomings in terms of transparency and integrity. For example, according to the authors, Novartis does not adequately report its Scope 3 emissions and relies primarily (65%) on the purchase of carbon offsets to achieve climate neutrality, rather than effectively reducing greenhouse gas emissions. Such a high proportion of offsets to achieve climate neutrality is potentially misleading on the one hand, according to

the study, and the integrity of this approach is highly controversial on the other.⁵⁵

Nestlé, on the other hand, excludes offsetting at the corporate level, but some of its brands already claim to be climate-neutral using offsetting. This is the conclusion reached by the authors of the aforementioned Corporate Climate Responsibility Monitor.⁵⁶ Several revelations have shown how flawed those undertaken carbon offsets by companies like Nestlé are. As a customer of the Swiss company South Pole, Nestlé has been able to compensate for some of its carbon emissions on paper, however, investigations by different outlets have shown that the flagship project of South Pole, the Kariba project in Zimbabwe, has not been able to hold its promises.⁵⁷ The company issued too many carbon credits. A recent report by SRF showed that the local population has

SOY TRADERS AND MEATPACKERS COMPARISON OF CLEARANCE IN THE AMAZON AND CERRADO BIOMES OF BRAZIL

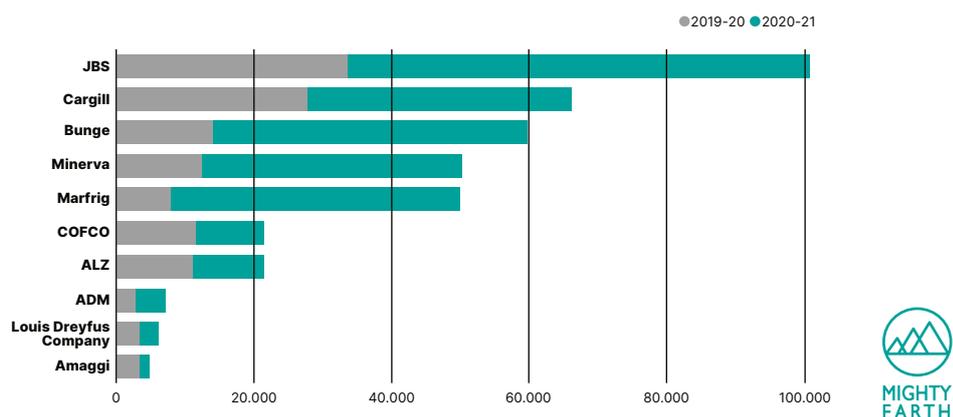


Figure 6: Result of a satellite-based analysis of the research NGO 'Mighty Earth' on deforestation in the Brazilian biomes 'Amazonas' and 'Cerrado'.⁵⁸

⁵⁴ <https://newclimate.org/resources/publications/corporate-climate-responsibility-monitor-2022>; accessed 7.2.23

⁵⁵ <https://newclimate.org/sites/default/files/2022-06/CorporateClimateResponsibilityMonitor2022.pdf>; accessed 7.2.23

⁵⁶ https://newclimate.org/sites/default/files/2023-04/NewClimate_CorporateClimateResponsibilityMonitor2023_Feb23.pdf; accessed 14.9.23

⁵⁷ <https://www.bloomberglines.com/english/faulty-credits-tarnish-south-poles-billion-dollar-carbon-offsets/>; accessed 14.9.23

⁵⁸ Analysis of the research NGO 'Mighty Earth' on deforestation in the Brazilian biomes 'Amazonas' and 'Cerrado'. URL: <https://www.mightyearth.org/2021/04/28/mighty-earths-new-monitoring-data-reveals-deforestation-connected-to-soy-trader-and-meatpackers-in-brazil-more-than-doubled-over-two-year-period/>; accessed 16.2.23

not profited either from the project.⁶⁰ Meanwhile Nestlé announced in June 2023 it will stop using carbon offsets and withdraw its pledge to make certain brands “carbon neutral”.⁶¹ It is yet to be seen how the company will achieve effective CO2 reductions in the coming years. There is reason for doubt in view of the fact that the authors of the aforementioned “Corporate Climate Responsibility Monitor” conclude in their analysis, on the one hand, “that the pledge to reduce emissions by 50% by 2030 translates to only 16-21% emission reductions compared to the company's emissions in 2019.”⁶² On the other hand, they cite Nestlé as a negative example of companies that disguise offsetting as so-called ‘insetting’.

They write:

“Nestlé, PepsiCo, JBS and Deutsche Post DHL already employ ‘insetting’ today or plan for it to be a significant component of future pledges to illegitimately claim that their emissions have been or will be offset.”⁶³

An example of a progressive issuer: Banque Postale (compared to other French Banks)

Banque Postale is one of the largest banks in France.⁶⁴ Unlike other major banks, it has had comprehensive guidelines in place since 2021 to prevent financial dealings with the fossil fuel industry. Not only does it exclude all financing to companies that are exposed to coal, but also those that provide equipment for new coal mines.⁶⁵ Banque Postale

is also leading the way in excluding oil and gas companies by excluding not only project financing but also financing to the more than 900 companies that are developing new oil and gas fields according to the Global Oil & Gas Exit List (developer).⁶⁶ Asked about La Banque Postale, Reclaim Finance, Friends of the Earth France and Oxfam France told Reuters that “if all banks were to copy and paste La Banque Postale's policy, the climate would be largely spared.”

Banque Postale's outstanding efforts in terms of climate, biodiversity and deforestation sustainability become all the more evident when compared with other major French banks.⁶⁷ For example, Banque Postale has provided less than \$0.4 billion to the fossil fuel industry since signing the Paris Climate Agreement, while BNP Paribas has provided it with more than \$165 billion over the same period, Société Générale with about \$98 billion, or BPCE with about \$51 billion. The financing provided by these banks to the fossil fuel industry in 2022 and for the expansion of this industry is of a comparable magnitude.⁶⁸

⁶⁰ <https://www.srf.ch/news/wirtschaft/co-kompensation-vorzeigeprojekt-von-klimagigant-south-pole-in-bedraengnis>

⁶¹ <https://www.just-food.com/news/nestle-to-walk-away-from-carbon-neutral-claims/?cf-vie>; accessed 11.9.23

⁶² Ibid; accessed 14.9.23, page 107

⁶³ Ibid; accessed 14.9.23, page 8

⁶⁴ <https://www.wallstreetmojo.com/top-banks-in-france/#h-7-la-banque-postale>, accessed 7.2.23

⁶⁵ <https://www.labanquepostale.com/responsabilite-societale-des-entreprises/nos-engagements/engagements-envers-la-planete.html>; accessed 7.2.23

⁶⁶ <https://www.labanquepostale.com/content/dam/lbp/documents/institutionnel/rse/politique-petrole-gaz-lbp-2021.pdf>; accessed 7.2.23

⁶⁷ In terms of total assets, Banque Postale is somewhat smaller than the other French banks in the SNB General Collateral Basket, but it is still among the 50 largest worldwide. Source: Refinitiv.

⁶⁸ <https://www.bankingonclimatechaos.org/>; accessed 6.9.23

Generally, the environmental analysis of SNB's collateral framework exemplifies SNB's failure and unwillingness to include the growing challenges posed by the climate and biodiversity crisis into its risk management and green its monetary policies. Ignoring these risks will threaten the economy and its orderly transition as well as the future of all of us on the long run and go against the Central Bank's mandate to ensure price and financial stability (Schoemaker, 2021). It can be concluded that the SNB does not explicitly include any environmental criteria in their instruction sheet on collateral eligible for SNB repos. Furthermore, the analysis of the assets that are in the SNB GC Basket showcases that the eligibility criteria do not factor in climate and biodiversity/deforestation related financial risks and are therefore not part of the general risk management.

Our analysis based on climate and biodiversity/deforestation ratings further showcases that there is neither an internalisation of environmental factors into the standard credit ratings (S&P, Moodys, etc.) as the SNB GC Basket comprises several very environmentally damaging issuers, which most certainly are also exposed to large physical, transition and litigation risks.

Thus, the SNB GC Basket has a clear "carbon-bias", which means that highly climate- and biodiversity-damaging issuers continue to receive favourable credit conditions (e.g. lower cost of capital). Thus, the SNB sends a clear market signal to the financial actors, indicating that negative environmental performance is not a financial risk (against scientific evidence) and thereby sustains the status

quo of the economy.

This is inconsistent with the central bank's own aim for maintaining the credit risk standards, such that the implementation of monetary policy is assured (also indicated by Monnin 2018), and contradicts the prudential mandate to minimise stability risks (see Gabor et al. 2018). There is no indication however that the SNB GC Basket explicitly includes solely the worst environmental performers, as there are also better performing entities that are included (e.g. Banque Postale, Danish sovereign bonds, etc.). This confirms the findings of the WWF SUSREG annual report and studies from Monnin (2018) as well as Dafermos et al. (2022) that have highlighted that central banks generally fail to integrate climate and biodiversity aspects. Including them would be a necessary step to address physical and transition risks. Also integrating climate and deforestation aspects would be in line with the Paris Agreement and more generally the SNB should lead by example and give the right incentives to banks asking for liquidity but also to issuers to reduce their carbon emission and negative environmental impacts in the future.

Additionally, the two-step climate and biodiversity/deforestation analysis of the SNB GC Basket provides a number of further insights:

- The composition of the SNB GC Basket seems to lack coherence, when comparing the criteria for eligible assets published by the SNB with the SNB GC Basket listing of all eligible assets. The SNB GC Basket seems thereby relatively small with its 2777 bonds from about 198 issuers – particularly when compared to collateral frameworks from other central banks such as the ECB.
- The sole haircut that the SNB applies is that they ask banks to cover their repo transactions with providing 110% of the value of the loan in eligible assets. There are no haircuts linked to the maturity of the asset, the issuer, or the credit rating of the issuer. Neither is the haircut applied to the climate or deforestation exposure as suggested by several academics (e.g. Vestergaard (2023), Dafermos et al. (2022)).

Last but not least, the Swiss National Bank needs to follow and support the country’s “Climate and Innovation” act (Klimaschutzgesetz KIG).⁶⁹ The new law, a parliamentarian compromise approved by the Swiss people in June 2023, states under article 1, para. c and article 9 that financial flows need to be directed towards a low-emission development that is resilient to climate change.

⁶⁹ <https://www.fedlex.admin.ch/eli/fga/2022/2403/de>; accessed 9.9.23

Recommendations

The ECB underwent a strategic review in 2020 and has included climate change and environmental destruction as one of their priorities, set up a climate strategy and has recently announced that it will start including climate aspects into the eligibility assessment of the assets that are included in the collateral baskets. This could serve as an inspiration for the SNB.

Since the SNB might start to use collateral operations on a larger scale in the future, the timing is right for the National Bank to revisit its collateral framework. Based on ECB's example and the climate- and biodiversity/deforestation analysis done in this paper, we recommend the SNB to:

- Review and adapt the eligibility criteria of assets that are accepted as collateral. The analysis of the SNB GC Basket showcases that climate and biodiversity/deforestation factors are not included in the analysis as financial risks. Good risk management needs to account for physical, transition and litigation risks. These environmental criteria should be publicly available, ensure coherence with international climate and biodiversity targets, the approved “Climate and Innovation” act of June 18th 2023 (Klimaschutzgesetz KIG)⁷⁰ and include findings and propositions from NGFS and recent scientific papers such as Vestergaard (2023) and Dafermos et al. (2022).
- The SNB's instruction sheet on collateral eligible for SNB repos should clearly define an exclusion list of issuing companies and countries/regions that are causing grave environmental damages. The following entities need to be excluded, as they are related to too high financial risks:
 - bonds from Shell (fossil fuel company),
 - bonds from Canadian banks (heavily invested in fossil fuels),
 - sovereign bonds that poorly perform in the CCPI,
 - and lastly, the four regional bonds from Canada that have also been excluded by the Swedish Riksbank but currently are present in the SNB GC Basket.
- Review the haircuts applied to eligible assets and add the climate and biodiversity/deforestation performance of the issuer as an additional factor to determine the haircut. These two options could be followed:
 - Assessment of the environmental performance of the issuers: Dafermos et al. (2022) highlight that central banks should use assessments of environmental performance (e.g. CO2 intensity, CO2 emissions, presence of transition plans, etc.) of issuers for the eligibility of assets and the haircuts applied in the collateral framework.
 - Implement scaling approach with haircuts reflecting environmental performance of the collateral: Vestergaard (2023) stresses the importance of not opting for binary indicators (included vs. excluded) but rather implementing a scale where dirty assets get higher haircuts in comparison to greener assets which get lower ones. Thereby the transition is incentivized and liquidity is not reduced.
- The SNB should collaborate with the NGFS and other central banks to develop an initial response to what can be considered a climate- and biodiversity-friendly collateral framework, particularly addressing the current difficulties to assess the environmental performance of sovereign bonds.
- The SNB must follow and actively support the Swiss Confederation's goal of aligning financial flows in a climate-friendly manner, according to the new Federal “Climate and Innovation” act (Klimaschutzgesetz KIG).⁷¹ The new law, a parliamentarian compromise approved by the Swiss people in June 2023, states under article 1, para. c and article 9 that financial flows need to be directed towards a low-emission development that is resilient to climate change.

⁷⁰ <https://www.fedlex.admin.ch/eli/fga/2022/2403/de>; accessed 9.9.23

⁷¹ Ibid.

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APAC:	Asia-Pacific
CCCA:	Center for Climate Crime Analysis
CCPI:	The Climate Change Performance Index
Collateral:	a Central Bank only lends money to the banking sector against guarantees, a form of insurance, referred to as collateral. A range of financial assets (primarily debt instruments) are defined as collateral.
Collateral Eligible:	if banks want to borrow money from the central bank, they need to put up some form of eligible collateral. As a consequence, the assets which are deemed eligible as collateral unavoidably become more valuable (relative to other non-eligible assets) to the banking system.
Collateral Framework:	The collateral framework determines how banks get access to central bank Money. It determines the criteria that assets need to fulfil in order to be pledged as 'guarantee' against central bank money. These assets are a form of security for the central bank, in case the bank is unable to repay its loan.
EMEA:	Europe, the Middle East and Africa
Haircuts:	Haircuts are a risk management tool that are intended to act as a safety cushion for central banks. A central bank applies a specific 'haircut' to each eligible asset in its collateral framework. Usually the credit quality (i.e. credit rating), the maturity (amount of years) and the coupon types are used as criteria for the haircuts.
HQLA:	Central banks determine in their collateral framework the eligibility criteria that an asset needs to fulfil in order to be considered a high quality liquid asset (HQLA). If an asset can be converted swiftly into cash with only a little or no loss of value, it can be considered to be HQLA.
NGFS:	The Network of Central Banks and Supervisors for Greening the Financial System
Repo transactions:	For its repo transactions, the SNB defined criteria (type of securities, currency of issue, eligible issuers, credit rating requirements, recognized ratings, eligible markets, issued volume and procedure) in the "instruction sheet on collateral eligible for SNB repos". ⁷²
Securities:	At a basic level, a security is a financial asset or instrument that has value and can be bought, sold, or traded.
SNB GC Basket:	Banks pledge collateral assets. The ones that are currently pledged can be found and downloaded on the website (collateral.snb.ch) and are called SNB General Collateral Basket (in short SNB GC Basket).
SNB Repos:	Repos are repurchase agreements. In accordance with art. 9 para.1 (e) NBA, the SNB may enter into credit transactions with banks and other financial market participants, on condition that sufficient collateral is provided for the loans.
Swap lines:	Swap lines are agreements between central banks to exchange their countries' currencies with one another. They keep a supply of currency available to trade with the other central bank at the going exchange rate. Banks use swap lines for overnight and short-term lending only.

⁷² https://www.snb.ch/en/mmr/reference/repo_mb26/source/repo_mb26.en.pdf