Characteristics of Swiss energy

come to terms with (if not forget) the fact that borders were hermetically sealed. But times and people change, and this approach to shortwave broadcasting has lost most of its appeal. Today such sentimental links make one smile. For our part, any smiles are friendly ones of involvement with people everywhere in the world who listen to SBC on shortwave. Without them, we would cease to exist. With them, we can look forward to a future of service.

Characteristics of Swiss energy

The peculiar characteristics of Swiss energy economy are the result of specific geographic, climatic and other natural conditions of our country, as well as the marks of economy and society within the political structure of our state. The characteristics of Swiss energy production refer therefore not only to the various levels of energy supply and energy sectors but also to organisation and problems of the energy field.

A first consideration in connection with the economic development is the fact that the consumption of energy has increased at a positively turbulent pace. Since 1950, it has quadrupled, largely as a result of an equally strong economic growth of the last decades. This corresponds to an average annual rate of growth of roughly 6%. In absolute figures and expressed in the energy equivalent of crude mineral oil, the total consumption of energy rose from 4.2m tons in 1950 to roughly 16m in 1974.

Within the framework of total energy consumption in Switzerland, the strong position of mineral oil products attracts attention. The following particulars show the proportions of the individual energy sectors in 1974.

Mineral oil	77.4%
Electricity	17.2%
Earth gas	2.2%
Coal	1.9%
Wood	1.3%
	100.0%

The different physical properties of the above-mentioned types of energy apparently not only influence the volume of demand, but also the form of distribution, i.e. the organisation of allocating energy to the consumer. The liquid fuels contain a very high specific energy contents and offer great handling advantages in transport, storing and consumption. This large range of easily storable, transferable and tradable kinds of energy is particularly suitable to organisations dependent on market economy and thus represents the actual domain of the private enterprise sector in energy production. Provisioning with wood and coal, which, with the exception of handling advantages, show the same characteristics as liquid fuels, is largely based on methods of distribution in private enterprise.

On the other hand, public enterprises dominate very largely in the sector of gas and electricity which are not suitable for storage, or only with difficulty. As far as electricity is concerned, its final distribution rests almost exclusively in the hands of communes, whereas at transport level and that of energy production regional, cantonal and also private enterprises come into play. A similar situation applies to the gas sector whose smallest unit is the communal gas-works.

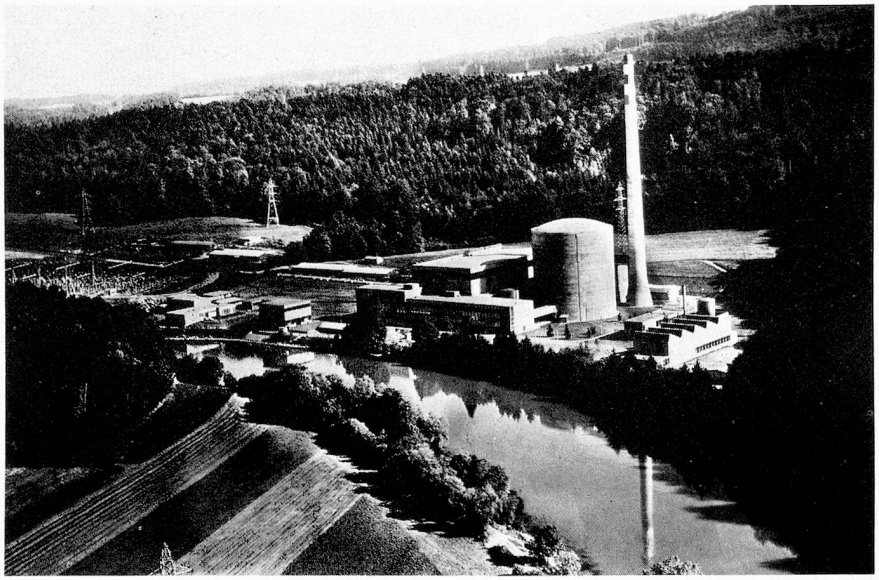
If one compares the above-mentioned characteristics of energy supply to that of energy demand, it is useful not only to examine the energy sources, but the practical application. What the consumer, i.e. the final user needs is not fuel oil, electricity or gas, but warmth, mechanical power, chemical energy or light. Warmth above all can be produced by all primary and secondary energy sources. It is thus of crucial importance that by far the largest part of energy is needed for heating. In 1974, 78% of the total energy production was used for warmth. Of this, about 60% went to heating houses and factories, whereas the remaining 40% was used for cooking and industrial production processes. That means that almost half of the total energy consumption went to space heating. 18% of energy used went to mechanical work, i.e. communication and transport first of all, then to appliances and machines in households and industry. Chemical energy used a mere 3.8% and lighting even only 0.2%. This summary shows clearly that the strategic factor in any energy policy must lie basically with all those forms of energy which produce warmth.

With reference to energy consumers, it can be said that industry requires roughly one third of the total energy output, and households, trade and agriculture two thirds. In other words, this means that a very large percentage of energy consumption is directly disposed of by the behaviour of the individuals who also have to carry the responsibility.

Significant characteristics of Swiss energy consumption may

Features

also be found in comparing it with other countries. Firstly in this connection, one has to point out the great dependence on imports from abroad which Switzerland's energy supplies are subjected to as compared with other countries. Since practically only water power and wood are domestic energy sources, our dependence on imports from abroad reaches around 85% of the whole energy supply. This fact provides problems not only with regard to energy provisioning, but is also important with regard to the balance of payments. To summarize, it can be stated that Swiss energy provisioning, simplifying grossly, is marked by the following characteristics:



Nuclear works of Mühleberg BE.

- the turbulent increase in energy consumption since 1950
- the preponderant share of fuel oil in the total energy supplies
- the prevalent share of warmth in energy used
- the high proportion of individual consumption
- a strong dependance on fuel imports from abroad.
- the predominance of the private sector with regard to energy forms suitable for easy storage such as mineral oil, coal and wood, as well as preponderance of public enterprise concerning energy supplies tied to wires and ducts, i.e. electricity and gas
- rather low *per capita* consumption as compared to other industrial countries.

It is on these characteristics that our present main problems of energy supplies rest to a large extent. The vast growth of energy consumption since 1950 has lead to increasing dependance on imports and vulnerability of energy provisioning. It has also reached the brink line when further claims on the environment by energy production, distribution and consumption have become controversial.

Only if the quantity of energy necessary for the public good and in ecologically justifiable forms is secure and energy provisioning functions reliably, can energy contribute its share properly towards the welfare and improvement of the quality of life.

Schaffhauserland

Portrait of a Small Canton

Biographical Notes

Fritz Senft was born at Wettingen (Aargau) on 11th May, 1922. He was educated at the training college of Schiers and became a primary teacher. He studied German philology and history at Zurich University. He has been teaching since 1946, first in a commune in the Aargau and then for 16 years in Schaffhausen. In 1971, he returned to the Limmat valley and has been teaching at the primary school of Geroldswil since then. He is also active as a writer and has published a number of poems, tales and essays. As chairman of a commission of the Teachers' Association, he is actively engaged on work connected with youth literature and has many other cultural interests.

Without any difficulty, a native of Schaffhausen will be able to outline the position of his Canton on a blank map. It corresponds to a promontory jutting out furthest North, reminding one of many things, amongst them the crusty end-bit of a loaf, much sought after by experts and children.

Again looking at the map, one might think of a kind of geographical collage, for the various Schaffhausen zones meet in a most unpredictable way. The Rhine is their support, even though only on one side, but showing in an unmistakable way that it alone knows the world. All the other waters are rills, small tributaries which rarely, mostly only after heavy downpours, swell into prominence. Under modest names, often marked only as brooks or rivulets, they amble through woods and meadows or meander through scattered villages.

Thus, on the whole, the power of