

Swiss Negative Emissions Fund - paying for Net Zero

E4S White Paper 2022-2 (March 2022)

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EXECUTIVE SUMMARY

In this paper, we propose setting up a fund to finance the removal of all Swiss territorial GHG (greenhouse gas) emissions from 2030. The fund will accelerate decarbonization and help reach annual net zero emissions around 2040, and then progressively remove all past emissions emitted from 2030. The fund will be entirely funded by emitters, based on the “polluter pays” principle, with no taxpayer money involved. The background information and analysis can be found in our December 2021 E4S White Paper [“Carbon removal, net zero, and implications for Switzerland”](#).

The proposed **Swiss Negative Emissions Fund** is a public fund, starting in 2025 and reaching full scale in 2030, with an obligation for all Swiss territorial emitters to pay for removal of “their” CO₂. The compulsory payment into the fund replaces the existing CO₂ levy and ETS, and is due each quarter. Payments can be aggregated at the wholesale, retail or importer level; individuals generally do not contribute directly. The removal of CO₂ from the atmosphere requires the fund to build and scale a diversified portfolio of suitable biological and geological projects, which takes time. As initially the emissions are high and removals only starting, the fund will first accumulate reserves, which will be drawn down later as removal projects develop, and fewer remaining emitters continue paying into the fund.

We model the fund with two scenarios: the baseline adapted from Switzerland’s Long-Term Climate Strategy, and a more ambitious climate policy. Our model suggests reaching net zero and respecting the 1.5°C budget would be efficient and affordable,

economy-wide. We also propose a pilot fund at 1% scale of the full fund, to test all assumptions, allowing the Swiss Negative Emissions Fund to start with real-life validation.

As we publish this paper, the war in Ukraine gives new urgency to energy security, and requires asking which regimes and wars are financed by European oil and gas imports. We hope this much-needed debate will make defending continued fossil fuel use morally unacceptable and accelerate the deep decarbonization.

Here are the key messages policymakers and organizational leaders should keep in mind:

1. After 51.6% of Swiss voters rejected the 2021 CO₂ Act, the Swiss climate policy is even less on track to deliver the Swiss commitments under the Paris Agreement. The modest territorial reduction of 37.5% relative to 1990 emissions, corresponding to the Swiss NDC (Nationally Determined Contribution - the country commitment under the Paris Agreement, as submitted in December 2020), is far below the EU commitment (-55%).
2. The worldwide remaining 1.5°C carbon budget will be exhausted around 2030. From the perspective of historical responsibility, and given its capabilities, **Switzerland must quickly reach its own territorial net zero, remove any remaining emissions from 2030, and help poorer countries, financially and with knowledge transfer, reach their own deep decarbonization.** This help should not be counted in the Swiss net zero, via Article 6 of the Paris

Agreement or otherwise.

3. Carbon removal, including carbon capture and storage (CCS) and negative emissions technologies (NET), is an important part of Swiss climate action, even if limited to around 10% of 2020 territorial emissions, or 5 Mt CO₂ per year. The carbon removal potential implicitly defines how much greenhouse gas emissions must decrease, and sets an objective, “technical” as opposed to “political” carbon price, creating a strong signal to accelerate climate action. **Timely, properly focused action can deliver significant biodiversity co-benefits, engage the local population, and increase stakeholder acceptance.**
4. **The Swiss Negative Emissions Fund will invest in a portfolio of carbon removal projects in Switzerland**, building essential knowledge, monitoring, governance, infrastructure, public awareness and acceptance, and delivering significant biodiversity co-benefits in Switzerland. Its project portfolio will develop the removal potential of 5 Mt CO₂ per year, and will include both biological projects (wetlands and other ecosystem restoration, reforestation, biochar and soil carbon restoration) and geological projects.
5. The Swiss Negative Emissions Fund could **help Switzerland reach net zero around 2040 on an annual basis**, a full decade faster than current objectives, and eventually remove all GHG emissions in excess of the 1.5°C budget from 2030 onwards.
6. More ambitious decarbonization, as expected, reduces both the annual payments into the fund and their duration, as there is less CO₂ to be removed. It also reduces the removal cost per ton, leading to a much lower total cost of decarbonizing society.
7. As the **fund efficiently delivers lowest-cost carbon removal**, the estimated resulting CO₂ price of CHF 240-290 is too low to incentivize the rapid decarbonization of Swiss society. Other policy instruments are needed, especially regulation, public investment, and voluntary action. It is essential that all sectors deeply decarbonize and pay to remove their remaining emissions - exceptions would shift too much burden on the remaining sectors.
8. **The fund proposal is novel in terms of ambition, implementation and impact.** Conceptually it builds on a long tradition of proven concepts, similar to many existing or proposed “polluter pays” initiatives. Financially it works like a fully capitalized pension fund. The novelty lies in combining the remaining carbon budget, incentives to decarbonize rapidly, operating principles to improve local biodiversity and resilience of food production, and a broad engagement of society.
9. Additionally, we propose to **validate the full-scale fund by starting a pilot fund in 2022**, on a voluntary basis, with several climate-leading organizations, public and private, reaching around 1% of volume of the future national fund. All mission-critical aspects can be tested: financing and financial modeling, project selection and monitoring, governance, knowledge transfer, as well as outreach, awareness and acceptance building.
10. Properly designed, the **Swiss Negative Emissions Fund can unblock today's climate action deadlock, reach net zero funded by polluters, build acceptance**, develop Swiss moral and knowledge leadership, and within months start delivering significant benefits for Swiss ecosystems and the population.