

## CERT Roundtable Report Switzerland, April 2002

### **General**

Switzerland depends to 80 % (2000) on imported energy (in terms of primary energy supplies). There are no domestic oil and gas resources. The share of electricity - partially a domestic energy - in total final energy consumption was 22 % in 2000. The Government promotes the use of new renewable energies like solar energy and environmental heat. This helped the renewables, incl. hydropower, to reach 16 % of final energy consumption. The share of electricity from renewable sources was 12 %, wood contributed 2,3 %, waste 0,9 % and other renewable energy sources the remaining 0,8 %.

Total final energy consumption fell 0,8 % in 2000 after rising 1,7 % in 1999. The decrease in 2000 is due to warmer weather, markedly higher oil prices and the activities within the scope of the energy policy programme "Energy 2000".

In 1999, Parliament approved a law on the reduction of CO<sub>2</sub> emissions which allows the government to introduce a CO<sub>2</sub> tax from 2004 if the national target cannot be achieved otherwise. The law was put into force on 1 May 2000.

The follow-up programme to the „Energy 2000 Action Plan“ has been launched in January 2001 under the name of “SwissEnergy”. Its objectives are to reduce the consumption of fossil fuels, to stabilise the consumption of electricity and to increase the contribution of renewables to energy supply.

As the European Union opens the electricity market across the continent, the Swiss government is following suit. The Electricity Market Law takes a step-by-step approach to the opening of the Swiss market which would be accessible to all consumers six years after the law takes effect. The law will open Switzerland's electricity market on the basis of regulated third party access. It has been accepted by Parliament in December 2000. Due to a referendum, a popular ballot on the law will be held on 22 September 2002.

### **RD&D Policy**

The current public Swiss energy RD&D (research, development and demonstration) policy has been set in the **Concept of the Federal Energy Research 2000-2003**. The Concept is intended to serve as a guideline for decision-makers in the energy research field within the Federal and Cantonal Administrations, and as an invitation for researchers to apply for projects. The aim of energy RD&D is to support the objectives of the Swiss energy policy : e.g. to ensure an energy supply that is safe, environmentally sound and economically feasible in the

long-term, to secure the production and distribution of a sufficient amount of energy under optimal economic and ecological conditions, and to contribute to a rational and efficient use of energy. Its long-term goal includes significant reduction of the carbon dioxide emissions, as well as the establishment of the “2000 Watt Society”.

Accordingly, the RD&D strategy of the present Concept 2000-2003 is :

- to increase the RD&D activities in the “conservation” field (the “rational use of energy”), particularly by promoting the P+D (pilot and demonstration installation) projects ; funding increasing from 31 % today to 34 % of the total RD&D budget in 2003 ;
- to continue the effort in the field of “renewable energy sources” (including an important support of the P+D projects) ; maintaining the funding at 34 % ;
- and to reduce the “nuclear energy” research funding from 26 % to 23 %.

The co-ordination and the monitoring of public energy RD&D programmes are among the tasks of the SFOE (Swiss Federal Office of Energy). It acts on advice from the Federal Energy Research Commission. The Office’s duties include the updating of Swiss energy RD&D Concept, putting research findings to good use, liaising with private energy RD&D activities and ensuring the links with international research projects.

In 1999 the public energy RD&D was funded with **179.96** MCHF (million Swiss francs), of which **32.7** MCHF were spent for P+D projects. The total amount is equivalent to **107.8** MUSD (million US dollars at 2001 conversion rate : 1 USD = 1.688 CHF). From this figure **27.6** MUSD (i.e. 25.6%) were invested into “nuclear energy” research, **39.5** MUSD (i.e. 36.6%) into research on “renewable energy sources”, **33.4** MUSD (i.e. 31.0%) into research on “rational use of energy” (“conservation”) and **7.3** MUSD (i.e. 6.8%) into research on “socio-economic questions”. The figures for the years 2000 and 2001 are *estimated* to be in the same range ; the definitive figures, which are in elaboration for the time being, will be published in summer 2002.

Swiss government energy RD&D expenses in MCHF (million Swiss francs) nominal and in MUSD (million US dollars at 2001 conversion rate)

Total energy RD&D	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MCHF (nominal)	187.2	199.0	220.6	223.3	220.8	215.1	206.7	196.9	182.6	179.9	187.0	187.4
MUSD (2001)	130.1	130.5	140.8	138.8	134.9	130.1	124.5	118.9	109.9	107.8	110.8	111.0