

Swiss policies and measures related to CO2 emissions reduction

Emissions of carbon dioxide (CO2)

In 2003, national gross CO2 emissions amounted to 44.7 million tonnes or 6.05 tonnes per capita. Nearly three quarters of these emissions came from transport (34%) and small-scale combustion (26% residential, 12% commercial/institutional). Industry accounts for 20% of CO2 emissions (17% energy-related, 4% non-energy-related). Other sources are of minor importance.

Recent emission trends

The 2003 level of CO2 emissions (44.7 million tonnes) was very close to the 1990 value (44.4 million tonnes). In the intervening period, emissions fluctuated around this level within a margin of $\pm 4\%$. The fact that emissions remained fairly stable can be seen as the result of a combination of two factors: policies/measures influencing Greenhouse gas (GHG) emissions and weak economic development.

CO2 contributed the largest share of emissions, accounting for 85.6% of the total in 2003. The largest contributions are from the transport sector (30%) and from the residential sector (23%).

Swiss Federal Constitution

The key provisions with regard to air pollution control are :

- Article 74 Establishes the foundation for Switzerland's environmental protection policy Precautionary principle Polluter-pays principle Delegation of implementation to the cantons
- Article 2 Principle of sustainable development Principle of preserving natural resources
- Article 73 Sustainability

The principles and instruments of Swiss environmental policy are formulated in the **Federal Act on the Protection of the Environment**, adopted in 1985 and revised in 1995 and 2003 (see below). This modern legislative framework has been supplemented by the **Act on the Reduction of CO2 Emissions** (see below), which was adopted in 1999. These two laws provide the basis for the Swiss national policy on climate change.

Both pieces of legislation have a direct bearing on compliance with commitments under the Kyoto Protocol. The CO2 Act covers about 75% of Switzerland's GHG emissions. The Environmental Protection Act provides for measures to mitigate

emissions from waste disposal (CH₄), synthetic gases (HFC, PFC, SF₆) and GHG precursors.

Fiscal incentives are recognized as an essential instrument for promoting the efficient use of resources. In the long run, energy and climate policy are guided by the vision of the “2000-watt society”, which corresponds to per capita emissions of one tonne of CO₂ per year.

Climate policy in Switzerland is incorporated into other sectoral policies that existed well before climate change became an important issue. All policies are embedded in a general approach of sustainable development.

Federal Act on the Protection of the Environment (LPE) (revised in 1995 and 2003)

This Act focuses on the precautionary and the polluter-pays principle. Moreover, a number of ordinances (e.g. on air pollution control, waste disposal, and hazardous substances) are relevant to climate change and provide a basis for reducing emissions.

In addition to the ongoing tightening of emission standards (especially in the transport sector), incentive taxes on NMVOCs and on the sulphur content of light fuel oil are designed to reduce emissions from industry and households.

The key provisions with regard to air pollution control are :

Articles 11-12	Limitation of emissions
Articles 13-14	Impact thresholds
Articles 16-18	Improvements
Articles 35a-35c	Incentive taxes
Articles 36ff.	Implementation

Federal Act on the Reduction of CO₂ Emissions

The CO₂ Act establishes a broad framework for measures designed to reduce CO₂ emissions and is the core element of Swiss climate policy. It covers energy-related CO₂ emissions and provides the principal legal basis for compliance with Switzerland’s Kyoto commitments. The CO₂ Act stipulates an overall reduction target of 10% by 2010 compared to 1990 levels. Apart from this overall reduction target, emissions from heating/process fuels are to be lowered by 15% and emissions from transport fuels by 8%.

In the first stage of implementation of the CO₂ Act, priority was to be given to voluntary action to lower fossil fuel consumption. However, as periodically updated energy projections indicated in 2004 that voluntary and other CO₂-related measures would not be sufficient to meet the reduction target in 2010, the Federal Council is authorized to resort to **an incentive tax**.

The tax rates depend on the shortfalls in meeting the sectoral targets and require the approval of Parliament. Net revenues are to be fully redistributed to the population on

a per-capita basis and to businesses as a percentage of wages paid. Exemption from the tax will be granted to energy-intensive and high-emitting industries which have entered into legally binding CO₂ reduction commitments.

The CO₂ Act also allows for the use of **flexible mechanisms** supplemental to domestic action. An ordinance relating to the requirements for CDM/JI projects, certificates and supplementarity was adopted by the Federal Council in June 2005, and the National Registry has implemented and operational it by mid-2006.

The Swiss Oil Association, supported by other business and transport associations, proposed the “**climate cent**” as an additional voluntary measure to meet the CO₂ target in the transport sector. Retailers are to levy a surcharge of CHF 0.01–0.02 per litre on transport fuels and pay the revenues into a fund for the financing of mitigation projects within Switzerland and project-based flexible mechanisms abroad. Funds will be managed by the newly established non-governmental “Climate cent” foundation, which is likely to become the major user of the flexible mechanisms.

Having assessed several options, the Federal Council decided on 23 March 2005 to **introduce a CO₂ tax**, to request Parliament’s approval of a tax rate of CHF 35 per tonne of CO₂ **on heating/process fuels**, and to accept the Swiss Oil Association’s proposal for a “**climate cent**” **to be levied on transport fuels**, as a provisional voluntary measure until 2007.

Federal Energy Act (1998)

This Act and the associated ordinances provide the legal framework for federal energy policy. This policy calls for extensive cooperation with the private sector, reaffirms the principle of subsidiarity for state intervention and gives priority to voluntary measures. In addition, the division of responsibilities between the federal government and the cantons is regulated, particularly with regard to energy requirements for buildings and the preparation of the cantons’ own support programmes.

The federal government can provide funds for cantons that have established programmes promoting energy efficiency and renewable forms of energy. In the context of voluntary agreements, the tasks of coordination, evaluation, monitoring and reporting are delegated to private energy agencies.

Ordinance on Air Pollution Control (1985, revisions 1992, 1997, 1999 and 2003)

This ordinance contains precautionary emission limits and air quality standards designed to protect public health. Precautionary emission limits have to be tightened if air quality standards are not met either locally or regionally. Specific new measures have been introduced to reduce VOC emissions from solvents and to promote low-sulphur fuel through an incentive tax. An emission-related heavy vehicle fee has also been implemented. Policies implemented earlier have been brought into line with the EU approach of tightening air pollution limits and exhaust emission limits for all motor vehicles.

SwissEnergy programme (2001–2010), which followed the Energy 2000 programme (1991–2000)

The most important energy efficiency measures are implemented under this programme. Between 1991 and 2000, CHF 560 million was spent on various sub-programmes addressing the most important economic sectors. From 2001, less funding was available for the SwissEnergy Programme: the budget was reduced from CHF 75 million in 2001 to CHF 49 million in 2004, and CHF 45 million as of 2005.

SwissEnergy uses three kinds of measures that complement one another: first and foremost, in accordance with the provisions of the Energy Act and CO₂ Act, it supports voluntary measures based on service agreements awarded to non-governmental agencies, and concludes voluntary agreements on energy reduction targets with companies and sectors. Alongside voluntary measures, energy and building legislation calls for more comprehensive promotional and mandatory measures. These include regulations governing the energy consumption of motor vehicles, appliances and buildings.

Key measures that have been implemented under the SwissEnergy programme since 2001 include :

- the conclusion of a service agreement with the Energy Agency for the Economy (EAEC); the privately run EAEC helps companies to identify in-house measures for the reduction of energy consumption and CO₂ emissions,
- the introduction of an energy efficiency label for cars, enhancing transparency for consumers selecting or buying a new car,
- the introduction of an energy efficiency label for household appliances,
- the launching of a new quality assurance system to improve the certification procedure for the MINERGIE label, which is awarded to buildings that use only a third of the total energy consumed by an average existing building,
- services offered to large-scale consumers with the aim of reducing energy consumption in public buildings by at least 10%,
- further promotion of the “Energy City” label (more than 1 in 4 Swiss residents already live in an “Energy City”), a model which cities in Germany and Austria have started to work with as well,
- creation of a network involving several private agencies and competence centres for the promotion of renewable energy and energy efficiency (rational use of energy).

In February 2002, a target agreement was reached with the Association of Swiss Automobile Importers (“auto-schweiz”) to reduce the fuel consumption of new motor cars by 24% between 2000 and 2008. SwissEnergy is supporting this effort with a compulsory energy label for new motor vehicles introduced in 2003, and through a special campaign. As a result, the average fuel consumption of new cars decreased in 2004 by 6.9% compared to the year 2000 and now lies for the second year below 8 litres/100 km. However, the agreed mid-term target of 7.4 litres/100 km was not met, despite the increase in diesel vehicles and technological improvements.

In 2004, SwissEnergy achieved total sustainable savings estimated at around 6% (50 PJ) of Switzerland’s final energy consumption (3% through voluntary measures alone). The efficiency of the programme is being continually increased by

concentrating limited financial resources on measures with a high energy-saving potential.

The combined long-term impact (1990–2004) of SwissEnergy and the former Energy 2000 programme on Switzerland's CO₂ emissions rose in 2004 by around 10% to 2.8 million tonnes (including 1.6 million tonnes through voluntary measures). In the absence of these programmes, CO₂ emissions would now be at least 7% higher. Important planned measures include a mineral oil tax reduction on biofuels and natural gas, and a bonus/penalty system promoting energy efficiency for new cars.