

# Swiss Negative Emissions Fund - summary of the pilot project

## 1. Introduction - purpose of SNEF and the Pilot Negative Emissions Fund

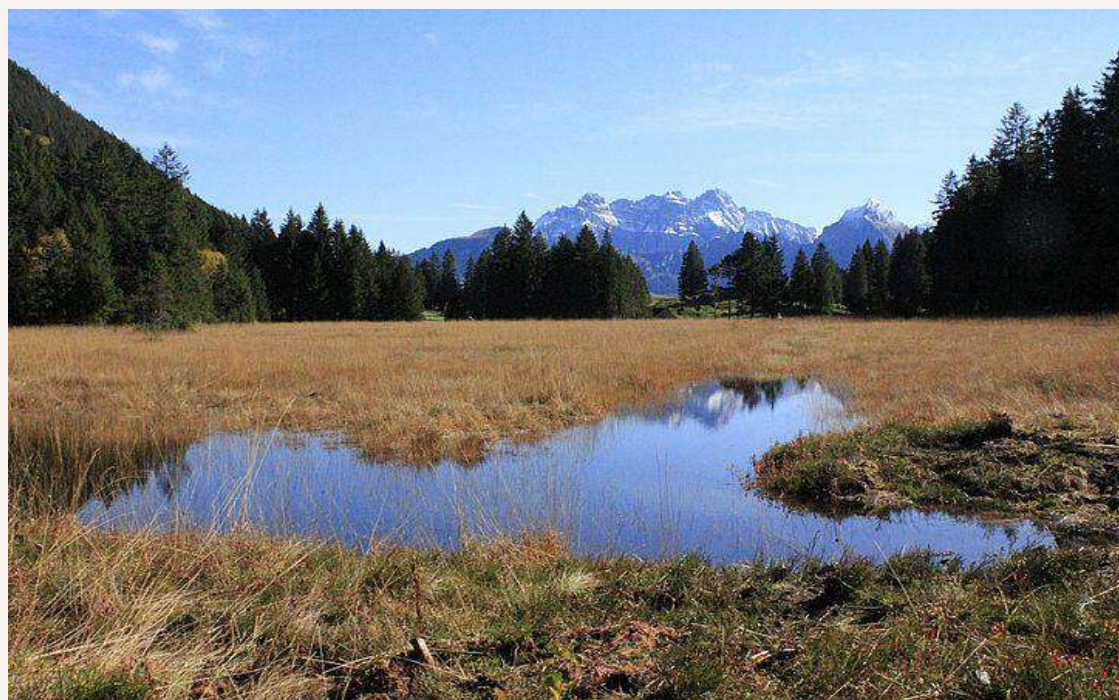
In our papers [Carbon removal, net zero, and implications for Switzerland](#) (12-2021) and [Swiss Negative Emissions Fund – paying for Net Zero](#) (03-2022), we make the case for the importance of negative emissions in the Swiss climate policy, as an essential complement to other forms of climate action, such as sufficiency, efficiency, and clean energy, together needing to decarbonize Swiss society 90% by 2050 to be on track to limit warming to 1.5°C. Negative emissions could both accelerate the 90% decarbonization, and deliver the remaining 10% - if properly designed, focusing on biodiversity and societal co-benefits, and funded by today's emitters using the "polluter pays" principle. We further propose, model, and validate the Swiss Negative Emissions Fund (SNEF).

The SNEF is a public fund, entirely emitter-funded, starting in 2030 or earlier (significantly reducing costs) and progressively reaching 100% of all territorial emissions in 5 years, which builds and governs a balanced portfolio of negative emissions projects in Switzerland, for the benefit of society and biodiversity. It replaces much of current Swiss climate policy, and requires a new CO<sub>2</sub> law. The approach is highly efficient, leading to a relatively low CO<sub>2</sub> price, which we model in the range of CHF 250-300 per ton, stable for the lifetime of the fund. Participants start by paying to remove a small portion of their emissions initially, increasing until all are covered. Faster decarbonization with a more ambitious climate policy is much more affordable, significantly reducing both risks and costs.

The fund is designed to work with additional policy instruments such as restricting imports of fossil fuels, and public investment in social cushioning measures.

Not only is the proposed approach effective as it reaches Swiss net zero around 2040, fair as 100% polluter-funded, and very affordable, but also an opportunity to build a societal agreement and unblock Swiss climate policy following the CO<sub>2</sub> law vote in June 2021, and re-establish Swiss climate leadership.

To validate the SNEF and accelerate its implementation in the Swiss law, we propose a voluntary pilot fund, at around 1% of the scale of the full Swiss fund - and are currently seeking engaged organizations to join.



Renaturing wetlands protects biodiversity and creates local jobs - such projects would be included in the pilot NEF

Photo credit: WSL

The pilot fund will deliver a range of benefits for participating organizations: faster and deeper decarbonization, higher employee engagement, significant knowledge and capacity building, giving it a head start of at least 5 years compared to non-participants, and public signaling of its climate leadership

Beyond participating organizations, the pilot fund will also benefit society, by accelerating the development of high-quality negative emission projects with biodiversity and societal co-benefits (including developing best-practice governance and monitoring), broad engagement of all main Swiss stakeholders, and validating the SNEF to facilitate the needed societal consensus and help pass the law.

## 2. Brief outline of the proposed implementation

### Organizing principles of the fund [this section is adapted from the [SNEF paper](#)]

- Governance: the pilot fund is a foundation with three independent panels, accountable to the foundation board. Each panel includes one or more board members with outside experts:
  - **Membership panel** to supervise contributions of participants in proportion to their current GHG emissions, and ensure successful collaboration with member organizations
  - **Asset management panel** to supervise placement of funds, until needed for projects, to generate the required returns without interfering with the fund's climate and biodiversity objectives
  - **Project selection and monitoring panel**, which would build a diversified portfolio including both proven and novel negative emission projects, and monitor to ensure persistent climate, biodiversity and societal benefits of such projects
- Emissions:
  - All territorial GHG emissions are covered; methane is converted to CO<sub>2</sub>e using GWP\*
  - International flights are included (using the radiative forcing multiplier of 3, i.e. 3 times the emitted CO<sub>2</sub>, as [recommended by SCNAT](#))
  - All negative emissions projects will be monitored and independently audited; suitable project certification methods will be developed in collaboration with federal offices (FOEN, SFOE)
- Payments:
  - Emissions are declared by each member at the end of each quarter and paid within 30 days after declaration. Declarations are independently audited for consistency of methodology.
  - The CO<sub>2</sub>e price will be CHF 250 per ton when the fund starts, and be revised as needed.
- Progressive inclusion of CO<sub>2</sub> emissions; member organizations jointly choose Option 1 or 2:
  - To allow members time to prepare, and reduce emissions as far as possible, there will be a transition period of 5 years, during which the percentage of emissions subject to payment to the fund will linearly increase every quarter, from 0 to 100%. For example, during the first quarter of the transition, only 5% of effective emissions will require payment, 10% in the second quarter, and so on, reaching 95% in the 19th and 100% from the 20th quarter.
  - Option 1: On a given date, the same percentage of emissions subject to payment applies to all members; late joiners will align with other members. Benefits: motivation to join early, clearer communication, faster results of the pilot fund which can be used for the national fund.
  - Option 2: The ramp-up percentage is calculated by quarter from date of joining the pilot fund, for each member separately. Benefit: late joiners are not discouraged.

**How to build a diversified negative emissions project portfolio?** The project selection will balance:

- Diversification: balance the need to gain in-depth experience with the need to cover multiple carbon removal methods (define min and max number of project types and projects)

- Time horizon: balance the low cost and short-term removal potential with the high(er) cost and longer-term potential (define min-max % fund allocation per time horizon)
- Carbon removal vs. co-benefits: geological projects may include tradeoffs between CO<sub>2</sub> removed and biodiversity impact (define weight of co-benefits, elimination criteria for projects with negative effects)
- Predictability vs. learning potential: balance projects with low uncertainty with projects with learning potential for teaching and research (define min level of sequestration and cost predictability for acceptance of projects)
- Geological storage: if possible, use the pilot fund to open and validate 1-2 geological storage sites in Switzerland, as a much-needed basis for any meaningful BECCS (negative emissions) and also CCS (emission reductions) from 2035-40

Given the small scale of the pilot fund at 1% of SNEF or ca. 50 kt CO<sub>2</sub> p.a., carbon removal projects can be developed quickly, limited only by money and efforts invested. Participating organizations will pay the full price on a growing percentage of their emissions. The time to select and implement negative emission projects can be expected to be several months. This setup will lead to rapid results, which is key for preparing the full-scale SNEF and quickly delivering benefits for participating organizations and the broader society.

### 3. Participating organizations - Benefits and commitments

The Pilot Negative Emissions Fund is seeking three types of support (separate or combined):

- [Ideal support] Organizations which find the concept of the fund valuable and **commit to promoting, supporting, sharing ideas, communicating, contacting** potential members etc.
- [Seed funding] Organizations or individuals **supporting the establishment of the fund, especially developing certification methods, standards** (permanence, biodiversity impact, etc.), and best practices, **as well as supporting broad stakeholder engagement** across the Swiss society (3-year commitment)
- [Operational funding] Organizations **committing to reaching net zero by rapidly decarbonizing, and investing in the pilot fund to provide negative emissions** corresponding to their residual emissions (5+ year commitment)

Each supporting organization will benefit from:

- A. High visibility and public signaling of its climate leadership, as it will be visible in the broad outreach and stakeholder engagement program, including citizens, academia, public administration, civil society, media, and business.
- B. Significant knowledge and capacity building giving it a head start, in all relevant area of decarbonization, negative emissions, societal transformation, via direct involvement of its employees.
- C. Helping Swiss society get ready for its urgently needed net zero transition, by supporting the development of knowledge, methods, standards, and generally building capacity and improving resilience in all participating communities; as well as reaching out and building a shared awareness among stakeholders.

Additionally, organizations on the rapid net zero pathway will benefit from:

- D. Faster and deeper decarbonization, improving organizational resilience (the ability to face future disruption), reducing financial and physical risks, and directly saving money: funding negative emissions is expensive, but by decarbonizing rapidly, an organization can save more than it invests in the pilot fund.
- E. The key to decarbonization is a broad engagement of all its employees, in itself a benefit, which can be supported by the fund, especially by sharing best practices among participating organizations.

## Commitments of participating organizations

To ensure these benefits are realized, each organization commits to the following:

1. To support rapid decarbonization:
  - a. Publish and regularly update a credible net zero plan, focusing on sufficiency, efficiency, and clean energy
  - b. Continuously monitor own territorial and flight emissions; report and pay quarterly to the pilot fund
  - c. Personally and regularly engage all its employees, including regular internal communication, as well as climate and biodiversity education
  - d. Create internal economic incentives at the lowest level of granularity (examples: departments or teams pay for negative emissions related to flights, individuals for those related to commuting and food)
  - e. Regularly share best practices with other participating organizations and use this learning to decarbonize faster
  - f. Help engage all stakeholders of society about decarbonization and negative emission projects with biodiversity and societal co-benefits, including a broader climate communication
  
2. To support the establishment of the fund:
  - a. Fund the development of certification methods, standards, and best practices
  - b. Fund and support communication and outreach
  - c. Contribute to funding the fund team and governance costs

If interested, we'd be happy to help you estimate likely payments to the fund, depending on your organization's emissions, decarbonization pathways, possible internal engagement actions, and outreach focus.

For best-practice governance, we plan to separate the following:

- Financial governance of the fund from project certification governance (CO<sub>2</sub> flows, permanence, biodiversity impact, societal benefits)
- Institutional communication (roles, benefits, and leverage effects of negative emissions, feasibility of SNEF) from project communication (local biodiversity and societal impact)

While the scientific principles behind the fund are well established (see Introduction), the specific modalities of implementation will be decided jointly by participating organizations. We welcome any Swiss emitter >10 kt CO<sub>2</sub>e p.a., genuinely committed to climate action (no size limit for supporting the establishment of the fund).

Please join the dialogue, even if still unsure if the Pilot Negative Emissions Fund is for you.

## 4. Contact us to go further

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