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Promotion of geothermal energy in Switzerland: a recent programme for a long-term task

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Abstract

In 2001, a 10-year programme called “SwissEnergy” was initiated by the Swiss Federal Office of Energy, mainly devoted to a more efficient use of energy, with specific tasks such as energy saving, reduction of CO₂ emissions and a definitive increase in the contribution of renewable energies. The Swiss Geothermal Society (SGS) was therefore given a mandate to promote the application of geothermal energy at a national level. The main objectives of their programme are to develop a sound image for geothermal energy in general, to disseminate information on the various technologies already in use all over the country and to illustrate the future potential of this sector. All entities involved in the energy sector are to be called on to collaborate in the programme, including the Federal Office of Energy, local utility companies and energy agencies, as well as the various networks present in the field of renewable energy (geothermal, sun, wind and biomass). The programme covers all the geothermal resources and technologies available in Switzerland, such as borehole heat exchangers, groundwater wells, foundation piles, thermal springs, deep aquifers and warm tunnel drainage waters. The programme is organised into five activity modules, i.e. Information, Basic and continuous education, Marketing, Quality insurance, and Consulting services. Three Regional Promotion Centres (RPC) have also been set up in the three linguistic regions of Switzerland, one in the German-speaking region, one in the French-speaking region and one in the Italian-speaking region. The staff consists of 13 part-time experts. The strong interest and favourable reception given to all aspects of the Swiss geothermal promotion programme during its first 2 years of activity have confirmed how important it is to disseminate information on energy matters.

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1. Introduction

As a result of a preceding 10-year programme called Energy2000 (1990 to 2000), the total energy consumption in Switzerland was reduced by 4.3% in 2000. This reduction, however, was considered insufficient to stabilise overall energy consumption. Indeed, the latter continued to grow, with a consequent increase in CO₂ emissions. As a continuation of Energy2000, a new energy policy follow-up programme called SwissEnergy was initiated in 2001 under the auspices of the Federal Department for the Environment, Transport, Energy and Communications (DETEC). Its multiple goals will be to enforce the recent Energy and CO₂ Laws, and to achieve a sustained impact and public acceptance in view of the long lifespan of the energy supply and demand structures (Swiss Federal Office of Energy, 2001).

2. The SwissEnergy programme

This programme is intended to exert a positive influence on the environment, climate, the safety of the energy supply and on the competitive position of Swiss industry. Over a period of 10 years, SwissEnergy will endeavour to reduce the consumption of fossil energies by 10%, thereby achieving the Swiss target of reducing by 10% the CO₂ emissions registered in 1990 (Table 1). There are other important objectives in this programme: to combat emission of other pollutants, such as NO_x, and to reduce the country's heavy dependence on oil supplies from abroad. By promoting innovative technologies projected towards the future and readily marketable, the SwissEnergy programme will contribute to strengthening the Swiss economy and creating employment opportunities.

The emphasis of SwissEnergy is on strengthening voluntary measures for an efficient use of energy and on promoting the renewable energies. Both targets are based

Table 1
Objectives of SwissEnergy (Swiss Federal Office of Energy, 2001)

Sector	Percentage net energy consumption (1999)	Objectives 2010 (compared to 2000)	
		Status quo policy (Energy2000)	Intensified policy (SwissEnergy, CO ₂ Law)
<i>Energy efficiency</i>			
Consumption of fossil energies	72.3%	+2%	–10%
CO ₂ emission (from 1990):		Stable	–10%
from heating fuels		–8%	–15%
from motor fuels		+12%	–8%
Electricity consumption	21.4%	+10%	≤ +5%
<i>Renewable energies</i>			
Hydroelectric power	13.0%	Stable?	Stable
Other renewable energies:	9.5 TWh		
electricity	(3.1%)	+0.37 TWh	+0.5 TWh
heat		+2.10 TWh	+3.0 TWh

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