SwissEnergy: a programme with impact
5th Annual Report of SwissEnergy 2005/2006

swiss energy

SwissEnergy 2001 to 2005: successful first stage

The SwissEnergy programme, which is based on partnerships in the areas of energy efficiency and renewable energy, can look back on a successful first stage: between 2001 and 2005, the impact of the measures and projects implemented has increased continuously. Without the direct and indirect influence of the SwissEnergy programme, today's overall energy consumption in Switzerland would now be more than six per cent higher.

The SwissEnergy programme directly influences the development of energy and climate policies in Switzerland by means of concrete projects and measures. The programme network is made up of cantonal and municipal authorities, industrial, consumer and environmental associations and public and private-sector agencies.

On the basis of the Energy Act and the CO_2 Act, the SwissEnergy programme management is aiming to reach the following goals by 2010:

- Reduction of CO_2 emissions by 10 per cent compared to the 1990 level
- Limiting the increase in electricity consumption to a maximum of 5 per cent compared to the 2000 level
- Doubling the proportion of new renewable forms of energy used in electricity and heat production.

In order to achieve these mains goals the SwissEnergy network relies on measures determined in service mandates and target agreements concluded with 30 programme partners. SwissEnergy also encourages

establishment of efficiency standards and legal provisions.

Impressive achievements at halfway

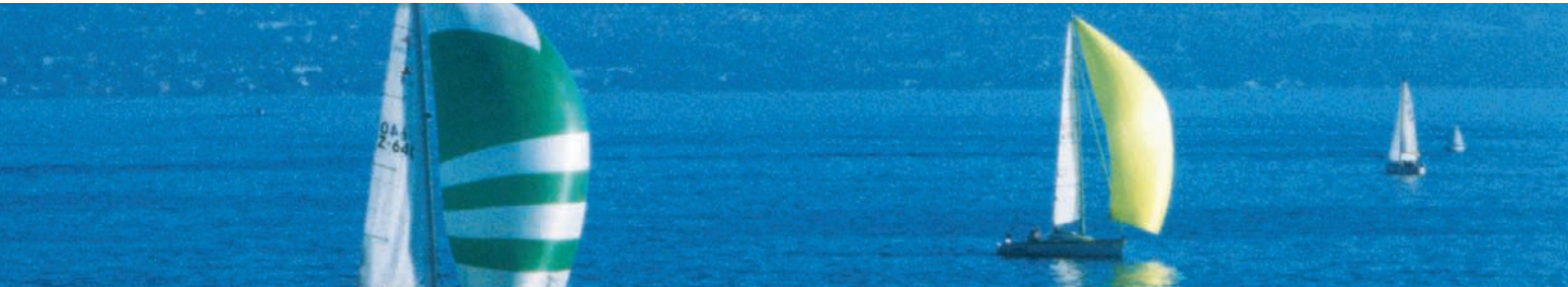
At the conclusion of the first stage of the SwissEnergy programme (2001 to 2005) the programme management is able to give a positive report:

- Without the direct and indirect measures of the SwissEnergy programme and those of its predecessor, the Energy 2000 programme, today's overall energy consumption would be more than 3.5 per cent higher, and even 6.2 per cent higher if the effect of legal measures is taken into account.
- Between 2001 and 2005 the Swiss-Energy programme doubled the yearly impact of direct measures. Growth was achieved in all four market sectors – Public sector, Industry, Renewable energies and Mobility – and was continuous throughout all the years reported on.
- The measures and projects in the Energy 2000 (1990 to 2000) and SwissEnergy (from 2001 on) programmes have led overall to the point where in 2005 approximately 1.7 million tonnes of CO_2 emissions had been avoided (excluding outlying processes).
- Funds allocated to the SwissEnergy programme are being used even more efficiently: the energy-related impact per franc invested has tripled over the 2001 to 2005 period.
- The programme generates investment: In 2005 alone, the programme generated investments of around 880 million francs.

The first-stage achievements of Swiss-Energy are most impressive: the network is up and functioning and the programme management's strategy of impacting on energy use on the basis of binding, ambitious goals has been seen to be effective.

Today, the SwissEnergy programme is an indispensable component in the coherent system of SwissEnergy and climate policy. The Energy Act and the CO_2 Act, the SwissEnergy programme and its network, voluntary target agreements, the CO_2 tax and the "climate centime" all constitute the framework for a credible energy and climate policy in Switzerland.

SwissEnergy functions as a centre for information and co-ordination for all players and provides stimulus as needed.



Energy-related impacts

SwissEnergy –
constant and highly effective

The impact of the SwissEnergy programme in 2005 was studied and evaluated by experts.

Conclusion

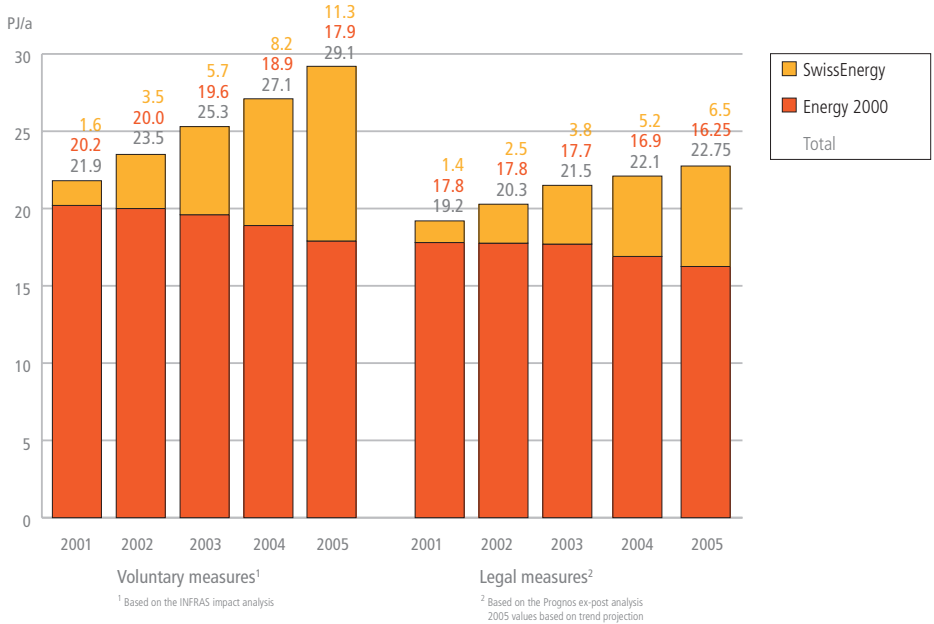
The SwissEnergy programme further increased its effectiveness in 2005. The energy-related impact achieved through voluntary measures and cantonal promotion of the programme amounted to 3.4 peta-joules (PJ), corresponding to an increase of 18 per cent over the preceding year. Around 2.3 PJ of combustibles, 0.5 PJ of vehicle fuel and 0.6 PJ of electricity could be either saved or substituted using renewable energy sources. The most significant economies were achieved by means of target agreements with industry, the "Energy City" label, promotion of wood as an energy source, heat pumps, the "MINERGIE" standard and "Eco-Drive".

The overall impact on energy use achieved by supplementary measures in the year of the report corresponds to approximately 0.4 per cent of Switzerland's energy consumption in 2005.

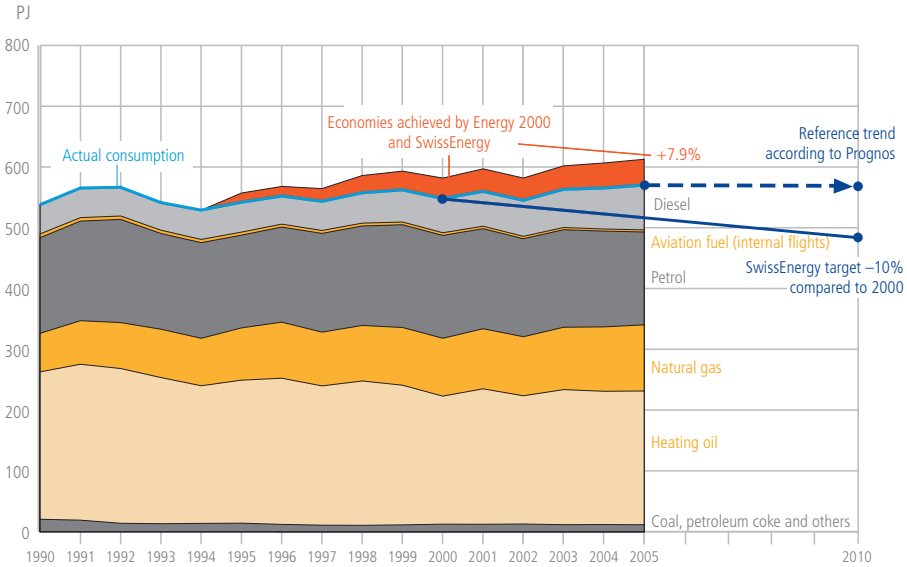
Balance after five years

- Thanks to legislation, the continuing impact of Energy 2000 and the measures and projects within the SwissEnergy programme, energy consumption could be reduced by 6.2 per cent and CO_2 emissions by 4 per cent; significantly, this figure increases to 7 per cent when outlying processes are included.
- About 37 per cent of all CO_2 discharged by the Industry and Services sector is already covered by voluntary measures to reduce CO_2 emissions.

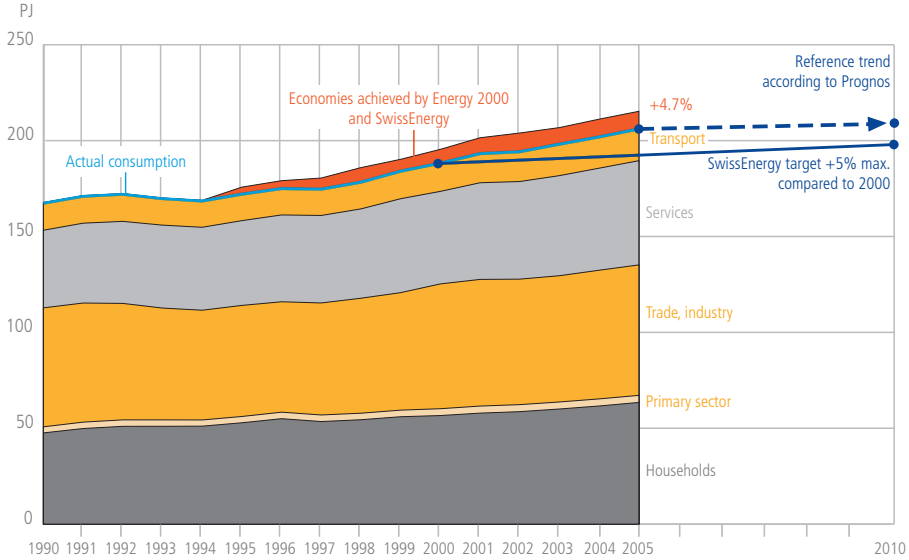
- Without the SwissEnergy and Energy 2000 programmes consumption of fossil energy (combustibles and vehicle fuel) would be 7.9 per cent higher. The programme has been very successful in the construction sector (combustibles), while results in the vehicle fuel field have been more modest.
- In the electricity sector today's consumption would be 4.7 per cent higher.
- With current annual funds of between 90 and 100 million francs, including contributions from the cantons and private sector partnerships, the SwissEnergy programme generated about ten times its income in energy investments.



Energy-related impacts from 2001 to 2005 based on measures introduced since 1990 as a result of the Energy 2000 and the SwissEnergy programmes.



Consumption of fossil-based energy, 1990 to 2005, economies brought about by Energy 2000 and SwissEnergy and target according to SwissEnergy and reference trend.



Electricity consumption, 1990 to 2005: economies brought about by Energy 2000 and SwissEnergy and target according to SwissEnergy and reference trend.

Impact on the economy

Sparse funds efficiently employed

- The SwissEnergy programme management used the sparse funds at its disposal in 2005 – 42 million francs compared to 49.1 million in the preceding year – in an efficient manner: the impact of the SwissEnergy programme has increased by about 18 per cent compared to the preceding year.
- In 2005, the expenditure required to save one kilowatt-hour was 0.27 centimes. Including expenditure on the part of the cantons, the cost is nearer 0.6 centimes.

High volume of investment

- With a budget of 42 million francs – together with its partners in the market and the target groups concerned – Swiss-Energy generated gross investments and other expenditure (for operation and maintenance) in 2005 totalling approximately 880 million francs. This constitutes an increase of 19 per cent over 2004.

Thousands of jobs created

- In the year of the report the net impact on employment amounted to approximately 4,100 person-years. The market sectors "Renewable energy" and the "Public and construction sector" are responsible for the greatest impact on employment because of the high volumes of investment and expenditure generated. Three-quarters of the estimated impact is consolidated in these sectors.

Activity in 2005

Number of "Energy Cities" increases, "MINERGIE" still on the crest of the wave

- New Energy Cities: In 2005, six towns, Basle, Renens, Onex, Aarau, Worb and Sursee, were awarded the "Energy City" label. As of December 31, 2005 approximately 2.15 million inhabitants were now living in 127 Energy Cities.
- Gold medal goes to Neuchâtel: Neuchâtel is the sixth Swiss town to qualify for the "European Energy Gold Award". The award is seen as confirmation of the successful, persistent efforts made in the field of energy policy.
- MINERGIE gains more ground: At the end of 2005, in Switzerland, 5,178 buildings were certified to MINERGIE® and 61 to MINERGIE-P® standard; the buildings have a total energy reference area of 4,576,764 square metres. In comparison to the preceding year this represents an increase of approximately 27 per cent in the number of MINERGIE buildings.

Companies lowering energy costs

- Companies relied on more efficient use of energy: In April 2004, the federal government concluded a target agreement with the Energy Agency for Industry (EnAW) concerning voluntary reduction of CO_2 emissions. At the end of 2005, 1,361 companies were party to this agency's CO_2 reduction process. This means approximately 37 per cent – or 3.7 million tonnes – of CO_2 emissions produced by Switzerland's industry sector are now the subject of target agreements.
- Energy label effective: According to a Swiss Federal Office of Energy SFOE study, the market share of energy-efficient domestic appliances increased sharply between 2002 and 2004. This was due to the energy label created for

domestic appliances and interior lighting – 70 to 80 per cent of consumers are now familiar with the label.

Drivers engage efficiency gear

- Wise motorists: Courses offered by the Eco-Drive® Quality Alliance on economical driving continue to be popular. Over 60,000 drivers have been instructed in the Eco-Drive® technique thus helping to reduce CO_2 emissions – when calculated over a ten-year period – by approximately 150,000 tonnes.
- Energy label for new cars has an impact: Since the label's introduction in 2002 the market share of new vehicles designated either class A or B has increased by 1.5 per cent. This corresponds to around 4,000 new vehicles per year and an annual reduction in CO_2 emissions of 3,050 tonnes. However, at present the average petrol consumption of private vehicles is not on course to achieve the set goal.

Renewable forms of energy: growth maintained

In 2005, the amount of electricity and heat generated using renewable forms of energy rose once again. In electricity production (excluding hydropower) the proportion of such forms of energy increased by 41.8 GWh to a total of 1,038.5 GWh, so renewable energy's share of electricity production now lies 190.5 GWh above that of the year 2000.

Similar picture in heat production: In this sector the amount contributed by renewable energy could be increased by about 217 GWh to 9,992.8 GWh. The amount of renewable energy now used in heat production is 1,259 GWh above that of the year 2000.

- Energy from wood is in demand: In 2005, heat from wood accounted for 55 per cent of the total heat produced from renewable forms of energy.
- 3.1 per cent of electricity produced from renewable forms of energy was produced from wood.
- Wood energy statistics currently show that each year about three million cubic metres of wood are used in energy production.
- Heat pumps are a big seller: In 2005, the number of heat pumps sold rose compared to the preceding year to a total of 12,000. This represents an increase of about 21 per cent. In the meantime there are more than 100,000 heat pumps in use in Switzerland.
- Interest in solar energy still increasing: About 2.9 per cent of the total heat production from renewable energy sources in 2005 came from solar energy; for electricity the figure is 1.8 per cent. In addition, installed photovoltaic power rose by 16 per cent, a massive increase compared to the preceding year.
- Biogas – the future has arrived: In 2005, heat produced from biomass (excluding wood) amounted to approximately 295 GWh with electricity produced reaching 149 GWh. Five new biogas plants were connected to the network; about 20 further plants are in advanced stages of planning. In the year of the report the COOP retail group also began its Naturaplan_Biogas 50 project in co-operation with the SwissEnergy programme: The aim is to realise fifty biogas plants on Naturaplan production facilities by 2010.
- Geothermal energy: In 2005, the Swiss Association for Geothermal Energy became GEOTHERMIE.CH and took on the function of an umbrella organisation. The new organisation will more efficiently represent the interests of users of geothermal energy and further expand the network in Switzerland's energy scene.

Outlook

For the second stage, from 2006 to 2010, the SwissEnergy programme management is relying on continuity to achieve even greater impact. However, the programme is not yet fully on course. For this reason the programme is to become more dynamic to reach an even larger public. By means of the SwissEnergy programme the management intends making an even more significant contribution to attaining the goals set out in energy and climate policy in the 2006 to 2010 period. In view of the increasingly observable changes in the climate this is a matter of urgency.

Concentration on five priorities

Central to the second project stage is the promotion of energy efficiency in all market sectors. To this end the programme management has defined five priorities which will be the focus of all efforts within the SwissEnergy network:

- **Modernisation of buildings:** The main goal is to supply property owners with information about aspects of energy use for consideration during renovations so that it can be taken into account when deciding on investments.
- **Renewable forms of energy:** In the next five years the programme management will systematically prepare more instruments to promote the use of renewable forms of energy.
- **Energy-efficient appliances and electric motors:** There is great potential for saving electricity in the domestic appliances, electronics and electric motors sectors. This potential is to be utilised by concluding agreements with the branch and by reinforcing measures to increase awareness of the energy label for domestic appliances.
- **Efficient use of energy and waste heat throughout industry:** One main goal consists of making target agreements covering 50 per cent of CO_2 emissions from combustibles used by the Industry and Services sector.
- **Energy-efficient low-emission mobility:** Central here is reduction of the amounts of CO_2 emitted by newly

registered vehicles to 140 g/km by 2010. Parallel to this the intention is to substantially reduce energy consumption and emission of air pollutants.

Extension of the programme's scope

The SwissEnergy programme management will use the following approaches to meet the targets in the five priority areas in the second stage:

- Stronger partnerships: The existing partnerships involving the federal government, cantons, industry and associations will be further intensified. In addition the network will be extended and new partners won – in particular from industry – to assist in achieving the goals of the SwissEnergy programme.
- Clear targets: Concrete targets will be defined for each partner and agency so as to further increase the impact of the programme.
- Professional communications: Mutual communication platforms are planned for the five priority areas to publicise the impact, benefit and economic soundness of the SwissEnergy programme. The central message is: Intelligent use of energy increases the quality of life, brings technological progress, generates investment and creates new, permanent jobs.

Contents of CD-ROM

- Complete 5th SwissEnergy Annual Report 2005/2006
- 5 documents relating to controlling, evaluation and impact analysis
- 10 documents concerning the federal government and the cantons
- 20 documents concerning agencies and networks
- 11 documents concerning towns and cities, companies, organisations

CD-ROM

“The SwissEnergy programme is a solid foundation on the basis of which even more must be attained.“
Michael Kaufmann, head of the SwissEnergy programme

“What Switzerland really needs is a genuine promotion policy with specific incentives for sustainable forms of technology.“
Bertrand Piccard, psychiatrist and balloonist

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