Security of supply despite opening of the market – realistic or illusionary?

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Switzerland's position as an electricity supply hub first needs to be secured, and once this has been achieved the domestic market can then be opened up on a step by step basis. This was the decision taken by the Federal Council on 3 December 2004, when it submitted its Bill to Parliament[3] concerning the revision of the Electricity Act and the new Electricity Supply Act. The Federal Council wants Parliament to give the Electricity Act preference over the Electricity Supply Act so that it will be possible to regulate cross-border electricity trading without delay. By opting for a flexible two-stage procedure for the opening of the electricity market, the Federal Council has taken account of the result of the referendum on the Electricity Market Act. And with respect to the promotion of hydropower and other forms of renewable energy, for the first time it is now proposing energy policy objectives as well as a specific procedure.

Loosing the status of a champion

Many economists feel that the liberalisation of previously monopolistically structured markets will give rise to efficiency gains and thus to greater affluence. For the EU, privatising those sectors that were strictly state monopolies at the beginning of the 1990s – telecommunications, railways, postal services, electricity and gas – is still a priority project in the ongoing process of establishing a single market. Although Switzerland initiated its own process of restructuring its electricity and gas markets at roughly the same time as the EU, it was not long before its efforts were brought to a standstill. As a result of consultation procedures, experts' commissions, parliamentary debates and ultimately the referendum on the Electricity Market Act, Switzerland has surrendered its former position as a pioneer in Europe in the area of restructuring the electricity and gas markets, and is now lagging behind its neighbours. But since Switzerland is located at the heart of the European networks and plays an important role in terms of security of supply in its neighbouring countries, its isolation represents a problem that should not be underestimated. On top of this, small and medium-sized companies in Switzerland complain about having to buy electricity and gas at less favourable conditions than their European counterparts, and this can quickly give rise to setbacks in terms of competitive capacity.

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[3] Complete texts of the Bill to Parliament, the Electricity Supply Act and the revision of the Electricity Act may be viewed on the following website: http://www.admin.ch/bfe.

Lessons to be learned from the rejection of the Electricity Market Act

Analyses of the rejection of the Electricity Market Act[4] [5] show that the highest proportion of "no" votes came from Western Switzerland (58-69%) and Eastern Switzerland (50-55%), and from the Swiss People's Party (66%) and the Social Democrats (58%).

In Western Switzerland it was widely feared that liberalising the electricity market would represent a threat to public services (basic supply, security of supply), while in Eastern Switzerland it was felt that the many very small electricity supply companies would have little chance of survival, and voters also expected clear concepts for the reorganisation of the electricity industry. Future proposals for an electricity market act therefore need to contain more stringent provisions governing security of supply and basic supply, clearly designate those institutions responsible for security of supply, and specify ways in which the federal government can intervene in the event of a threat to security of supply. It will also be essential to provide the smaller players in the sector with the assurance that they will continue to have a genuine chance of survival on the future market, and that their wishes, doubts and fears will be incorporated into the political process.

Intensive search for a widely acceptable solution in the commission of experts

Following the rejection of the Electricity Market Act in September 2002, the Swiss Federal Office of Energy initiated a consultation process involving all the main support and opposition groups. Then approximately six months after the referendum on the above Act, and following consultation with the Swiss Federal Office of Energy, the Department of the Environment, Transport, Energy and Communications set up a commission of experts headed by Doris Schaer, a former member of the cantonal government of Berne. This commission comprised representatives from both sides as well as from small-scale electricity supply companies. In addition, separate workgroups were set up to deal with the following topics: market model; security of supply; transparency; renewable energy. The main aims here were to find a balanced and broadly acceptable solution, and to deal with the most widely debated issues (international transits; competitive prices in an international comparison, especially for small and medium-sized companies; uncertainties on the part of the Swiss population regarding security of supply; lack of economic growth in Switzerland). The solution would also have to be acceptable to the general population or should not provoke another referendum. The activities of the "Schaer" commission were influenced by two external occurrences of considerable significance. On 17 June 2003 the Federal Tribunal ruled that network access is subject to the provisions of cartel law, and thus that supply lines have to be opened up to third parties insofar as they do not interfere with cantonal sole supply rights. And on 28 September 2003 a voltage flash-over occurred in the vicinity of Brunnen between a heavily loaded high-voltage transmission line and a tree, resulting in an almost total blackout in Italy.

The "Schaer" commission presented a clearly defined and balanced set of key criteria in spring 2004, and a team of legal experts used these as the basis for formulating new provisions along with an explanatory report. The new bill met with widespread approval during the consultation procedure initiated by the Federal Council in summer 2004, and even those aspects that the commission had regarded as critical met with a generally positive response, namely:

[4] Vox analysis of the referendum of 22 September 2002 (cf. http://www.polittrends.ch/vox-analysen/daten.php)

[5] Institute for Political Science, University of Zurich: Analysis of opinion-forming and decision-making processes relating to the Electricity Market Act (April 2003) (cf. http://www.energie-Schweiz.ch/imperia/md/content/energiemrkteetrgertechniken/elektrizittsmarkt/51.pdf)

- Advance regulation of cross-border trading (via a new legal provision in the Federal Electricity Act);
- Step-by-step opening of the market;
- Possibility of an optional referendum prior to the second stage (full opening of the market);
- Voluntary measures for the promotion of renewable forms of energy and energy efficiency.

Table: Provisions in the Bill to Parliament concerning the Electricity Supply Act and the revised Electricity Act

	Legal provisions	**Main elements**
Basic supply, security of supply	• Security of supply by ensuring basic supply • Allocation of network zones by the cantons • Connection guarantee for all • Supply guarantee and pricing structure for households to be provided by end supplier • Secured electricity supply model for households • Duties of network operators • Measures in the event of threats to supply	• Stage 1, Electricity Supply Act: households supplied on a fixed basis • Stage 2, Electricity Supply Act: households have choice of selecting their own supplier or fixed contract with end supplier (secured electricity supply model) • In the event of medium-term or long-term threat to security of supply, Federal Council may carry out requests for tenders for production and measures aimed at increasing efficient electricity use
Separation, transparency	• Network regulation and network use based on separation criteria (in Electricity Act, only regulated for transmission network operator) • Annual financial statements and cost accounting • Information and billing	• Distribution networks must be separated in terms of bookkeeping and cost accounting • Transmission networks must be separated in terms of structure and cost accounting
Network access, network costs and remuneration for net-work use	• Network access in Switzerland • Network access during shortfalls in cross-border transmission network (also regulated in the Electricity Act) • Remuneration for network use • Recoverable costs • Costs of network use relating to cross-border deliveries (also regulated in the Electricity Act).	• Cost accounting method: assets based on acquisition and production figures; details to be specified by the Federal Council in a separate ordinance • Costs for cross-border flows will not be charged to domestic consumers • Remuneration for network use must not exceed recoverable costs • Network use tariffs must be uniform per voltage level and customer group within each operator's network • Allocation of capacities during shortfalls to be based on market principles and be compatible with EU regulations
Transmission network operator	• Swiss transmission network operator • Duties of Swiss transmission network operator (also regulated in the Electricity Act)	• Single national transmission network operator with authority to issue directives to producers and network operators and their proprietors • Joint stock corporation (private law) • Majority of capital to be held by Swiss companies • Responsible for providing system services • Defines procedures for management of network shortfalls
Electricity Commission	• Electricity Commission as regulatory authority • Definition of structure and duties (also regulated in the Electricity Act)	• Strong regulatory authority comprising 5 to 7 experts • May reduce tariffs and/or remuneration; rules on disputes concerning network tariffs and remuneration • Ensures safe and economical supply • Co-ordination with foreign regulatory authorities
Entry into effect, stage 2	• Stage 2 to enter into effect five years after enactment of Electricity Supply Act through resolution by Federal Assembly that is subject to optional referendum	
Renewable energy, voluntary stage: production of electricity from renewable energy sources	• Increase in proportion of production from renewable energy sources to domestic end consumption of electricity • Additional costs for network operators relating to requests for tenders may be financed	• Increase in proportion of renewable energy to domestic electricity end consumption from 67% to 77% while maintaining 2003 level of hydropower production and increasing efficiency of end consumption
Renewable energy, regulatory stage (if objectives not reached): measures to promote renewable energy	• Quotas and certificates for increasing electricity production from renewable energy sources • Compensation for intake of production from renewable energy sources	• Promoted forms of renewable energy: solar energy, geothermal energy, wind energy, biomass • Both options possible separately or combined • Federal Council to specify details in separate ordinance

For this reason they were also incorporated into the Federal Council's Bill to Parliament[6].

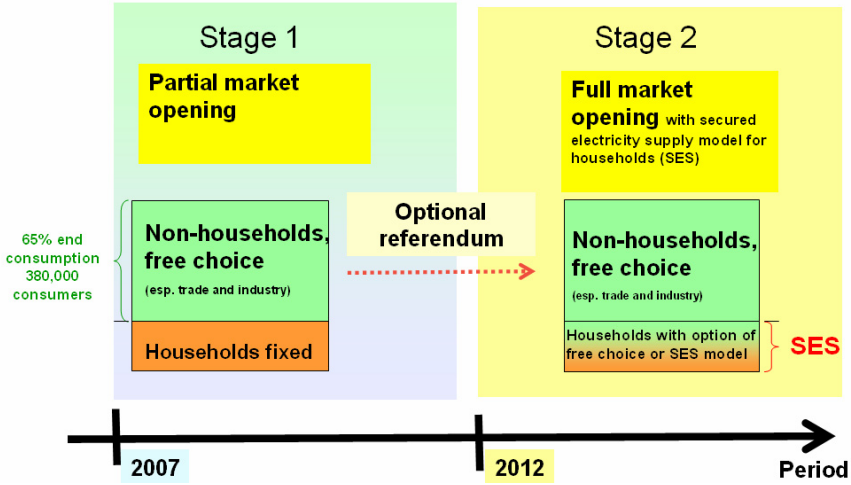
Why should co-operation with the EU be regarded as a priority?

The blackout in Italy in September 2003 clearly demonstrated the degree of interdependence that exists when it comes to electricity supplies between neighbouring countries, and underscored the importance of binding agreements and procedures for scheduled current flows between network operators. It is only possible to manage these processes efficiently and effectively if all involved players have the same institutions and processes at their disposal, and if physical flows correspond to contractually agreed corresponding quantities. In summer 2004 the EU specified new principles and regulations governing electricity transits (EU Ordinance 1228/2003), and entrusted the EU Commission with new competencies in this area.

In Switzerland the Federal Electricity Act has been the legal instrument for regulating the technical safety of electricity installations for more than a hundred years. One of the aims behind the recent revision of this Act is to enhance security of supply by introducing an interim solution without delay in the form of a provision governing cross-border electricity trading that is compatible with EU legislation. This move is designed to optimise security of supply in Switzerland and secure its position as an electricity trading hub in the heart of Europe. The new provision, which has been largely aligned with the EU regulations that entered into effect on 1 July 2004, regulates the establishment of an independent transmission network operator, the appointment of an Electricity Commission as regulatory authority, and calls for non-discriminatory access to the transmission network. The Federal Council has requested Parliament to deal with the revision of the Electricity Act as a priority so that it will be possible to introduce the proposed interim solution as soon as possible. At the same time, the Federal Council wants to negotiate an agreement between Switzerland and the EU in which the new legal basis in Switzerland is recognised as compatible with EU legislation.

Electricity Supply Act promotes confidence through a step-by-step procedure

The new Electricity Supply Act focuses on security of supply and basic supply (public services) in a gradually opening market. It provides the cantons and electricity supply companies with clear criteria and assures them of government support with its implementation.



It foresees the opening of the electricity market in two stages (see above). This procedure was chosen in response to the outcome of the referendum on the Electricity Market Act held on 22 September 2002. The aim is that it will be possible to gather findings during the

6 The main provisions of the Bill to Parliament concerning the Electricity Supply Act and the revised Electricity Act are listed in Table „Provisions in the bill".

first five-year stage and utilise these in the second stage, i.e. full opening of the market.

During the first stage of the Electricity Supply Act, which is due to enter into effect in 2007, all consumers other than private households (i.e. the country's approximately 380,000 trade and industry end users, including small and medium-sized companies) will be able to freely choose their electricity supplier. This means that these end users, who account for around 65 percent of Switzerland's overall electricity consumption, will purchase their electricity on the free market. Private households will receive their electricity supplies from the same distribution companies and network operators as in the past, but they will still benefit indirectly from this first stage of opening since the electricity supply companies will be required to pass on the price benefits they obtain from their purchases to their customers (i.e. end users). The second stage in the opening process is scheduled to be initiated five years later (i.e. in 2012) following a resolution by the Federal Assembly, which will be subject to an optional referendum.

From then onwards, all end users (including private households) will be able to freely choose their electricity supplier. However, experience in other countries has shown that only a very small percentage of consumers actually make use of this option. In Germany and Austria the proportion of small-scale consumers that change supplier fluctuates between 3 and 5 percent. For this reason the Electricity Supply Act contains an explicit model (choice with secured electricity supply-SES): if households do not want to play the market and compare tariffs and agreements, they may stay with their present supplier who is then obliged to offer them a permanent supply of electricity at fair and controlled conditions.

The rejected model for market opening of the commission of experts

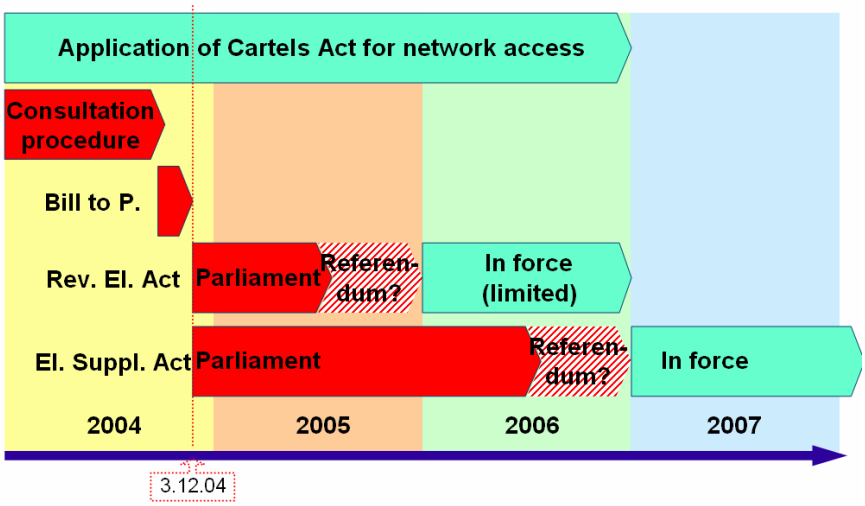
The model for market opening that was proposed by the "Schaer" commission of experts but rejected by the Federal Council was that, in the first five-year stage, all end users with an annual consumption of less than 100 MWh should be supplied by their electricity company on the basis of a fixed contract. Then in stage 2 of the Electricity Supply Act, alongside private households, small and medium-sized companies with an annual consumption below 100 MWh would be able to choose their own supplier and have the option of obtaining electricity from their supplier on a fixed basis. The reason for designating an annual consumption of 100 MWh as the threshold was that the annual energy costs (excluding the network) at this level of consumption were around 6,000 Swiss francs, and the costs associated with selecting a supplier would be higher than the resulting savings in energy costs. Almost all the corresponding network costs (approx. 14,000 Swiss francs p.a.) are regulated by the Electricity Supply Act, regardless of the degree of market opening.

Promotion of renewable energy?

Ten years ago Switzerland was a pioneer in the areas of renewable energy and energy efficiency. In the meantime, the member states of the EU have set themselves ambitious objectives for the use of renewable forms of energy, and have set up a number of highly effective promotion mechanisms. In terms of financial support, most of the countries of Europe have overtaken Switzerland, and from the point of view of technological development they have made a great deal of progress right across the board, as we have discovered within the scope of our frequent contacts with the International Energy Agency. Switzerland will only be able to play its trump cards in the future European single electricity market if it pursues a credible policy with respect to declaration of origin and promotion programmes for renewable forms of

energy, and is able to provide adequate evidence of its promotion activities.

The Federal Council's Bill to Parliament concerning the Electricity Supply Act also contains energy policy objectives relating to the preservation of production levels from hydropower, the promotion of electricity production from other renewable energy sources, and the promotion of efficient electricity use. Its declared target is to increase the proportion of renewable forms of energy to domestic end consumption from 67 to 77 percent by 2030. Initially, the intention is to accomplish this objective with the aid of voluntary measures within the industry. The additional costs associated with requests for tenders are to be offset in the form of a surcharge on transmission costs in the high-voltage network, and thus passed on to all end users. The Federal Council may introduce legally binding measures in the event that certain objectives prove to be unattainable. These include introducing quotas and certificates to increase the level of electricity production from renewable energy sources, as well as remuneration to cover the input costs of new production plants that use solar energy, wind energy, geothermal energy or biomass.



Timetable

The relevant commission of the National Council will be debating the Federal Council's Bill to Parliament concerning the Electricity Act and the Electricity Supply Act in the first half of January 2005. If it approves the request to give priority to the Electricity Act, it will be possible to simultaneously enter into negotiations with the EU. If the revised Electricity Act is approved by Parliament without delay and no referendum is called, it would be possible for it to enter into effect at the beginning of 2006.

The revised Electricity Act regulates cross-border trading in the interim period until the Electricity Supply Act enters into effect (see below), or until 31 December 2008 at the latest. It also governs the establishment of the Electricity Commission and the Swiss transmission network operator. These provisions of the Electricity Act are also included in the Electricity Supply Act. Until that time, the provisions of the Cartels Act will continue to regulate network access in Switzerland, so liberalisation will primarily apply to large-scale consumers on a case by case basis.

It is therefore to be hoped that Parliament will also treat the Electricity Supply Act as an urgent matter, so that Switzerland will be able to possess an adequate regulation instrument when the European market is fully liberalised in 2007. Special legal provisions governing network access and degree of opening of the market will only apply once the Electricity Supply Act enters into effect. The provisions of the Cartels Act will then no longer apply.

Benefits of the revised Electricity Act and the new Electricity Supply Act

The revised Electricity Act and the new Electricity Supply Act will solve a number of major problems while creating important new background conditions. The four most important benefits are outlined below.

1) The revised Electricity Act will enable Switzerland to function as an active partner of the EU in the heart of Europe's electricity network, and will meet the interests of the electricity trade and the requirements of security of supply in a balanced manner.

The discussions concerning the blackout in Italy clearly underscored the fact that the objectives of international electricity trading must not be allowed to take precedence over the requirements of safe network operation. With the revised Electricity Act, clear regulations will apply that are designed to ensure a high level of network-based security of supply both within Switzerland and in line with EU provisions. These new regulations will enable Switzerland's electricity industry to ensure that the country's networks, as well as its hydropower facilities, will be utilised both at home and in the international arena at their true value and on a sustainable basis.

2) The Electricity Supply Act will guarantee a high degree of security of supply in Switzerland over the long term, throughout the country and at an acceptable price.

In the past, Switzerland's seven regional suppliers and numerous cantonal and municipal electricity supply companies have always maintained an extremely high level of service, and the aim is to preserve this level in the future. Until now, these supply companies have been able to pass on the costs relating to electricity production to end users without difficulty. However, it will not be possible to guarantee this high level of supply over the long term unless certain legal provisions are brought into play. Based on the provisions of the Cartels Act, end users would theoretically be able to freely choose their supplier today, and in view of this the electricity supply companies are uncertain whether (and to what extent) they should cut their costs and thus reduce their tariffs due to market pressure. They currently face the temptation of cutting costs by reducing maintenance operations in the network and lowering production levels over the short term in order to reduce their tariffs and thus keep their customers, but these actions could lead to a drop in the quality of network operation over the medium term.

3) The Electricity Supply Act will secure nation-wide investment activity in networks as well as production facilities.

The Electricity Supply Act regulates the recoverable costs of **networks** and corresponding remuneration in detail and in a uniform manner for the first time. All investors – especially municipalities and cantons as proprietors of the networks – will have an instrument officially sanctioned by the state for assessing the value of their networks. The Electricity Supply Act will enable the many municipal supply companies to define long-term strategies for the maintenance and expansion of their networks, as well as to pave the way for cooperation with other network operators. At present there is a great deal of uncertainty in this area, and this is blocking investment activity and could thus be a threat to security of supply over the long term.

As before, **electricity production** is to be primarily regulated via competition, though in future this will be in combination with suitable legal measures aimed at increasing the proportion of renewable energy over the long term.

4) The Electricity Supply Act will ensure that private households in Switzerland will not be exposed to price fluctuations and price risks.

Without the Electricity Supply Act it is cartel law that applies, and this allows end users to freely choose their supply without legally regulated network access. This means that electricity supply companies have to conclude

supply contracts that take account of the readiness on the part of consumers, and in particular energy-intensive commercial end users, to change their supplier. This can have negative consequences on tariffs for private households that also have to buy their electricity from the same supply company. The Electricity Supply Act will give private households the right to a fixed tariff for the first time, and on top of this the Electricity Commission as regulatory authority will supervise these tariffs.

Summary

The revised Electricity Act will provide legal protection in the area of cross-border electricity trading, secure the national and international supply of electricity via transmission networks and strengthen Switzerland's role as an electricity trading hub in the heart of Europe. In addition, the Electricity Supply Act will ensure competition wherever possible and potentially successful, as well as a secure and sustainable supply of electricity to end users throughout the country, and appropriate but effective promotion of renewable forms of energy.

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