## Create and utilize a market of Negative Emissions to achieve Net Zero.

Switzerland neutralizes its consumption based greenhouse gas emissions. The emissions from the production and utilization of all imported goods/energy carriers into Switzerland must be negatively compensated by 1% in 2022. The fraction of total emissions for which negative emissions have to be bought increases to 2% in 2026, 4% in 2028, 8% in 2030, 16% in 2032, 32% in 2034, 64% in 2036, 85% in 2038 and remains at 100% in/after 2040, thereby mimicking a learning curve. The importers pay providers to remove this percentage of CO<sub>2</sub> out of the atmosphere and store it for the long term. This creates a market that sets a real CO<sub>2</sub> price, boosts innovation, and reduces the demand for greenhouse gas intensive goods and services. It also ensures that CO<sub>2</sub> will be offset in the long term and that net zero will be reached in 2040, which is in line with the 2015 Paris Agreement. An economic incentive is also created to either mitigate, or not to mitigate and, in turn, pay for the disposal of the resulting emissions. Purchases of negative emissions are possible in Switzerland or abroad and can be credited in an equivalent manner. Independently of the storage location, only negative emission technologies are permitted in which CO<sub>2</sub> storage of more than 90% for at least 100 years is expected to be virtually certain. This excludes simple afforestation or forest preservation, well-established methods to artificially offset CO<sub>2</sub> in 2020. Methane and nitrous oxide emissions have to be compensated with negative CO2 emissions, with an identical annual increase in percentage. The amount of CO2 to compensate is calculated using  $CO_2$  equivalents (e.g. 1 t methane emitted = 34 t CO2 to be negatively compensated, 1t nitrous oxide =  $298 \text{ t } \text{CO}_2$ ). A product specific cross-border adjustment should be introduced for imports and exports of greenhouse gas intensive products. It would be paid at importing from and received at exporting to countries with less strict CO<sub>2</sub> policies.

Version 1/2020, Contact: Cyril Brunner, cyril.brunner@env.ethz.ch.