Electricity Supply Act

dated …

Draft
Unofficial English version

The Federal Assembly of the Swiss Confederation,

based on Articles 89, 91 (paragraph 1), 96 and 97 (paragraph 1) of the Federal Constitution[1], having regard to the Message of the Federal Council dated 03 December 2004[2],

decrees as follows:

Chapter 1: General provisions

Article 1 Objectives

This Act defines the general conditions for:

a. The secure and sustainable supply of electricity to end users in all parts of the country;

b. Competition at the national level and participation in international competition in the electricity sector.

Article 2 Scope of application

[1] This Act applies to electricity networks that are operated with 50 Hz alternating current.

[2] The Federal Council may extend the scope of application of this Act or of provisions thereof to other electricity networks insofar as this may be necessary for reaching the objectives defined in Article 1 above.

Article 3 Subsidiarity and co-operation

[1] For the purpose of enforcing this Act, the federal government and the cantons (within the scope of their responsibilities) shall work together with all involved organisations, especially those within the industry.

[2] They shall examine voluntary measures on the part of these organisations and companies before issuing legal provisions. They shall adopt agreements concluded by these organisations and companies into legal provisions, either in part or in their entirety, insofar as this is feasible and necessary.

Article 4 Definitions

[1] Definitions of terms used in this Act:

a. *Electricity network:* System comprising a number of transmission lines and the necessary auxiliary installations for the transmission and distribution of electricity.

1 SR **101**
2 BBl **2005** 1611

Electricity supply lines covering a limited area for specific distribution, such as those installed in industrial sites or within buildings, are not regarded as electricity networks.

b. *Renewable energies:* Hydropower, solar energy, geothermal energy, environmental heat, wind energy and biomass.

c. *Network access:* Right to use a network in order to obtain electricity from any supplier or to inject electricity into a network.

d. *Reserve power supply:* Power supply that can be drawn on automatically or manually by power plants to maintain the scheduled level of electricity exchange and ensure the continued secure operation of the network.

e. *Control zone:* Zone in which the transmission network operator is responsible for network control. This zone is physically defined through measurement stations.

f. *System services:* Auxiliary services required for the secure operation of networks. These include in particular: system co-ordination, balance management, primary control, self-contained start and independent operation capability of generators, maintenance of voltage level (including reactive power component), operational measurement and compensation of active power losses.

g. *Transmission network:* Network used for the transmission of electricity over large distances within the country and for connection to networks outside the country, usually operated within the range of 220 to 380 kV (extra-high voltage).

h. *Distribution network:* high, medium or low voltage network for the purpose of supplying electricity to end-users or electric utilities.

[2] The Federal Council may modify the above definitions and other terms used in this Act, and adapt them to changing technical requirements.

Chapter 2: Security of supply

Section 1: Securing basic supply

Article 5 Network zones and connection guarantee

[1] The cantons are responsible for designating the zones in their sovereign territory in which network operators are active. Allocation of network zones must be non-discriminatory, and may be linked to a service level agreement with the network operator.

[2] Within their designated network zones, network operators are obliged to connect all end-users and all electricity producers to their network. The cantons shall monitor compliance with the connection guarantee.

[3] The cantons may oblige network operators active within their sovereign territory to also connect end-users to their network who are outside the designated network zone.

[4] The cantons may draw up provisions governing connections outside the populated area, as well as specify associated conditions and costs.

[5] The Federal Council may lay down transparent and non-discriminatory regulations governing the allocation of end-users, electricity producers and network operators to a specific voltage level.

Article 6 Delivery guarantee and pricing structure for households

[1] Within their network zone, operators of distribution networks shall take the necessary measures to ensure that they are able to deliver the desired quantity of electricity to households at the desired quality and at reasonable prices.

[2] Within their network zone they shall specify a uniform electricity tariff for households that have similar consumption characteristics and obtain electricity from the same voltage level. Electricity tariffs shall be valid for at least one year and must be published showing a clear distinction between network use, energy supply, fees and payments to the community or state.

[3] With respect to specifying the tariff component for network use, Articles 14 and 15 shall apply. The network operator shall keep cost unit accounts for the tariff component relating to energy supply.

[4] Operators of distribution networks are obliged to pass on to households any price benefits they may obtain as a result of their free network access.

Article 7 Model for guaranteed electricity supply

[1] Within their own network zone, operators of distribution networks shall take the necessary measures to ensure that they are able to deliver the desired quantity of electricity to households that do not make use of their network access in accordance with Article 13, paragraph 1, at the desired quality and at reasonable prices.

[2] Within their own network zone, operators of distribution networks shall specify a uniform electricity tariff for households that have similar consumption characteristics and obtain electricity from the same voltage level. Electricity tariffs shall be valid for at least one year and must be published showing a clear distinction between network use, energy supply, fees and payments to the community or state.

[3] With respect to specifying the tariff component for network use, Articles 14 and 15 shall apply. The network operator shall keep cost unit accounts for the tariff component relating to energy supply.

[4] The Federal Council shall regulate this procedure, and in particular the relevant contractual modalities.

Section 2: Securing the power supply

Article 8 Duties of network operators

[1] Network operators shall co-ordinate their activities. Their main responsibilities are as follows:

a. To operate a secure, productive and efficient network;

b. To structure and regulate the use of the network, taking due account of interaction with other networks;

c. To provide the necessary reserve supply capacities;

d. To specify the minimum technical and operational requirements for operation of the network while taking due account of international standards and recommendations of recognised specialist organisations.

[2] They shall draw up long-term plans for operating a secure, productive and efficient network.

[3] They shall inform the Electricity Commission (ElCom) on an annual basis about the operation and load of the networks, as well as about any unusual occurrences.

[4] The Federal Council may grant operators of small-scale distribution networks exemption from some of the obligations cited in paragraphs 2 and 3 above.

[5] In the event of violations of duties, the Federal Council may impose sanctions, including compensation measures.

Article 9 Measures in the event of threats to the electricity supply

[1] In the event that the secure and economical supply of electricity within the country should be seriously threatened in the medium term or long term despite precautions on the part of electricity industry, the Federal Council may take measures to:

a. Increase the efficiency of electricity use;

b. Procure electricity, in particular through long-term purchase agreements and the expansion of production capacities;

c. Support and expand electricity networks.

[2] The Federal Council may carry out requests for tenders for increasing the efficiency of electricity use and the procurement of electricity. Any such requests for tenders must specify the criteria relating to security of supply and economic viability.

[3] In the event that such requests for tenders as cited in paragraph 2 above should result in additional costs, these shall be offset by the Swiss transmission network operator in the form of a surcharge on the transmission costs for high voltage networks. This form of compensation shall be limited to a specific period.

Chapter 3: Network use

Section 1: Unbundling, cost accounting and provision of information

Article 10 Unbundling

[1] Electric utilities shall secure the independence of network operations. Cross subsidisation between network operation and other areas of activity is prohibited.

[2] Electric utilities shall treat all economically sensitive information they may obtain from the operation of electricity networks as strictly confidential – subject to any legal disclosure obligations – and may not use such information for other purposes.

[3] Electric utilities shall unbundle their activities relating to distribution networks from their other business operations, at least in terms of accounting.

[4] Electric utilities shall legally unbundle their activities relating to transmission networks from their other business operations.

Article 11 Annual financial statements and cost accounting

[1] Operators and proprietors of distribution and transmission networks shall prepare an annual financial statement for each network as well as a statement of costs, both of which must be clearly unbundled from their other business operations. Cost accounts must be submitted to the ElCom each year.

[2] The Federal Council may stipulate minimum requirements concerning the standardisation of annual financial reporting and cost accounting.

Article 12 Provision of information, preparation of invoices

[1] Network operators shall make all necessary information pertaining to the utilisation of the network readily accessible, and shall publish utilisation tariffs, electricity tariffs, minimum technical and operational requirements and the annual financial statements.

[2] They shall prepare invoices in a transparent and readily comparable manner. Fees and payments to the community or state must be shown separately. If a network operator also supplies end users with electricity, this must be shown separately on the invoices.

[3] In the event that the network operator should change supplier as of the end of the contractually specified period of notice, it may not bill any costs associated with the changeover.

Section 2: Network access and remuneration for use of network

Article 13 Network access

[1] Network operators are obliged to grant third parties access to the network without discrimination, subject to paragraph 2.

[2] Households shall not be entitled to gain access to the network.

[3] Access to the network may be denied upon written notification of the reason within ten working days following receipt of the application if the network operator is able to demonstrate that:

a. The operation of the network would be endangered;

b. No free capacities are available;

c. No reciprocal rights are granted by the authorities of the country concerned; or

d. An exception exists in accordance with Article 17, paragraph 6.

[4] For the purpose of allocating capacity in the network, the following supplies shall take precedence over other deliveries in the order cited below:

a. Supplies to households in accordance with Article 6, paragraph 1;

b. Supplies to households in accordance with Article 7, paragraph 1;

c. Supplies of electricity from renewable energy sources.

Article 14 Remuneration for use of network

[1] Remuneration for use of the network shall not exceed the recoverable costs and fees and payments to the community or state.

[2] Remuneration for use of the network shall be paid by end users per output point.

[3] The following criteria shall apply for the specification of tariffs for network use:

a. They must display simple structures and reflect the costs caused by end users.

b. They must be independent of the distance between power injection and power consumption point.

c. Within each network they must be uniform per voltage level and client group.

d. They must exclude individually billed costs.

e. They must be in line with the objective of efficient electricity use.

[4] The cantons shall take the necessary measures to offset any inappropriate discrepancies with respect to tariffs for network use in their sovereign territory. In the event that these measures should prove inadequate, the Federal Council may take other suitable action. In particular it may order the establishment of an offset fund to which all network operators are obliged to contribute. The efficiency of network operation must be secured at all times.

Article 15 Recoverable costs

[1] Recoverable costs are defined as the operating and capital costs that are required for the secure, productive and efficient operation of the network. They shall include a reasonable operating profit.

[2] Operating costs are defined as those costs for services directly relating to the operation of the network. These shall include costs for system services as well as for maintenance of the networks.

[3] Capital costs shall be calculated on the basis of the original acquisition and production costs of the existing facilities. Recoverable capital costs shall be limited to:

a. Calculatory write-offs;

b. Calculatory interest on the assets required for the operation of the networks.

[4] The Federal Council shall define the principles governing:

a. The calculation of operating and capital costs;

b. Costs to be passed on in a uniform manner and on the basis of the principle of user pays, as well as fees and other payments to the community or state. The injection of electricity at lower voltage levels shall also be taken into account.

Article 16 Costs of network use relating to cross-border supply

[1] Remuneration for cross-border utilisation of the transmission network shall be based on the costs incurred through the actual utilisation thereof. They shall be calculated separately and may not be charged to domestic end users.

[2] The calculation of capital costs shall be based on the long run average incremental costs of the utilised network capacities. Calculatory depreciation shall be linear over a specified period according to investment component. The assets required for operation shall be subject to a reasonable interest rate.

[3] The Federal Council may specify the depreciation period and designate the assets required for operation.

Article 17 Network access during capacity shortages in the cross-border transmission network

[1] In the event that demand for cross-border transmission capacity should exceed the available supply, the transmission network operator may distribute the available capacities on the basis of standard market procedures such as auctions. The Federal Council may regulate such procedure.

[2] With respect to the allocation of capacity in the cross-border transmission network, priority shall be given to supplies in accordance with Article 13, paragraph 4, and to deliveries in accordance with international sales and supply contracts concluded prior to 31 October 2002.

[3] The utilisation of allocated capacities may only be restricted if the transmission network is endangered and the operator thereof is unable to take any other measures to adjust the network load.

[4] In the event that allocated capacity should not be utilised, it shall be reallocated on the basis of standard market procedures.

[5] Revenue from market-related allocation procedures shall be deployed for the following purposes:

a. To cover the costs of cross-border electricity deliveries that cannot be directly attributed to individual parties, e.g. costs of guaranteeing allocated capacities;

b. To offset expenditure for the maintenance or expansion of the transmission network;

c. To secure the recoverable costs of the transmission network in accordance with Article 15.

[6] In connection with new capacities in the cross-border transmission network the Federal Council may provide for exceptions concerning network access (Article 13) and the calculation of recoverable network costs (Article 15).

Section 3: Swiss transmission network

Article 18 Swiss operator of the transmission network

[1] The nation-wide transmission network shall be operated by a single domestic company (Swiss transmission network operator).

[2] The transmission network operator shall be a joint stock corporation under private law, with domicile in Switzerland. The majority of the capital shall be held by Swiss companies.

[3] The transmission network operator shall neither carry out any commercial activities in the areas of electricity production, distribution and trading, nor hold interests in any companies that

carry out commercial activities in said areas. The purchase and supply of electricity required for operational reasons, especially for the provision of system services, shall be permitted.

[4] The members of the board of directors and company management may not simultaneously exercise any executive or management functions in companies that are active in the areas of electricity production and trading.

[5] The Articles of Incorporation shall include a provision that grants the cantons the right to appoint two representatives to the board of directors.

[6] The Articles of Incorporation and any amendments there to require the approval of the ElCom.

Article 19 Duties of the transmission network operator

[1] The duties of the transmission network operator shall be as follows:

a. It shall operate and supervise the nation-wide transmission network and shall manage it as a control zone. It shall be responsible for the planning and control of the entire transmission network.

b. It shall be responsible for balance management and shall provide all other system services, including a reserve power supply. It shall secure the necessary production capacities for this purpose on the basis of transparent and non-discriminatory procedures.

c. It shall order the implementation of all necessary measures in the event that the stable operation of the network should be endangered, and shall regulate all related procedures with power plant operators, network operators and other involved parties.

d. It shall define transparent and non-discriminatory procedures for dealing with network congestions.

e. It shall co-operate with transmission network operators abroad and shall represent Switzerland's interests within all involved organisations and committees.

[2] The Federal Council may assign additional duties to the transmission network operator.

[3] The transmission network operator shall regulate the disposal rights over the network facilities that are required for the performance of its duties by concluding suitable contracts with the proprietors of transmission networks.

[4] The Federal Council may grant expropriation rights to the transmission network operator for the performance of its duties.

[5] The proprietors of transmission networks shall secure the capacity and interoperability of their networks. In the event that the proprietors should fail to fulfil their obligations, the transmission network operator may request the ElCom to take the necessary measures at the proprietors' costs.

Chapter 4: Electricity Commission

Article 20 Structure

[1] The Federal Council shall appoint an Electricity Commission (ElCom) comprising five to seven members, and shall designate its president and vice-president. All members thereof shall be independent experts.

[2] The resolutions of the ElCom shall not be subject to any directives of the Federal Council and the Department of the Environment, Transport, Energy and Communications. It shall be independent of the administrative authorities and operate its own secretariat.

[3] For the purpose of enforcing the Electricity Act, the ElCom may call on the Swiss Federal Office of Energy and issue it with directives.

[4] The ElCom shall draw up a set of regulations governing its structure and management. These regulations require the approval of the Federal Council.

[5] The costs of the ElCom shall be covered via administration fees. The Federal Council shall regulate this process.

Article 21 Duties

[1] The ElCom shall ensure that the provisions of this Act are complied with, and shall take decisions and pronounce rulings that may be required for the enforcement of the provisions of this Act and its associated ordinances.

[2] In particular it shall be responsible for:

a. Making decisions regarding disputes concerning access to the network, conditions governing use of the network, remuneration and tariffs for network use, and electricity tariffs. Excluded are fees and other payments to the community or state. It may make provisional rulings regarding access to the network;

b. Official examination of network use tariffs and remuneration, as well as electricity tariffs. Excluded are fees and other payments to the community or state. It may order reductions or prohibit increases;

c. Making decisions regarding the use of revenue in accordance with Article 17, paragraph 5.

[3] The ElCom shall monitor and supervise the development of the electricity markets in order to ensure a secure and economical electricity supply in all parts of the country.

[4] In the event that the secure and economical supply of electricity within the country should be seriously threatened in the medium term or long term, the ElCom shall propose suitable measures to be taken by the Federal Council in accordance with Article 9.

[5] The ElCom shall co-ordinate its activities with foreign regulatory authorities, and shall represent Switzerland on all relevant committees and organisations.

[6] The ElCom shall inform the general public about its activities and shall submit an annual report on its operations to the Federal Council.

Chapter 5: International agreements

Article 22

The Federal Council may conclude international agreements that fall within the scope of application of this Act.

Chapter 6: Reporting obligations, official and business secrecy, supervisory fee

Article 23 Reporting obligations and inter-authority assistance

[1] Companies active within the electricity sector are obliged to provide the relevant authorities with all information that may be required for the enforcement of this Act, to submit all necessary documentation and to grant access to their premises and facilities.

[2] Federal and cantonal authorities are obliged to co-operate in clarifications by the ElCom and the relevant federal office, and to submit all necessary documentation.

Article 24 Official and business secrecy

[1] Everyone who is entrusted with the enforcement of this Act shall be obliged to maintain official secrecy.

[2] This obligation shall include the prohibition of disclosing manufacturing and business secrets.

Article 25 Data protection

[1] The Swiss Federal Office of Energy and the ElCom may process personal data within the scope of the declared purpose of this Act, including highly sensitive data relating to criminal prosecution and sanctions (Article 27).

[2] They may store such data electronically.

Article 26 Supervision fee

[1] The Federal Council shall collect an annual fee from the transmission network operator to cover the costs of supervisory activities of the ElCom and the Swiss Federal Office of Energy that are not covered by other fees.

[2] This fee shall be based on the costs charged for supervisory activities in the prior year.

[3] The supervision fee may be recovered by the network operator via network use remuneration in the transmission network.

4 The Federal Council shall specify the amount of the fee for supervisory activities.

Chapter 7: Penal clauses

Article 27

[1] Anyone who intentionally commits one of the following misdemeanours may be sentenced to a fine of up to 100,000 Swiss francs:

a. Failure to pass on price benefits in full (Article 6);

b. Failure to unbundle accounting and legal aspects of network operation, or doing so in an improper manner, or using information obtained through network operation for other purposes (Article 10);

c. Failure to unbundle cost accounting aspects of network operation, or doing so in an improper manner (Article 11);

d. Failure to show costs for network use in the accounts, or doing so in an improper manner, or unlawfully charging costs in association with change of supplier (Article 12);

e. Unlawful denial of access to the network (Article 13);

b. Refusal to provide the relevant authorities with requested information, or provision of false information (Article 23, paragraph 1);

g. Infringement against the provisions of this Act or an associated ordinance if the misdemeanour concerned is declared punishable by law, or failure to comply with a ruling with accompanying threat of punishment as per this Article.

[2] If the offender has acted negligently, he or she may be sentenced to a fine of up to 20,000 Swiss francs.

[3] The Swiss Federal Office of Energy shall prosecute and judge infringements in accordance with the provisions of the Federal Administrative Penal Code dated 22 March 1974[3].

Chapter 8: Concluding clauses

Article 28 Enforcement

[1] The cantons shall enforce Article 5, paragraphs 1 to 4, and Article 14, paragraph 4, first sentence.

[2] The Federal Council shall specify the necessary provisions for the enforcement of this Act.

[3] The Federal Council may delegate the formulation of technical and/or administrative provisions to the Swiss Federal Office of Energy.

[4] The Federal Council may call on private sector organisations to assist with the enforcement of this Act.

Article 29 Amendments to existing legislation

Amendments to previously existing legislation are dealt with in the Appendix.

3 SR **313.0**

Article 30 Referendum and date of entry into force

[1] This Act is subject to an optional referendum.

[2] The date on which this Act is to come into effect shall be specified by the Federal Council, with the following exceptions:

a. Article 7 and Article 13, paragraph 4b shall enter into effect through federal resolution 5 years after the date on which this Act enters into force.

b. Article 6, Article 13, paragraphs 2 and 4a shall be repealed via the federal resolution cited above.

c. The federal resolution cited in paragraphs 2a and 2b above shall be subject to an optional referendum.

Appendix
(Article 29)

Amendments to existing legislation

The following Acts shall be amended as indicated:

1. Federal Law dated 22 December 1916 on the Use of Hydroelectric Power[4]

Article 8

Repealed

2. Federal Energy Act dated 26 June 1998[5]

Article 7a Objectives and voluntary measures for the production of electricity from renewable energy sources

[1] The proportion of electricity production from renewable energy sources to end electricity consumption shall be increased to 77 percent by 2030. For the purpose of calculating this percentage the Federal Council may take account of electricity that has been generated from renewable energy sources outside the country.

[2] Up to 2030 the production of electricity from existing hydropower plants shall be maintained at least at the level recorded in 2000.

[3] The costs incurred by network operators in association with requests for tenders that are intended to promote the production of electricity from renewable energy sources but which cannot be recovered via market prices may be financed in the form of a surcharge on transmission costs of the high-voltage network.

[4] Following consultation with the cantons, the Federal Department of the Environment, Transport, Energy and Communications shall conclude agreements with the relevant trade and industry organisations concerning the development and implementation of programmes for financeable requests for tender as per paragraph 3 above. These programmes shall require the approval of the Swiss Federal Office of Energy.

[5] The Federal Council shall specify the stages in which the objectives cited in paragraphs 1 and 2 above are to be met. Every five years it shall examine the degree to which the objectives have been met.

4 SR **721.80**
5 SR **730.0**

[6] In the event that interim objectives as per paragraph 5 above cannot be met, the Federal Council shall order measures in accordance with Articles 7b and 7c below. For this purpose it shall take account of the international trend.

Article 7b Quotas and certificates for increasing the production of electricity from renewable energy sources

[1] Electric utilities that deliver electricity to end users are obliged to supply their customers with a minimum quantity of electricity generated from renewable sources. The Federal Council shall specify the annual quantity.

[2] Electric utilities that deliver a higher quantity to their customers than specified in paragraph 1 above may have the amount that exceeds the minimum quantity recorded in the form of a certificate.

[3] Electric utilities that are unable to deliver the minimum quantity to their customers as specified in paragraph 1 above are obliged to attain the specified minimum quantity by purchasing certificates.

[4] The Federal Council shall regulate this procedure, in particular:

a. Designation of the authorities responsible for issuing, trading and cancelling certificates;

b. Compensatory payments if the objectives are not met or certificates are not provided;

c. Exceptions for electric utilities that deliver to energy-intensive end users.

Article 7c Feed-in tariff for increasing the production of electricity from renewable energy sources

[1] Network operators are obliged to accept all electricity from producers that is generated via new facilities through the use of solar energy, geothermal energy, wind energy or biomass, and to remunerate these producers.

[2] New facilities are defined as those facilities that commence operation after the date on which this clause enters into effect.

[3] Remuneration shall be based on the acquisition costs of reference production plants in the year of construction, classified according to capacity and other economically relevant criteria.

[4] The Federal Council shall regulate this procedure, in particular:

a. Acquisition costs according to production technology;

b. Annual reduction of remuneration;

c. Duration of remuneration.

[5] To finance the costs incurred in association with the acceptance of electricity in accordance with this Article, but which cannot be offset through market prices, network operators may impose a surcharge on the transmission costs of high-voltage networks.

Article 20, paragraph 1

[1] The Federal Council shall periodically examine the extent to which the measures cited in this Act have contributed towards the attainment of the objectives referred to in Articles 1 and 7a.

3. Federal Electricity Act dated 24 June 1902[6]

Article 3a

Repealed

Article 15, paragraph 2

[2] In each specific case the implementation of the latter shall take the most suitable form for all involved facilities. In the event of failure to reach agreement on the most suitable measures, the decision shall be taken by the Federal Department of the Environment, Transport, Energy and Communications.

Article 15a

Lines with the necessary auxiliary facilities for the transmission and distribution of electricity shall remain the property of those companies in the energy sector that constructed them or acquired them from third parties.

Section IIIB (Articles 18a to 18l)

Repealed

Article 19

Repealed

Article 44

Right of expropriation may be asserted for the construction and modification of facilities for the transmission and distribution of electricity and for the low-voltage installations required for their operation.

Article 55, paragraph 1bis

Repealed

6 SR **734.0**

Federal Act on low-voltage and high-voltage electrical installations
(Federal Electricity Act)

Revision dated …

The Federal Assembly of the Swiss Confederation,
having regard to the message from the Federal Council dated 03 December 2004[1],
decrees as follows:

I

The Electricity Act dated 24 June 1902[2] shall be amended as follows:

Article 3a (new)

Definitions of terms used in this Act:

a. System services: Auxiliary services required for the secure operation of networks. These include in particular: system co-ordination, primary control, self-contained start and independent operation capability of generators, maintenance of voltage level (including reactive power component), operational measurement and compensation of active power losses;

b. Transmission network: Network used for the transmission of electricity over large distances within the country and for connection to networks outside the country, usually operated within the range of 220 to 380 kV (extra-high voltage);

c. Reserve power supply: Power supply that can be drawn on automatically or manually by power plants to maintain the scheduled level of electricity exchange and ensure the continued secure operation of the network.

III*b*. Network access for cross-border electricity trading

Article 18a (new)

[1] The nation-wide transmission network shall be operated by a single domestic company (Swiss transmission network operator).

1 BBl **2006** 1611
2 SR **734.0**

[2] The transmission network operator shall be a joint stock corporation under private law, with domicile in Switzerland. The majority of the capital shall be held by Swiss companies.

[3] The transmission network operator shall neither carry out any commercial activities in the areas of electricity production, distribution and trading, nor hold interests in any companies that carry out commercial activities in said areas. The purchase and supply of electricity required for operational reasons, especially for the provision of system services, shall be permitted.

[4] The members of the board of directors and company management may not simultaneously exercise any executive or management functions in companies that are active in the areas of electricity production and trading.

[5] The Articles of Incorporation shall include a provision that grants the cantons the right to appoint two representatives to the board of directors.

[6] The Articles of Incorporation and any amendments thereto require the approval of the ElCom.

Article 18b (new)

[1] The duties of the transmission network operator shall be as follows:

a. It shall operate and supervise the nation-wide transmission network and ensure the secure, productive and efficient operation thereof. It shall be responsible for the planning and control of the entire transmission network.

b. It shall provide all system services, including a reserve power supply. It shall secure the necessary production capacities for this purpose on the basis of transparent and non-discriminatory procedures.

c. It shall order the implementation of all necessary measures in the event that the stable operation of the network should be endangered, and shall regulate all related procedures with power plant operators, network operators and other involved parties.

d. It shall define transparent and non-discriminatory procedures for dealing with network congestions.

e. It shall co-operate with transmission network operators abroad and shall represent Switzerland’s interests within all involved organisations and committees.

f. It shall specify the minimum technical and operational requirements for operation of the network while taking due account of international standards and recommendations of recognised specialist organisations.

g. It shall make all necessary information pertaining to the utilisation of the network readily accessible, and shall publish utilisation tariffs, minimum technical and operational requirements and the annual financial statements.

h. It shall draw up long-term plans for maintaining a secure, productive and efficient network.

i. It shall inform the ElCom on an annual basis about the operation and load of the networks, as well as about any unusual occurrences.

[2] The Federal Council may assign additional duties to the transmission network operator.

Article 18c (new)

[1] Electric utilities shall legally unbundle their activities relating to transmission networks from their other business operations.

[2] The proprietors of transmission networks shall secure the capacity and interoperability of their networks. In the event that the proprietors should fail to fulfil their obligations, the transmission network operator may request the Electricity Commission (ElCom) to take the necessary measures at the proprietors' costs.

[3] The transmission network operator shall regulate the disposal rights over the network facilities that are required for the performance of its duties by concluding suitable contracts with the proprietors of transmission networks.

[4] The Federal Council may grant expropriation rights to the transmission network operator for the performance of its duties.

Article 18d (new)

[1] The transmission network operator is obliged to grant third parties non-discriminatory access to the network for the purpose of cross-border trading in electricity.

[2] Access to the network may be denied upon written notification of the reason within ten working days following receipt of the application if the transmission network operator is able to demonstrate that:

a. The operation of the network would be endangered;

b. No free capacities are available;

c. No reciprocal rights are granted by the authorities of the country concerned; or

d. An exception exists in accordance with Article 18*f*, paragraph 6.

Article 18e (new)

[1] Remuneration for cross-border utilisation of the transmission network shall be based on the costs incurred through the actual utilisation thereof. They shall be calculated separately and may not be charged to domestic end-users.

[2] The calculation of capital costs shall be based on the long run average incremental costs of the utilised network capacities. Calculatory depreciation shall be linear over a specified period according to investment component. The assets required for operation shall be subject to a reasonable interest rate.

[3] The Federal Council may specify the depreciation period and designate the assets required for operation.

Article 18f (new)

[1] In the event that demand for cross-border transmission capacity should exceed the available supply, the transmission network operator may distribute the available capacities on the basis of standard market procedures such as auctions. The Federal Council may regulate such procedure.

[2] With respect to the allocation of capacity in the cross-border transmission network, priority shall be given to supplies to domestic end users and deliveries in accordance with international sales and supply contracts concluded prior to 31 October 2002.

[3] The utilisation of allocated capacities may only be restricted if the transmission network is endangered and the operator thereof is unable to take any other measures to adjust the network load.

[4] In the event that allocated capacity should not be utilised, it shall be reallocated on the basis of a standard market procedure.

[5] Revenue from market-related allocation procedures shall be deployed for the following purposes:

a. To cover the costs of cross-border electricity deliveries that cannot be directly attributed to individual parties, e.g. costs of guaranteeing allocated capacities;

b. To offset expenditure for the maintenance or expansion of the transmission network;

c. To offset other costs within the transmission network, in particular in consideration of sufficient compensation to the proprietor to cover risk.

[6] In connection with new capacities in the cross-border transmission network the Federal Council may provide for exceptions concerning network access (Article 18*d*) and the calculation of recoverable network costs (Article 18*e*).

Article 18g (new)

[1] The Federal Council shall appoint an Electricity Commission (ElCom) comprising five to seven members, and shall designate its president and vice-president. All members thereof shall be independent experts.

[2] The resolutions of the ElCom shall not be subject to any directives of the Federal Council and the Department of the Environment, Transport, Energy and Communications. It shall be independent of the administrative authorities and operate its own secretariat.

[3] For the purpose of enforcing the Electricity Act, the ElCom may call on the Swiss Federal Office of Energy and issue it with directives.

[4] The ElCom shall draw up a set of regulations governing its structure and management. These regulations require the approval of the Federal Council.

[5] The costs of the ElCom shall be covered via administration fees. The Federal Council shall regulate this process.

Article 18h (new)

[1] The ElCom shall ensure that the provisions of section III*b* of this Act are complied with, and shall take decisions and pronounce rulings that may be required for the enforcement of the provisions of this Act and its associated ordinances.

[2] In particular it shall be responsible for:

a. Making decisions regarding disputes concerning access to the transmission network, conditions governing use of the network and remuneration for use of the network. It may make provisional rulings regarding access to the network;

b. Making decisions regarding the use of revenue in accordance with Article 18*f*, paragraph 5.

[3] The ElCom shall monitor and supervise the development of the electricity markets in order to ensure a secure and economical electricity supply in all parts of the country.

[4] The ElCom shall co-ordinate its activities with foreign regulatory authorities, and shall represent Switzerland on all relevant committees and organisations.

[5] The ElCom shall inform the general public about its activities and shall submit an annual report on its operations to the Federal Council.

Article 18i (new)

The Federal Council may conclude international agreements that fall within the scope of application of section III*b* of this Act.

Article 18j (new)

Appeals against rulings of the ElCom may be lodged with the Federal Appeals Commission for Infrastructure and Environment.

Article 18k (new)

[1] Companies active within the electricity sector are obliged to provide the relevant authorities with all information that may be required for the enforcement of this Act, to submit all necessary documentation and to grant access to their premises and facilities.

[2] Federal and cantonal authorities are obliged to co-operate in clarifications by the ElCom and the relevant federal office, and to submit all necessary documentation.

Article 18l (new)

[1] The Federal Council shall collect an annual fee from the transmission network operator to cover the costs of supervisory activities of the ElCom and the Swiss Federal Office of Energy that are not covered by other fees.

[2] This fee shall be based on the costs charged for supervisory activities in the prior year.

[3] The transmission network operator may add the supervision fee to the recoverable network costs in accordance with Article 18*e*, paragraph 1.

[4] The Federal Council shall specify the amount of the fee for supervisory activities.

Article 55, paragraph 1bis (new)

[1bis] Anyone who intentionally commits one of the following misdemeanours may be sentenced to a fine of up to 100,000 Swiss francs:

a. Unlawful denial of access to the transmission network (Article 18*d*);

b. Refusal to provide the relevant authorities with requested information, or provision of false information (Article 18*k*, paragraph 1);

c. Infringement against the provisions of this Act or an associated ordinance if the misdemeanour concerned is declared punishable by law, or failure to comply with a ruling with accompanying threat of punishment as per this Article within the scope of the enforcement of section III*b*.

II

[1] This Act is subject to an optional referendum.

[2] The date on which this Act is to come into effect shall be specified by the Federal Council.

[3] The provisions of section III*b* of this Act shall remain in effect until the Electricity Supply Act enters into force, or until 31 December 2008 at the latest.

Message to Parliament concerning the revision of the Electricity Act and the new Electricity Supply Act

dated 3 December 2004

Dear Presidents,
Ladies and Gentlemen,

We herewith submit our message concerning the revision of the Electricity Act and the new Electricity Supply Act, and request your approval thereof.

At the same time we petition you to close the following parliamentary motion:

2004 M 03.3059 Electricity market. Secure supply (S 16.6.03, Schweiger; N 18.3.04).

Respectfully yours,

3 December 2004

On behalf of the Swiss Federal Council,

Federal President: Joseph Deiss
Federal Chancellor: Annemarie Huber-Hotz

Overview

The requested approval by Parliament of the two cited drafts will create the legal basis that is required for securing investments, and thus for guaranteeing supply in the electricity sector.

The general conditions for electricity supply in Switzerland have changed since the rejection of the Electricity Market Act (EMG, BBl 1999 *7370 ff.) by the electorate on 22 September 2002. Firstly, in a ruling pronounced on 17 June 2003 (BGE* 129 *II 497), the Federal Tribunal recognised the right of access to the network for third parties in accordance with the Cartels Act. Following the rejection of the Electricity Market Act, no other provisions apply that would render the general principles of cartel law inapplicable to the electricity industry. Secondly, cross-border electricity trading is constantly gaining importance. The blackout in Italy that occurred in September 2003 demonstrated that the existing regulation of the market needs to be closely examined in the interests of security of supply. Thirdly, the introduction of a single electricity market in the EU has meanwhile been defined in detail and accelerated. By 2007, all end users in the EU will be able to freely choose their electricity supplier. As a European electricity supply hub, Switzerland cannot completely ignore this development.*

Following the rejection of the Electricity Market Act, the Federal Department of the Environment, Transport, Energy and Communications (hereinafter referred to as DETEC) entrusted a politically broad-based commission of experts with the task of defining key criteria for new legislation regulating the electricity industry. The resulting criteria were taken as the basis for drawing up the new Electricity Supply Act. The aim is that the market should be opened in two stages. The first five-year stage of partial market opening would be used for gathering findings. By contrast with the draft concept in which 100 MWh was specified as the threshold for annual consumption, the current version provides for network access during the first stage for all end users other than private households. After a period of five years, private households will also be able to decide whether they want a different supplier. However, a "guaranteed electricity supply" model gives them the option of continuing to purchase electricity from their existing supplier. By contrast with the Electricity Market Act, the transition to full market opening will not take place automatically, but instead will require a resolution by the Federal Assembly that will be subject to optional referendum.

To accompany the Electricity Supply Act, the Federal Council is also (simultaneously) proposing a revision of the Electricity Act that provides for advance provisional regulation of cross-border electricity trading until the Electricity Supply Act enters into effect. This procedure permits a step-by-step opening of the market. In view of the developments within the EU (enactment of EU Ordinance 1228/2003 on 1 July 2004), regulation of cross-border trading has high priority.

On 30 June 2004 the Federal Council released the two drafts for the purpose of consultation until 30 September 2004. On the basis of the comments that were submitted, both drafts have been reduced to the most important principles.

Table of contents

Overview

1 Introduction **5**

1.1 Current situation 5
1.1.1 Organisation and structure of Switzerland's electricity industry 5
1.1.2 Reasons for amending legislation governing electricity supply 6

1.2 Proposed new legislation 7
1.2.1 Objectives and principles 7
1.2.2 Basic supply and security of supply 8
1.2.3 Regulation of the market 10
1.2.4 Institutional aspects 11
1.2.5 Renewable forms of energy and energy efficiency 12
1.2.6 Advance regulation of cross-border electricity trading 15

1.3 Substantiation and evaluation of the proposed solution 16
1.3.1 Examined alternatives 16
1.3.2 Experiences in other countries and conclusions for Switzerland 18
1.3.3 Results of the consultation procedure, revision of drafts 19

1.4 Implementation 20
1.4.1 Co-operation with involved organisations (subsidiarity principle) 20
1.4.2 Co-operation at the international level 21
1.4.3 Ordinances 21

1.5 Handling of the drafts in Parliament 21
1.5.1 Proposed two-stage procedure 21
1.5.2 Pending parliamentary motions and initiatives 22
1.5.3 Position of the National Council's "UREK" sub- commission 24

2 Explanations of specific Articles **25**

2.1 Revision of the Electricity Act 25
2.1.1 Articles 18a to 18l 25

2.2 Electricity Supply Act 33
2.2.1 Chapter 1: General provisions 33
2.2.2 Chapter 2: Security of supply 35
2.2.2.1 Section 1: Guaranteeing basic supply 35
2.2.2.2 Section 2: Securing the national electricity supply 38
2.2.3 Chapter 3: Network use 40
2.2.3.1 Section 1: Unbundling, cost accounting and provision of information 40
2.2.3.2 Section 2: Network access and remuneration for use of network 42
2.2.3.3 Section 3: Swiss transmission network 49
2.2.4 Chapter 4: Electricity Commission 51
2.2.5 Chapter 5: International agreements 53
2.2.6 Chapter 6: Reporting obligations, official and business secrecy, supervisory duties 53
2.2.7 Chapter 7: Penal clauses 55
2.2.8 Chapter 8: Concluding clauses 56

2.2.9 Appendix: revisions of existing legislation 57

3 Impacts 62

3.1 Impacts at government level 62

3.2 Impacts on the cantons and municipalities 62

3.3 Impacts on the economy 62

3.3.1 Impacts on individual social groups 62

3.3.2 Impacts on the overall economy 64

3.4 Other impacts 65

4 Relationship to legislature planning and financial plan 65

5 Legal aspects 65

5.1 Constitutionality 65

5.2 Relationship to other federal laws 66

5.2.1 Cartels Act 66

5.2.2 Pricing Control Act 67

5.2.3 Federal Law on National Economic Supply 67

5.2.4 Energy Act 67

5.2.5 Swiss Code of Obligations 68

5.3 Compatibility with Switzerland's international obligations 68

5.4 Relationship to cantonal legislation 69

5.5 Relationship to European legislation 70

5.5.1 Relevant provisions in the EU 70

5.5.2 Compatibility of Switzerland's legislation with EU regulations 71

5.6 Form of legislation 72

5.7 Requirement of approval of expenditure 72

5.8 Delegation of legislative powers 72

Message to Parliament

1 Introduction

1.1 Current situation

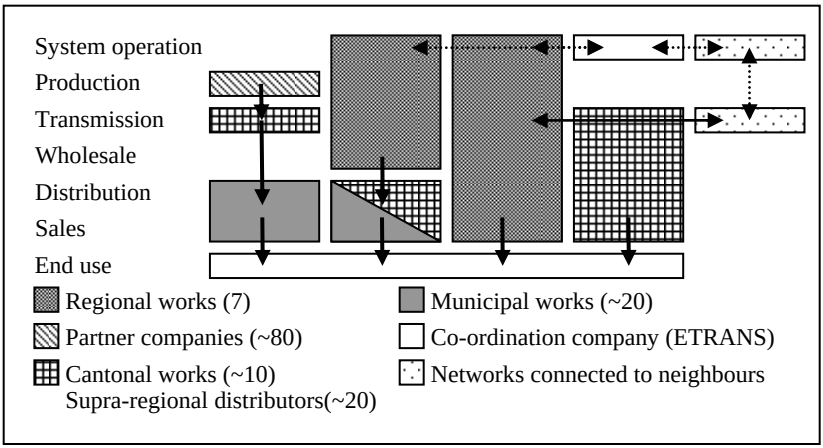
1.1.1 Organisation and structure of Switzerland's electricity industry

In Switzerland, the energy industry is responsible for supplying all forms of energy, while the federal government and the cantons provide the necessary frame work to ensure that the industry fulfils its duties in the interests of the entire population.

In an international comparison, Switzerland's electricity market is highly fragmented. The supply of electricity is secured by some 900 electric utilities, including seven consortiums, and approximately 80 producers. Many municipal electricity works belong to the local council, and are also responsible for supplying water and gas. In some cantons and towns, a single vertically integrated company is responsible for the entire supply chain, while in other cantons a variety of companies share this responsibility. Figure 1 presents an overview. Approximately 80 percent of the electric utilities capital totalling around 5.6 billion Swiss francs is held by the public sector, while the remaining 20 percent is held by private companies (in Switzerland and abroad).

Figure 1

Present-day structure of electricity supply in Switzerland



Cross-border electricity trading is of major significance for Switzerland, both economically and in terms of security of supply. With an export surplus of approximately 5 to 10 TWh, the electricity trading balance rose to more than 1 billion Swiss francs in the period from 2001 to 2003 as a result of increasing wholesale prices. In 2003, domestic end consumption worth 8.3 billion Swiss francs amounted to approximately 55 TWh, with private households, trade and industry and

the services sector each accounting for one-third. The proportion of electricity to overall energy consumption was approximately 23 percent in 2003.

1.1.2 Reasons for amending legislation governing electricity supply

Following the rejection of the proposed Electricity Market Act, the Federal Council re-assessed the situation and came to the conclusion that, for the following reasons existing legislation governing electricity supply was outdated and needed to be adapted:

- In a ruling by the Federal Tribunal on 17 June 2003 in the case of Entreprises Electriques Fribourgeoises (EEF) versus Watt/Migros (BGE 129 II 497), EEF was ordered to transmit electricity produced by Watt/Migros via its electricity network in return for suitable remuneration. With this ruling, the Federal Tribunal therefore confirmed the applicability of the Cartels Act dated 6 October 1995 (SR *251*) to the electricity industry. However, disputes relating to the entitlement to network access on the basis of cartel law each have to be settled in court. This means that there are not only no generally applicable provisions governing network access, but also that there are no regulations governing essential matters for consumers such as security of supply. In its ruling, the Federal Tribunal also left the question open as to whether the official cantonal monopolies take precedence over the provisions of the Cartels Act. This means that the question whether such regulations are reconcilable with the Federal Constitution has still not been clarified. As a consequence, the degree of legal security for the players on the electricity market is greatly lessened, and this in turn has a negative impact on the investment climate and thus on security of supply. This development is politically undesirable.
- The causes of the blackout in Italy that occurred in September 2003 were rooted in the unresolved conflict between the trading interests of the involved operators and the technical requirements of the existing trans-national electricity system. This and other such incidents indicate that the existing standards and legal framework in Switzerland are no longer able to meet the changed technical and economic requirements. In particular, there is a need for a strong sector-related regulatory authority that is responsible for supervising cross-border trading. The importance of cross-border electricity trading has increased sharply over the past few years: physical imports and exports have risen by between 30 and 50 percent versus 1993. In the period from 1990 to 1993, the volume of exports was between 22 and 28 TWh, or approximately 45 percent of annual consumption in Switzerland, and in the period from 2000 to 2003, exports totalled between 31 and 35 TWh, or around 55 percent of domestic consumption. This trend is attributable to increased competition in the EU, and to differences in production costs. This economic pressure is currently giving rise to major physical electricity transits through Switzerland into Italy.
- Two new sets of provisions entered into effect in the EU on 1 July 2004, and these also affect Switzerland as a European electricity supply hub. The first of these concerns Directive 2003/54/EG (European Electricity Directive) of the

European Parliament and Council dated 26 June 2003[1] concerning joint regulations governing a single electricity market and the repeal of Directive 96/92/EG. This Directive sets out to improve the general conditions for a European single electricity market and specifies a definitive timetable for the market opening process. The second set of provisions concerns Ordinance 1228/2003 which was simultaneously approved by the European Parliament and Council on 26 June 2003, and which specifies uniform conditions of network access for cross-border electricity trading between member states of the EU.

– For more than ten years now, Switzerland has been suffering extremely slow growth and currently has a lower rate than any other OECD country. One of the reasons for the high price level in Switzerland is the relatively low intensity of competition on the domestic market. In September 2003, the Federal Council approved a package of measures to promote growth during the 2003 to 2007 legislative period. The revision of the Cartels Act that came into effect on 1 April 2004 was the first of these measures to be implemented, but in order to promote growth, other measures will be called for, among them the carefully planned opening of the electricity market.

1.2 Proposed new legislation

1.2.1 Objectives and principles

The *objective* of the Electricity Supply Act is to guarantee basic supply and security of supply, as well as legal security for investors, even in a open market environment. To accomplish this, the existing legislation needs to be adapted to the new economic and technical developments.

It is essential to secure Switzerland's position as an electricity supply hub, its access to the EU single electricity market and international co-operation in the area of security of supply over the long term. The position of Switzerland's electricity industry must be strengthened from both a technical and an economic point of view.

To ensure security of supply, incentives need to be created in order to encourage more competition. Electricity prices have to be transparent and thus easy to compare. Unrestricted access to information is a prerequisite for ensuring a secure and competitive electricity supply. Clarity will create a better understanding of the market and generate greater confidence at all levels of the value chain, and will also prevent misuse. Information, especially concerning capacities and prices in the area of networks as a natural monopoly, needs to be clearly comprehensible and readily accessible to all players.

As before, electricity supply is to be based on the *principle* of subsidiarity and co-operation, even with the proposed new legislation. This means that primarily those tasks are to be regulated by the authorities that the energy industry is unable to perform itself in the general interest. Before any new provisions enter into effect, existing agreements should be examined and practical solutions have to be developed in close collaboration with the involved organisations.

[1] ABl. L 176 dated 15 July 2003, p. 37

1.2.2 Basic supply and security of supply

The term “public service” is generally used in association with the supply infrastructure. This term does not have a uniform definition, but in the present document it is understood to refer to “basic supply” and “security of supply” within the electricity industry.

Basic supply refers to the right on the part of consumers to be connected to the electricity network at appropriate prices. Connections must be guaranteed within a given development area.

The costs of operating sections of a network in areas of low customer density are comparatively high. This raises the question of how extensive a supply area should be in which price solidarity is to apply. Every price adjustment means partial cross-subsidisation, which in turn reduces readiness to accept a “user pays” approach. In view of this, contributions towards network costs and network connections should be charged to each causer, insofar as this is feasible, politically desirable and acceptable. As before, practical implementation should be regulated at the cantonal, municipal or supplier level.

For the purpose of *regional adjustment*, the following key criteria are of particular importance:

- The cantons regulate the allocation of network zones to network operators. They also have the option of awarding service mandates.
- The cantons may draw up provisions governing connections outside the populated area, as well as network costs and network connection subsidies. Cantons may oblige electric utilities to connect customers outside the development area.
- In the interests of price solidarity, the same tariff is to apply for all customers of a network operator who are classified in the same category.
- In the event of major discrepancies between the average remuneration for network use, the possibility should exist for introducing an acceptable tariff solidarity among the cantons.

Security of supply is guaranteed when the desired quantity of energy is available in the entire network at the desired quality and at acceptable prices.

Responsibility for all sub-processes along the value chain has to be clearly regulated, and incentives have to exist for ensuring secure and efficient operation. It is helpful to examine the aspect of security of supply at the various points in the value chain. Table 1 shows the relevant tasks for attaining security of supply, which can be divided into three groups.

Table 1

Relevant tasks for attaining security of supply

Network	Operation	Energy
– Construction (density, elimination of bottlenecks) – Maintenance	– Balance and network congestion management – Provision of short-term reserve capacities – Maintenance of voltage level – Compensation of active current losses	Portfolio and risk management for: – production – wholesale – distribution

As a natural monopoly, a *network* is not exposed to direct competition. Construction and maintenance tasks take account of international standards and recommendations of recognised specialist organisations. Since the security of the overall network depends on the reliability of each section, the electricity industry is to be obliged by law to negotiate minimum technical and operational requirements.

Network operators recover the necessary costs for the construction and maintenance of a secure and efficient network from network users. The costs that they can recover from their customers are legally defined and are subject to the supervision of the regulatory authority. In this way both the secure operation of the network and protection of consumers are assured.

The use of extensive networks with ultra-high-voltage supply lines means added security for all network operators, since it is possible to share reserve capacities. The prerequisite for this is the availability of an internationally co-ordinated *system operation*. To date, the seven Swiss transmission network operators have implemented the regulations of the Union for the Coordination of Transmission of Electricity (UCTE) in Switzerland as sector guidelines, and established a subsidiary called ETRANS as co-ordination centre. In future, the aim is for a single, entirely independent transmission network operator to assume responsibility for system operation on the basis of a legally binding mandate. The plan is for this operator to assume responsibility for system operation for Switzerland under the name "Swissgrid" as of the beginning of 2005. The aim here is to simplify communication channels and avoid conflicts of interest between the areas of trading and operation.

The transmission network operator has to ensure that sufficient short-term reserve capacities are available and that the networks are not overloaded. The improvements to security of supply that can be achieved through the proposed legislation are: co-ordination of the individual network zones; authority to perform switching operations; bottleneck management; clearly defined point of contact for partners outside Switzerland. The proposed legislation entrusts the transmission network operator with new duties, and will receive remuneration for its provision of system services.

For the provision of the required *energy*, a distinction is made between short-term, medium-term and long-term reserve capacities and supply. For practical reasons, the transmission network operator is responsible for maintaining short-term reserve capacities. The costs associated with these capacities are to be paid equally by all

end users together with remuneration for the use of the transmission network. Responsibility for medium-term reserve capacities lies with each measurement and accounting unit, i.e. the balance management groups. Each group secures the necessary quantity of energy via supply agreements, and is responsible for maintaining adequate reserves. This gives them the incentive to manage their portfolio in line with the associated risk. Over the long term, factors such as the availability of fossil fuels and technological developments play a significant role. The general energy policy framework for the electricity industry, for example regarding the development of electricity demand, the operation of nuclear power plants or the use of renewable forms of energy, is being closely examined within the scope of analyses by the Swiss Federal Office of Energy.

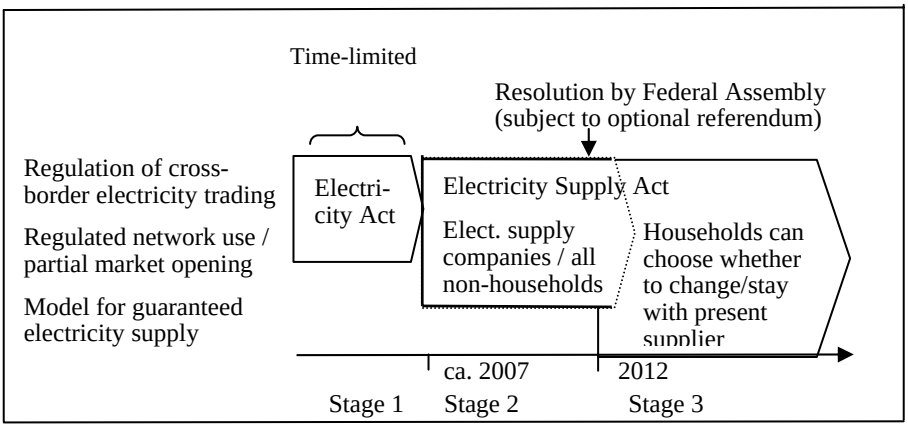
1.2.3 Regulation of the market

In order to meet the demands of the various players on the electricity market, the Federal Council is proposing a step-by-step adaptation process. The first step involves the regulation of *cross-border electricity trading*, which can be effected in advance and temporarily through a revision of the Electricity Act that will apply until the Electricity Supply Act enters into effect. Then in a second step, access to the electricity market is to be regulated for electric utilities and end users other than private households. By securing fair, non-discriminatory access to the network, and making a clear distinction between network use and energy supply, it will be possible to achieve a high degree of transparency that in turn will enhance efficiency.

In the third step, access is to be extended to all end users by means of a resolution by the Federal Assembly. Figure 2 depicts the step-by-step adaptation of the market legislation.

Figure 2

Step-by-step adaptation of electricity market legislation



Immediately after the Electricity Supply Act enters into effect, practical findings are to be gained through *partial opening of the market*. Here, all electric utilities and all end users other than private households will have the option of choosing their own supplier. This means that around 380,000 end users, representing approximately 65 percent of Switzerland's overall consumption (approx. 36 TWh p.a.), will be able to freely choose their supplier.[2]

As before, households are to be supplied by their local electric utility. They benefit from the freedom of choice enjoyed by the latter.

Energy supply and network use are to be billed separately for all end users. Electricity tariffs for households must remain stable for at least one year, and must be published in a clearly comprehensible manner. Electric utilities delivering to private households as end users must keep cost unit accounts.

In the second stage, i.e. five years after the Electricity Supply Act enters into effect, a special model (choice with guaranteed electricity supply) is to be introduced through a resolution by the Federal Assembly that will be subject to optional referendum. In other words:

– Households may periodically decide whether they want to play the market or continue to buy their electricity from their local electric utility. Electric utilities are obliged to continue supplying households that are connected to their network and choose not to change supplier.

– All other end users may continue to freely choose their supplier.

In the event that the Federal Assembly should decide not to introduce the above model in view of the findings obtained during the first five-year period, regulated network access for electric utilities and end users other than private households will continue to apply. This would also apply in the event that the introduction of the model should be successfully blocked by referendum.

1.2.4 Institutional aspects

The objectives of ensuring secure network operation and guaranteeing non-discriminatory access to the transmission network can be achieved through the unbundling of accounting, organisational and legal activities of the *transmission network* operator and the network proprietors. The aim is to establish an independent company under private law that will be responsible for the operation of the transmission network. The foreseen provision calling for the unbundling of the operation of the transmission network is reconcilable with the principles of both economic freedom and guarantee of ownership.

The principal duty of the transmission network operator is the operation of the nation-wide transmission network. Its specific tasks and sovereign competencies are to be laid down in the Electricity Supply Act. The Swiss transmission network

[2] With the previously (2002) proposed and rejected Electricity Market Act, 114 (12 percent of overall consumption) end users would have had free choice of supplier during the first three years, while 249 (16 percent of overall consumption) would have had free choice in the subsequent three years. If one calculates the degree of market opening along the lines of the rejected Electricity Market Act, on the basis of free choice of electric utilities the market already becomes fully opened in the second stage (Electricity Market Act: first stage, 30 percent; second stage, 50 percent).

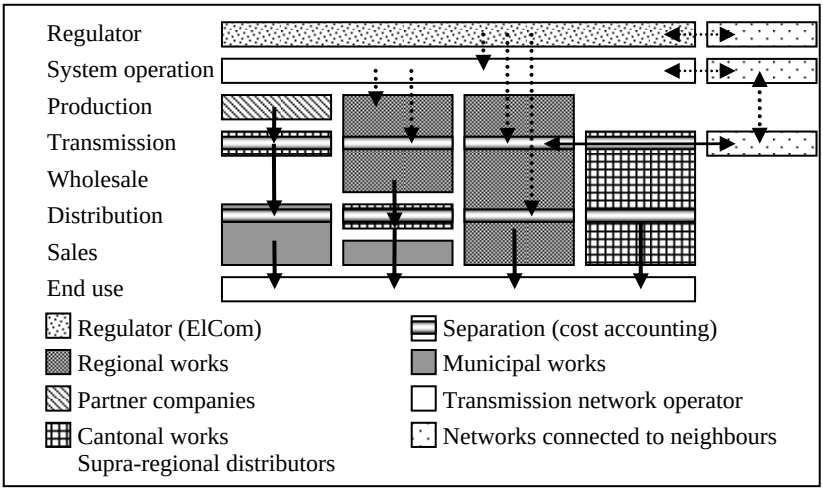
operator functions as official contact point for foreign partners, and represents the interests of Switzerland in international organisations and committees of transmission network operators. In particular it is to specify procedures governing the allocation of cross-border transmission capacities in co-ordination with system operators abroad, and will be responsible for their practical implementation.

Distribution networks are to be unbundled in terms of both bookkeeping and cost accounting.

Within Switzerland, as *regulatory authority* the Electricity Commission (ElCom) is to secure the independence of the transmission network operator and monitor compliance with the relevant legal provisions. The ElCom is to co-ordinate its activities with foreign regulatory authorities and represents Switzerland on all relevant international committees and organisations. Figure 3 depicts the areas of influence of the transmission network operator and the ElCom (regulatory authority).

Figure 3

Electricity supply structure with the new institutions



1.2.5 Renewable forms of energy and energy efficiency

The promotion of renewable forms of energy and increasing the level of energy efficiency are becoming increasingly important. In view of the finite nature of fossil resources, the problems associated with CO_2 emissions and Switzerland's dependence on foreign suppliers, a transition to new energy systems will be unavoidable in the long term. In order to avoid a dramatic changeover several decades from now, it is essential to start introducing new technologies onto the market today, including those for producing electricity from renewable energy sources.

The opening of the energy markets in the EU has given rise to new market structures that can have both positive and negative impacts on energy efficiency and the use of

renewable forms of energy. For example, uncertainties over the viability of investments in large-scale electricity production plants can give rise to heightened interest in small-scale, decentralised facilities. A stronger customer orientation means acknowledging that effective energy requirements for lighting, air-conditioning, drives and motors, etc., need to be met significantly more efficiently than they have been to date. On the other hand, falling or fluctuating electricity prices as the result of opening of the markets can represent an obstacle to energy-efficiency measures.

Evaluation of instruments to promote the use of renewable forms of energy

As recently witnessed in Germany, a system of *remuneration* for the input of electricity from renewable energy sources based on production costs can quickly generate investments as well as support planning activities. Specifying the applicable level of remuneration is an especially demanding task, particularly when a step-by-step adjustment is foreseen that is to act as an incentive for reducing production costs. Since increasing input levels result in higher financing requirements, and the demands placed on reserve capacities (with variable input levels that cannot be constantly controlled) and network operation also increase, this form of promotion can in fact give rise to unexpected costs. For this reason, some countries have imposed an upper limit on overall financial support.

By contrast with price-related promotion tools, the objective of volume-based instruments such as *quotas* is to guarantee renewable forms of energy a certain share of the market. The quota model with trading in certificates is regarded as economically efficient because it is primarily the most economical technologies that come into play. It is the electricity suppliers themselves who decide how the quota is to be met. They can either buy electricity from renewable energy sources on the certificates market from independent producers, or can produce it themselves. This results in competition among alternative electricity producers, which in turn gives rise to more efficient production. But without additional measures such as quotas differentiated by production technology or investment contributions, this can also prove to be detrimental for production methods that are initially expensive but promise to be very successful over the longer term. Reasonable quotas are therefore a prerequisite for attaining the declared promotion objectives.

The *request for tenders* procedure is also based on the principle of competition. Here, electric utilities invite potential production plant operators to submit proposals. The electric utility then guarantees its acceptance of the electricity produced by the chosen plant operator, as well as payment of corresponding remuneration, for a specified period. The practice of differentiating by technology means that no single form of energy can dominate the request for tenders procedure. One of the advantages of this procedure is its flexibility. The specified quota, composition of forms of energy and duration of agreements can all vary. However, bidders cannot be certain that their offer will be successful, and it is conceivable that they could find themselves excluded from the promotion of their production facilities for several years. In practice there have also been cases in which successful bidders have not always been able to deliver the contractually assured capacity because they have not been granted the necessary permit for the construction of the plant concerned.

No promotion instrument is able to fully meet all requirements, so the choice depends on which aspect is rated as a priority. A policy mix can often be a good solution. In Sweden, for example, the transition from input remuneration to a compulsory supply quota was cushioned by a temporary minimum remuneration that provides the necessary level of investment security.

Situation in the EU

A variety of directives and guidelines have been introduced or proposed in the EU over the past few years concerning the promotion of electricity production from renewable energy sources and efficient energy use. Some member states of the EU are implementing their own promotion programmes in various forms and combinations. For example, *Germany* is focusing on, and promoting, *remuneration for input from renewable energy sources*, while in *the Netherlands* the government has opted for voluntary agreements with the energy sector and subsequently plans to introduce a voluntary system involving a *supply quota with trading in certificates*. In the *UK* a *request for tenders* procedure was chosen, which is now to be replaced by a compulsory supply quota. And in *France*, remuneration for input applies to production facilities with a capacity below 12 MW, while a request for tenders procedure applies to larger power plants. A quota system may be introduced at a later date, depending on the degree to which the specified targets are met.

Situation in Switzerland

The promotion of renewable forms of energy and efficient energy use are governed by the provisions of the Energy Act dated 26 June 1998 (EnG, SR 730.*0)*. The promotion instruments cited therein are to be strengthened by the provisions of the Electricity Supply Act. However, the Federal Council may only introduce a quota system or higher level of remuneration for injection from new renewable sources if it should become apparent that it will not be possible to reach the declared targets through *voluntary measures on the part of the electricity industry*. In this connection it is to take account of developments relating to prices and technologies, as well as findings from the promotion policy within the EU. Here the option of combining quotas and input remuneration to promote renewable forms of energy is to remain open.

The electricity sector has the option of initiating a request for tenders procedure for new electricity production facilities via a new agency (that has yet to be established). To increase energy efficiency, available options include energy efficiency contracting, energy consulting and the use of consumption analyses. Thanks to their proximity to their customers, access to information about facilities, appliances and the existing infrastructure, operators of distribution networks and electric utilities are particularly suitable for the implementation of such measures.

Measures on the part of the electricity industry may be goal-oriented, as is already the case in some electric utilities that participate in “green power” exchanges or market certificates for electricity from hydropower. To enable trading in certificates, the involved states need to create a declaration system that provides information about the origin, time and nature of the produced electricity. Some systems of this type are already being developed in Europe on a voluntary basis. Switzerland will be able to benefit from this market if it commits itself to targets relating to increasing

the proportion of renewable energy to the same level as that in the EU countries concerned.

1.2.6 Advance regulation of cross-border electricity trading

The need to adapt existing agreements concerning cross-border electricity trading to the changed conditions was made very clear following the blackout that occurred in Italy in September 2003. The main cause for this supply failure was the major discrepancy between the transmission capacities allocated for commercial use and the effective physical flows on the cross-border supply lines from France and Switzerland into Italy.

The aim behind the proposed revision of the provisions of the Electricity Act governing cross-border trading is to create a solution that is compatible with EU Ordinance 1228/2003 and secures (and as far as possible, strengthens) Switzerland's position as an electricity supply hub in Europe. In this way, revenue from the settlement of transit costs and from trading activities can be kept in the country and used as amortisation for investments carried out in Switzerland.

At the same time as the Electricity Act is debated and enacted, an agreement needs to be negotiated and concluded between Switzerland and the EU, the aim of which is to secure the recognition on the part of the EU that the legislation in effect in Switzerland is compatible with the regulations in place in Europe. The Federal Council is to be granted the necessary authority to conclude such an international agreement when the revised Electricity Act enters into effect.

Some of the provisions contained in the Electricity Supply Act that are to replace those in the Electricity Act when they enter into effect are formulated in less detail than their counterparts in the Electricity Act since regulations in the form of an ordinance will be introduced for enforcing the Electricity Supply Act. In terms of governing cross-border electricity trading, the content of the provisions in the Electricity Supply Act and the amendments to the Electricity Act are largely identical. However, there is a distinction between the two drafts with respect to the options for the use of revenue from the allocation of cross-border transmission capacities on the basis of market principles. Article 18f, paragraph 5c of the draft revision of the Electricity Act states that this revenue may be used for compensating additional transmission network costs, and in particular for adequately compensating proprietors of the transmission network. By contrast, Article 17, paragraph 5c of the Electricity Supply Act states that revenue from allocation procedures on the basis of market principles may be used for covering recoverable costs of the transmission network in accordance with Article 15. The reason for these different uses of revenue is that the provisions governing transmission operations only cover the modalities of cross-border electricity trading until the Electricity Supply Act enters into effect, and thus no connection is made with provisions governing the opening of the electricity market in Switzerland, e.g. the passing on of costs.

1.3 Substantiation and evaluation of the proposed solution

1.3.1 Examined alternatives

Instead of the proposed creation of an Electricity Supply Act and revision of the Electricity Act, *waiving new legislation* is a conceivable option. In this case the electricity industry would have to orient itself on the existing legislation, namely the Cartels Act dated 6 October 1995 (KG, SR *251*) and the Pricing Control Act dated 20 December 1985 (PüG, SR *912.20*). However, all involved organisations view this solution in a negative light and prefer comprehensive sector-specific legislation. With the creation of the Electricity Supply Act, the rights and obligations of electricity consumers, network operators and supervisory authorities with respect to security of supply can be clearly laid down in law.

Table 2

Evaluation of alternatives

New legislation (= revision of Electricity Act, creation of Electricity Supply Act)	Waiver of new legislation (= applicability of Cartels Act and Pricing Control Act)
– Clearly regulated network access – Legally defined principles of calculating remuneration for network use – Independent transmission network operator with legally defined obligation to guarantee security of supply – Authority that monitors nation-wide security of supply – Compatibility with EU – Regulation of cross-border electricity trading to ensure better control of undesirable transits	– Lack of legal security a. Network access has to be disputed in court from case to case b. Lack of clarity regarding calculation of remuneration for network use c. Constitutional compatibility of cantonal legislation is questionable – No transmission network operator with legally defined duties – No supervisory authority – No compatibility with EU legislation, which calls for regulated, not negotiated, network access)

With respect to network access, the examined alternatives range from a horizontal market opening at transmission network level through to full market opening, including private households, in stages as originally foreseen in the Electricity Market Act. Table 3 lists the main differences between *partial* and full opening of the market:

Table 3

Comparison between partial and full market opening

Partial market opening	Full market opening
– Smaller clients benefit from freedom of choice of supplier – Low marketing costs without mass business – Low transaction costs in comparison with energy costs – More stable client portfolios for suppliers favour longer-term procurement of electricity – Regulatory costs along the dividing line	– Equal treatment of all market participants – Full compatibility with EU

Other alternatives result from the choice of *dividing line* between fixed and free end consumers. Each dividing line has certain advantages and disadvantages. The advantage of the dividing line between households and non-households that has been chosen for the Electricity Supply is that it is the same one that has been in use in the EU since the middle of 2004 (cf. chapter 1.3.2). Table 4 shows the alternative dividing lines with the corresponding degrees of market opening:

Table 4

Alternative dividing lines with varying degrees of market opening

Definition of end users with network access	No. of end users with network access (in % of total of 4 million end users)	Degree of market opening on basis of consumed energy quantity
Non-households (businesses) excluding railway electricity	380,000 (9.5%)	65%
Annual consumption > 100 MWh	50,000 (1.25%)	53%
End users with capacity measurement	approx. 50,000 (1997)	approx. 50%
Capacity entitlement > 55 kW	100,000 (2.5%)	55%
Capacity entitlement > 200 kW	20,000 (0.5%)	45%
Voltage level > 1 kV	5,000 (0.1%)	20%

The option proposed by the commission of experts, namely that all end users with an annual consumption of more than 100 MWh have access to the network, was included in the draft for consultation purposes. But in order to avoid any distortions of competition between commercial and industrial end users, the proposal contained in the present draft is that all non-household end users are to have network access during partial market opening.

1.3.2 Experiences in other countries and conclusions for Switzerland

Regulated network access for all end users (from 2007) and a sector-specific regulatory authority are requirements in the EU in accordance with its electricity market directive (2003/54/EG). In the meantime, a variety of countries have gained experience with partial market opening.

The dividing line between households and non-households chosen for the present draft corresponds to the requirement for minimal market opening up to mid-2007 in the EU single electricity market.

The model proposed in the draft of the Electricity Supply Act for the third step in the market opening process (from 2012) with secured electricity supply is similar to that introduced in the US state of Oregon, where household do not have network access but can choose from several obligatory options.

Experience has shown that a step by step procedure is the best way to change the regulation of the electricity market. This finding has been taken into account in that a regulatory authority and an independent transmission network operator are to be introduced in advance through an amendment to the Electricity Act, after which initial findings will be gathered with the Electricity Supply Act (from 2007), and if

these are positive they will then be used for a further-reaching opening of the market from 2012.

1.3.3 Results of the consultation procedure, revision of drafts

A politically broad-based commission of experts was set up to define the key criteria for the draft versions, and involved associations and organisations were given an opportunity to put forward their own views. One of the main purposes behind the appointment of this commission was to find a compromise solution that takes account of the rejection of the proposed Electricity Market Act while considering the changed frame work. The revision of the Electricity Act and formulation of a new Electricity Supply Act were based on these key criteria.

On 30 June 2004 the Federal Council authorised the Federal Department of the Environment, Transport, Energy and Communications (DETEC) to submit the two drafts and accompanying explanatory report to the cantons, political parties and involved associations and organisations for consultation until 30 September 2004. 209 statements of position were subsequently received, and the results of the consultation procedure are briefly summarised below. For more detailed information, please refer to the evaluation report (which can be obtained from DETEC).

The Conference of Cantonal Energy Directors is in favour of the intention of steering the opening of the electricity market within a regulatory framework, and drawing up accompanying legal provisions. In their statements of position, all cantons regard the formulation of framework provisions for the electricity market as a requirement, but they also call for differing degrees of revision and streamlining of the draft that was submitted for consultation. With respect to revisions, the cantons refer to the comments of the Conference of Cantonal Energy Directors, either expressly or through the adoption of all or some of the stated requirements. They add that as long as the interests of Switzerland are safeguarded, cross-border electricity trading should be regulated in advance. They are in favour of the proposed step-by-step opening of the market, the appointment of a strong regulatory authority and the establishment of a Swiss transmission network operator. The Conference of Cantonal Energy Directors is opposed to an optional referendum prior to full market opening. Some cantons (Lucerne, Uri, Schwyz, Fribourg, Basel-Landschaft, Appenzell Innerrhoden, Ticino, Vaud, Valais, Geneva and Solothurn) are in favour of the option of a referendum prior to full market opening. The canton of Bern is against a step-by-step procedure, and favours the immediate introduction of the model for guaranteed electricity supply. The responsibility for network allocation that is to be delegated to the cantons is welcomed as the right instrument for ensuring basic supply. The efforts to promote electricity production from renewable energy sources through voluntary measures are supported in principle. With respect to subsidiary measures on the part of the federal government, preference is given to market-economy instruments.

The majority of political parties support the advance regulation of cross-border electricity trading. The FDP and LPS are in favour of the simultaneous handling of the two drafts. The FDP, LPS and SVP are calling for comprehensive market opening without delay. The SP wants partial market opening to be subject to optional referendum. The GP and SP are calling for the introduction of legal

provisions governing input for renewable forms of energy as soon as the transit regulations enter into effect. By contrast, the CSP, FDP, LPS and SVP are against the specification of binding targets for the increase of capacities from renewable sources of energy.

Trade and industry associations want a rapid and comprehensive opening of the market, and are against the promotion of renewable forms of energy. Organisations that view market opening in a critical light and organised the referendum against the Electricity Market Act, reject any further-reaching opening of the market than foreseen in the draft submitted for consultation. They will only find the first market opening stage acceptable as long as any further-reaching steps are subjected to optional referendum.

Among organisations involved in energy policy and technology, the Association of Electric Utilities and various distributors associations are in favour of the proposal submitted for consultation. The Organisation of District Production Plants is calling for full market opening by not later than 2007, with the incorporation of the guaranteed supply model. It wants the revised Electricity Act to be handled and enacted so that it is compatible with the minimum EU requirements, as long as an agreement is simultaneously concluded between Switzerland and the EU. Views differ concerning the question of introducing provisions governing measures to promote renewable forms of energy.

Organisations representing large-scale consumers support the proposed step-by-step market opening process, but are opposed to a referendum prior to full market opening. For small-scale consumers the main focus of interest is on security of supply. They welcome the structure of the guaranteed supply model.

Environmental associations particularly welcome the introduction of provisions governing the input of electricity from renewable energy sources. Some of them are unhappy about the amount of administration required for certificates trading in the quota models.

By way of summary it may be stated that the necessary degree of compatibility with the EU with respect to cross-border electricity trading is widely accepted. With respect to degree of market opening and promotion of renewable forms of energy, the draft submitted for consultation is roughly in the middle of the range of demands and opinions expressed in the consultation process. The revision of the draft was carried out with special attention to the level of legislation (cf. chapter 1.4.3).

1.4 Implementation

1.4.1 Co-operation with involved organisations (subsidiarity principle)

The principle of subsidiarity is to apply for the purpose of implementing these drafts. The aim is to utilise existing processes, agreements, know-how and structures to the fullest possible extent. The Electricity Supply Act thus regulates those aspects that are not regulated by the sector itself. Voluntary and advance measures introduced by the industry to meet declared targets are to be taken into consideration in connection with the formulation and enforcement of legal provisions. The electricity industry needs to develop generally accepted concepts and proposals that

meet the relevant legal requirements, especially with respect to the calculation of remuneration for network use.

1.4.2 Co-operation at the international level

The Electricity Supply Act and Electricity Act provide for the following implementation measures in the area of international co-operation:

The Swiss transmission network operator is to specify the procedure for the allocation of cross-border transmission capacities in co-ordination with its international counterparts. This task includes a clear regulation governing compensation in the event of the reallocation of capacities (redispatching costs). This will ensure that the principles of the Electricity Supply Act and revised Electricity Act – especially those relating to security and non-discrimination – are complied with and can be implemented in practice.

The Federal Council is to be awarded the competence to conclude international agreements that fall within the scope of application of these Acts. An agreement with the EU is to be concluded in order to secure Switzerland's participation in the regulations governing compensation of transit costs that came into effect on 1 July 2004, as well as in other implementation measures in the area of cross-border electricity trading.

1.4.3 Ordinances

In the present draft, the degree of legislation has been reduced versus the version submitted for consultation. This means that the various matters have to be regulated in the form of provisions laid down in ordinances. Provisions that have far-reaching consequences for the involved parties are to be formulated directly by the Federal Council, while those of a mainly technical or administrative nature may be delegated by the Federal Council to the relevant federal authority (Electricity Supply Act, Article 28, paragraph 3). In accordance with the principle of subsidiarity specified in Article 3, paragraph 2 of the Electricity Supply Act, the Federal Council and the cantons are to give due regard to voluntary measures on the part of the involved organisations and the economy (in particular the electricity industry) before issuing legal provisions. They are to adopt agreements (e.g. on conditions governing the use of networks) concluded by these organisations and companies into legal provisions, either in part or in their entirety, insofar as this is feasible and necessary. The subsidiarity principle therefore requires that the electricity industry retains the necessary room for manoeuvre for fulfilling its duties.

1.5 Handling of the drafts in Parliament

1.5.1 Proposed two-stage procedure

This Message to Parliament contains the drafts of two legislative documents: the revision of the Electricity Act dated 24 June 1902 (SR *734.0*) for the purpose of regulating cross-border electricity trading, and the new Electricity Supply Act.

Differing degrees of urgency apply to these two submissions to Parliament. To safeguard Switzerland's interests versus its partners abroad, the regulation of cross-border trading is of higher priority in view of the developments within the EU (enactment of EU Ordinance 1228/2003 on 1 July 2004). The Federal Council therefore proposes that the revisions of the Electricity Act should be dealt with first, and the debate on the Electricity Supply Act can be initiated at a later date.

It will be possible to enter into negotiations with the EU regarding an agreement governing cross-border electricity trading as soon as a probable date has been set for the enactment of the revised Electricity Act.

With this procedure it should be possible for similar legal conditions to those in the EU to be in place in Switzerland with a minimum of delay. EU ordinance 1228/2003 entered into effect on 1 July 2004. However, a variety of measures for its enforcement have to be more specifically defined by the EU Commission, and this means that its provisions will only become fully enforceable in the course of 2005.

The revision of the Electricity Act is intended to serve as an interim solution until the Electricity Supply Act enters into effect. During this period, the aim is for the external relationship to be secured through the proposed revision, and thus for Switzerland to make a constructive contribution to the functioning single European electricity market. This would also correspond to the underlying philosophy of Ordinance 1228/2003, according to which the legislation of non-EU countries that are an integral part of the European electricity network should be compatible with the provisions and guidelines contained in the Ordinance, so that the single market functions as smoothly as possible (cf. Ordinance 1228/2003, Preamble, section 7).

The concept of the new legislation calls for the revision of the Electricity Act to enter into effect first. After the Electricity Supply Act comes into effect, the provisions of the revised Electricity Act that only apply until the end of 2008 at the latest are to be repealed.

In the event that Parliament is unable to act in accordance with this proposed two-stage procedure, the prompt handling and enactment of the Electricity Supply Act would suffice. In this case, the repeal of Article 3a and of Electricity Act, section IIIb in the appendix to the Electricity Supply Act, would have to be deleted. In material terms, the content of the proposed revision of the Electricity Act is fully covered by the Electricity Supply Act. The differences are explained in chapter 1.2.6.

1.5.2 Pending parliamentary motions and initiatives

Since September 2002, the following parliamentary petitions relating to the revision of the Electricity Act and the new Electricity Supply Act are pending:

Table 5

Parliamentary petitions relating to electricity supply

Type	Ref.	Petitioner/title	Status as of the end of November 2004
Po.	02.3704	SP fraction: Future of electricity supply. Report.	20.6.2003 adopted by National Council.
M.	02.3768	SP fraction: Transparency in the electricity sector.	14.5.2003 Statement by Federal Council: Federal Council proposes changing the motion to a postulate.
M.	03.3059	States Councillor Rolf Schweiger: Electricity market: secure supply.	16.6.2003 adopted by Council of States. 18.3.2004 adopted by National Council.
Pa.Iv.	03.409	National Councillor Christian Speck: Electricity market: secure supply.	21.3.2004 National Council: initiative pending
Pa.Iv.	03.462	National Councillor John Dupraz: Electricity from renewable energy sources: better frame work.	Submission date 15.12.2003. Not yet handled by plenum.
Ip.	03.3591	Greens fraction: opening of electricity market via the Cartels Act.	19.03.2004 National Council: debate postponed.
Ip.	03.3592	Greens fraction: Blackout in Italy on 28 September 2003.	19.03.2004 National Council: debate postponed.
M.	04.3154	National Councillor Franziska Teuscher: Limited transit rights for electrical energy.	Submission date 18.3.2004. Not yet handled by plenum.

Of the above, the motion submitted by Rolf Schweiger (03.3059) has been referred by Parliament and can therefore be closed.

On 8 October 2004, National Councillor Lustenberger submitted a motion (04.3596) calling for a new model for the promotion of renewable forms of energy. It petitions the Federal Council to prepare legal foundations for a request for tenders or agency model for the promotion of renewable forms of energy.

The Federal Council is of the opinion that this motion is suitable for integration into the proposed revision of the Electricity Act and new Electricity Supply Act: With the revision of the Energy Act (appendix to the Electricity Supply Act), qualitative targets should be defined for increasing electricity production from renewable energy sources. The additional costs arising from voluntary competitive requests for tenders should be financed via a surcharge on the costs of the high-voltage network. Requests for tenders require official approval.

For this reason the *Federal Council is prepared to accept the motion submitted by National Councillor Lustenberger*.

1.5.3 Position of the National Council's "UREK" sub-commission

The seven members of the National Council's "UREK" sub-commission convened a total of seven times in the period from June to October 2004 in order to fulfil its mandate within the scope of the "Speck" parliamentary initiative. It dealt in depth with special topics such as the market model, regulation of transits, transmission issues and the separation of the drafts. Within the scope of the consultation procedure it also drew up a separate catalogue of issues and acknowledged the evaluation. It was assisted in its tasks by network and legal experts from the Swiss Federal Office of Energy, thus securing permanent co-ordination with the development of the Electricity Supply Act. Based on a synoptic comparison of the Electricity Market Act that was rejected by the electorate on 22 September 2002, and on the draft of the Electricity Supply Act that was submitted for consultation, the sub-commission went on to draw up some of its own draft provisions.

The present draft of the Electricity Supply Act takes account of many of the deliberations of the "UREK" sub-commission. In terms of content, the position of the majority of the members of the sub-commission that was presented on 26 October 2004 only differs significantly from the present draft in the following views:

- The sub-commission is in favour of a simultaneous parliamentary debate on three separate bills relating to the opening of the electricity market, cross-border trading and the promotion of renewable forms of energy. Parliament and the electorate should be able to express their views separately on the various issues.
- Instead of a step-by-step market opening process as foreseen in the Electricity Supply Act, the market should be fully opened at the time the Electricity Supply Act enters into effect and the guaranteed supply model for end users should be realised immediately. As a consequence, there is no need for an optional referendum between stages 1 and 2. The proposal of the commission does not give rise to legal uncertainty for the electricity sector / the economy.
- The sub-commission rejected the declared target of an increase in electricity production from renewable energy sources by 5.4 TWh by 2030 (which is equivalent to increasing the proportion derived from renewable energy from 67 to 77 percent), and the concept of feeding in at cost (German promotion model). Promotion model, target and deadline would have to be clarified within the scope of debate on the parliamentary initiative submitted by Dupraz (Renewable energies: better frame work , 03.462).

A minority of the sub-commission represent the following views:

- Any opening of the market must be tied to regulations governing the input of electricity from renewable energy sources at cost. Any form of market opening without effective measures to promote electricity from renewable energy sources would not be accepted and would be actively opposed.
- Full opening of the market – even if coupled with the introduction of the guaranteed electricity supply model – at the time the Act enters into effect would run contrary to the rejection of the Electricity Market Act by the electorate.

2 Explanations of specific Articles

2.1 Revision of the Electricity Act

2.1.1 Articles 18a to 18l

Article 18a

Article 18a is based on the conviction that the existing structure of the Swiss transmission network, comprising a number of legally independent regional operators in several control zones in Switzerland, no longer meets the requirements of the meanwhile greatly intensified level of electricity trading throughout Europe and for maintaining security of supply in Switzerland.

Paragraph 1 obliges the present-day transmission network operators to form a single, independent legal entity under private-law for the purpose of operating the entire Swiss transmission network. This will increase the level of transparency in that only one operator would have to be contacted in connection with the use of the network. The need to create a single Swiss transmission network operator is undisputed today, as is clearly demonstrated by the fact that in spring 2004 the existing operators voluntarily decided to join forces and form Swissgrid AG for the purpose of operating the entire network.

In view of the central importance of the transmission network for securing the supply of electricity in Switzerland, *paragraph 2* stipulates that the transmission network operator must be domiciled in Switzerland and the majority of its capital must be held by Swiss companies. Parliament already cited these minimum requirements for the Swiss network operator within the scope of the debate on the Electricity Market Act. They guarantee that the Swiss transmission network will be operated by a legally and financially independent company that operates within Switzerland.

Paragraphs 3 and 4 regulate the unbundling of the transmission network operator. In accordance with paragraph 3, the provision of a reserve power supply and the procurement and delivery of electricity to ensure uninterrupted network operation are permissible for operational reasons. In view of the national importance of the transmission network operator, *paragraph 5* stipulates that the cantons are to be granted the right to appoint two representatives (i.e. two to represent all the cantons) to its board of directors. This right must be laid down in the articles of incorporation.

Paragraph 6 stipulates that the articles of incorporation of the Swiss transmission network operator, and any amendments thereof, must be approved by the ElCom. The main aims behind this approval requirement are to safeguard the national supply interests, ensure the independence of the operator and secure the non-discriminatory operation of the network.

Article 18b

Article 18b cites the principal tasks the existing transmission network operators are required to hand over to the new Swiss transmission network operator. The duties of the transmission network operator are derived from its function of managing and

securing the operation of the entire Swiss transmission network as a single control zone. The ElCom is to rule on any disputes relating to the performance of the duties of the transmission network operator.

Paragraph 1a designates the responsibility for the operation of the control zone (e.g. for operational planning) and the monitoring of the network to the transmission network operator.

Paragraph 1b specifies the functionality of the control zone, and in particular this encompasses the provision of system services. The transmission network operator is obliged to secure the necessary reserve energy capacities for this purpose on the basis of transparent and non-discriminatory procedures. It specifies the level of the reserve capacity to be maintained, and supervises the performance of the associated agreements. Providers of reserve capacities must qualify for this service by meeting the published minimum requirements. The ElCom is responsible for supervising the reserve energy market.

The measures on the part of the transmission network operator concern the operation of the network, though these include any necessary modifications of power supply programmes for technical reasons. This means that the transmission network operator is explicitly granted the right to issue directives to network users. In accordance with *paragraph 1c*, in the event of threats to security of supply the transmission network operator is legally obliged to implement the necessary measures. The procedure with respect to reallocation (redispatching) must be regulated under private law in collaboration with the involved parties, and must be carried out in a transparent, appropriate and non-discriminatory manner. This requirement also applies to the procedure for dealing with power supply shortages cited in *paragraph 1d*.

Paragraph 1e obliges the transmission network operator to work together with foreign transmission network operators and to represent Switzerland's interests within all involved organisations and committees. This applies in particular to the definition of procedures for dealing with power supply shortages, as well as to the definition of minimum operational and technical requirements for network users.

In *paragraph 1f* the transmission network operator is obliged to transfer internationally applicable technical and operational requirements to Switzerland and to regulate them in a binding manner for the operation of the Swiss transmission network.

Long-term planning for the transmission network is to serve the purpose of guaranteeing medium-term and long-term security of supply, and *paragraph 1h* obliges the transmission network operator to draw up appropriate plans. *Paragraph 1i* also sets out to ensure security of supply in that it obliges the transmission network operator to inform the ElCom about the status of the transmission network in an annual report.

Paragraph 2 gives the Federal Council the authority to assign other duties to the transmission network operator.

Article 18c

Paragraph 1 obliges network operators to legally unbundled activities relating to the transmission network from their other operations such as production, trading and

distribution. Through this unbundling requirement, the main responsibility for the operation of the transmission network is transferred from its proprietors to the Swiss transmission network operator. Since for reasons of property protection the present-day proprietors of transmission networks are not to be legally obliged to transfer their property to the transmission network operator, ownership and operation of the transmission network could become divided. It is therefore important from the point of view of security of supply to clearly define the various responsibilities. *Paragraph 2* stipulates that the proprietors of the transmission network are responsible for securing its efficient operation, and in particular for its maintenance and expansion, as well as for activities relating to interoperability (e.g. exchange of information and provision of measurement data).

Paragraph 3 stipulates that clear interfaces and competencies must be created between the proprietors of existing transmission networks and the Swiss transmission network. The precise details have to be specified in contractual form.

Paragraph 4 provides that the Federal Council may grant the right of expropriation to the transmission network operator. The purpose here is to ensure that the transmission network operator will be able to fulfil its responsibility of operating a secure and efficient network even in the event that the proprietors of the networks and production companies should fail to fulfil their obligations either entirely or in part.

Article 18d

This central provision secures network access for third parties for the purpose of cross-border electricity trading based on the principle of contractually regulated third-party access.
In accordance with *paragraph 1*, the transmission network operator must grant natural persons or legal entities the right to use of the network for the purpose of cross-border electricity trading on a contractual basis, in accordance with objective criteria and without discrimination insofar as there are no valid grounds for refusal (cf. paragraph 2). Here, the term “without discrimination” means that the market forces associated with the operation of the transmission network may not be misused in the downstream and upstream production, trading and supply markets. The threat of misuse is countered through the regulations governing unbundling of activities (cf. Articles 18a and 18c). For example, Article 18a, paragraph 4 sets out to prevent members of the board of directors and management of the transmission network operator from deriving market advantages for themselves during their term of office from their knowledge about the operation of the transmission network to the detriment of potential competitors by influencing operations of electricity production or trading companies. The regulations governing unbundling of activities thus largely specify the circumstances that have to apply to the network transmission operator in order to prevent discrimination against third parties with respect to network access.

Paragraph 2 cites the grounds on which access to the network in accordance with paragraph 1 may be denied. The transmission network operator is obliged to produce evidence of the existence of a ground for refusal, together with written substantiation, within 10 days after receipt of the request for network access.

Paragraph 2a cites the threat to securenetwork operation in accordance with Article 18b as a ground for refusal. For network operators, who in accordance with Article 18b, paragraph 1a, are obliged to guarantee secure and reliable operation of the network, the existence of such a threat may give rise not only to grounds for denying access to the network, but also to an obligation to do so.

The second reason for denying access to the network is a lack of free capacity as cited in *paragraph 2b*. Here it is to be assumed that high requirements are to be placed on the provision of evidence, since in accordance with Article 18f, certain procedures have to be implemented in the event of network congestions. In the transmission network it must be possible for capacities to be switched off for a certain period, for example for maintenance purposes. Activities of this type may give rise to temporary reductions in capacity. Paragraph 2b permits the transmission network operator to deny users access to the network in such situations.

Paragraph 2c cites the third reason for refusal of access, namely evidence of lacking reciprocity. This means that the obligations for Switzerland arising from international agreements on the basis of this Article should not extend further than previously.

The most important international agreements in which obligations with respect to cross-border electricity trading have to be observed are GATT 1994 (SR *0.632.20*), the agreement dated 22 July 1972 between the Swiss Confederation and the European Economic Community (Free Trade Agreement, SR *0.632.401*) and the agreement dated 17 December 1994 concerning the Energy Charta (SR *0.730.0*). At the same time as the revision of the Electricity Act is debated in Parliament, an agreement needs to be concluded with the EU regulating the details of cross-border electricity trading.

Article 18e

Paragraph 1 specifies the principles for calculating remuneration. Remuneration must be based on the costs of physical (i.e. effective) use of the transmission network. The transmission network operator is required to measure additional flows that arise on the basis of cross-border transactions. The costs must be calculated separately and may not be charged to domestic end users.

Since the costs concerned arise from cross-border deliveries, the method of cost calculation has to comply with international and/or European regulations. Article 3, paragraph 6 of EU Ordinance 1228/2003 is applicable here.

The calculation of costs therefore cannot be made on the same basis that applies to distribution networks, namely an average costs principle that is independent of the use of individual network facilities. In accordance with *paragraph 2*, capital costs are calculated on the basis of the long-range average incremental costs of the used network capacities. The starting point for the calculation of remuneration is therefore those costs that arise as the result of additional cross-border transactions.

In connection with calculations based on individual cross-border transactions, in the above-mentioned EU Directive it is recommended, in view of the presumed intensive competition for cross-border network capacities, to use current cost accounting. This particularly has an effect on the valuation of assets within the scope of the calculation of capital costs (replacement cycle value).

In accordance with *paragraph 3*, the Federal Council may specify the depreciation period and appropriate market interest rate for the assets required for operation, and designate the latter. In principle, this should be based on linear depreciation with specific life-cycles for each component.

Calculation of the risk premium on return on equity should be based on the CAP (Capital Asset Pricing) model developed within the scope of capital market theory. Despite certain weaknesses, the use of this model is nonetheless the best method for securing transparency and comprehensibility with respect to calculation of risk premium, insofar as the risks are typical for the sector. With respect to interest on borrowings, an appropriate premium also needs to be included for credit risk costs. With respect to the calculation of the risk premium for return on equity and costs for borrowed capital, the fact that the risk premium is oriented solely on the risks of the transmission network should be taken into account. These risks are significantly lower than those associated with electricity trading and electricity production.

In order to ensure that the funds generated from depreciation and interest are effectively available in the future for financing (possibly more costly) replacement facilities (cf. Article 18f, paragraph 5b), it is necessary to carry out a clearly comprehensible secondary calculation with respect to regulatory assets. Here, any additionally formed reserves from depreciation, value adjustments and provisions, or already formed replacement reserves, should be taken into account.

Article 18f

In accordance with *paragraph 1*, the available capacity may be allocated on the basis of market-related procedures. This includes procedures such as auctions or methods with a similar effect as cited in EU Ordinance 1228/2003. Procedures for allocating network capacities are to be drawn up jointly by the involved transmission network operators (cf. Article 18b, paragraph 1d). They must be described in detail and made readily available to all involved parties. In particular, the procedure for any subsequent amendments to the schedule must be presented to all market participants in a clearly comprehensible manner. Since this may also concern foreign citizens, the procedure must also be co-ordinated with foreign transmission network operators. The Federal Council also has the option of specifying the procedure for allocating capacities.

In *paragraph 2*, the allocation of capacities on the basis of market-related procedures is restricted in two ways: on the one hand with respect to the priority of imports for supplies to domestic end users, and on the other concerning priority for deliveries in accordance with international sales and supply contracts concluded prior to 31 October 2002. In relation to one another, imports for supplies to domestic end users have a higher priority than international supplies.

31 October 2002 was chosen as cut-off date since the decision to apply market-related allocation procedures for the management of network congestions was taken in November 2002 on the occasion of the Florence Forum of EU Regulators. For long-term international sales and supply contracts that were concluded after this date, it is assumed that these were signed in the knowledge of the future system of network congestion management on the basis of market-related procedures. For reasons of legal security, a preferential status after this date can no longer be justified.

Paragraph 3 states that network capacities allocated to third parties may only be limited subsequently and temporarily if the security of the transmission network is threatened, and no other measures can be taken.

In the event of a threat to the security of the network, the transmission network operator may restrict the use of allocated capacities on the basis of a transparent and previously publicised procedure. The "other measures" the transmission network operator is required to take in advance include the implementation of agreed schedules and switching operations to optimise electricity flows.

The aim of *paragraph 4* is to prevent unused capacities from being hoarded in order to gain a competitive advantage or prevent others from doing so. Unused capacities must be returned to the market in accordance with the principle of use it or lose it.

Paragraph 5 specifies how revenue from market-related allocation procedures is to be used. The aim of this provision is to prevent revenue from vertically integrated companies and their proprietors from being used for cross-subsidising other areas of activity, in particular electricity production and trading. In accordance with *paragraph 5a*, this revenue is to be used to cover the costs of cross-border electricity trading that cannot be directly charged to individual parties on the basis of the long-range average incremental costs procedure (cf. Article 18e), e.g. costs of guaranteeing the availability of allocated capacities. *Paragraph 5b* specifies the use of revenue for maintaining and enhancing cross-border transmission capacities. *Paragraph 5c* specifies the compensation of other costs within the transmission network, in particular in consideration of sufficient compensation to the proprietor to cover risk.

In accordance with *paragraph 6*, the Federal Council may provide for exceptions concerning network access (Article 18d) and the calculation of recoverable network costs (Article 18e) for the purpose of increasing cross-border transmission capacities. This means that investments in additional network capacities may be supported. The entire Swiss transmission network may be supported in this way, as long as investments are used for transits. Here, investments may take the form of new facilities as well as increasing the capacity of existing ones. Furthermore, it is a prerequisite that new investments are associated with a significant economic risk. This requirement incorporates the provisions of Article 7 of EU Ordinance 1228/2003 concerning new transmission lines (so-called merchant lines), but is not limited to said provisions. The debate within the EU concerning suitable measures for establishing investment incentives for the expansion of cross-border transmission lines is still in progress, since a large number of technical issues relating to practical implementation are still pending. Paragraph 6 is therefore broadly formulated. For example, investment incentives may be established in addition to, or instead of, network access restrictions concerning newly constructed lines, e.g. even for shorter depreciation periods or higher risk premiums. Since the described investments are intended to support cross-border transmission capacities, the associated costs may not be charged to domestic end users.

Article 18g

Article 18g regulates the organisation of the ElCom that is to be established. This institution is a sector-specific regulatory authority for the electricity industry. The provisions concerning its structure are based on those relating to the organisation of

the Communications Commission. As an independent authority, the ElCom is to be granted judicial powers. Its composition will be a decisive factor, and in view of this the Federal Council is anxious to ensure the right balance of personnel. For this purpose, consideration should not only be given to experts with experience relating to the transmission of electricity, but also those with experience in the international trading environment, as well to consumers. The independence of the members of the commission will ensure that its activities focus strictly on professional and technical criteria.

In accordance with *paragraph 2*, the ElCom is to be an absolutely independent authority. For making its decisions it is not subject to any directives from the Federal Council or DETEC, and it is also to remain fully independent of the federal administrative authorities. It will operate its own secretariat, the size of which will depend on the extent to which the ElCom draws on the decisions and rulings of the Swiss Federal Office of Energy required for preparing the enforcement of the associated legislation (as provided for in *paragraph 3*). If the ElCom does not require a large secretariat comprising specialised staff, it may request the necessary studies, experts' reports and preparatory decision-making documentation, supported by the right of the Swiss Federal Office of Energy to issue directives.

The Federal Council is responsible for supervising the management of the ElCom. In accordance with *paragraph 4* its supervisory duties include the approval of the commission's organisational and management regulations.

Paragraph 5 states that the costs of the ElCom are to be covered via administration fees. To cover any costs that are not covered by administration fees, the Federal Council may provide (in accordance with Article 18l) that a fee is to be collected each year from the Swiss transmission network operator.

Article 18h

Article 18h specifies the duties of the future ElCom. *Paragraph 1* describes the responsibility of the ElCom to monitor compliance with section IIIb of the Electricity Act and to take decisions or pronounce rulings that are required for the enforcement of said section. The ElCom is responsible for all decisions and rulings that are not expressly reserved for any other authority.

The list of individual duties in *paragraph 2* is not complete, but rather it summarises the most important responsibilities of the ElCom. *Paragraph 2a* specifies its responsibilities in the case of disputes. The commission is to rule on disputes relating to access to the transmission network, associated conditions for its use, and remuneration for its use. It may also make provisional rulings regarding access to the network. The aim here is to ensure that network access cannot be delayed indefinitely due to unduly lengthy procedures and the utilisation of all available legal remedies. In accordance with *paragraph 2b*, the ElCom is also to decide on the use of revenue from market-related allocation procedures. This means it will have a steering instrument at its disposal in order to ensure that all such revenue is used appropriately and on a need-oriented basis, within the scope of the catalogue cited in Article 18f, paragraph 5.

Paragraph 3 states that the ElCom is to monitor and supervise the development of the electricity markets in order to ensure a secure and economical electricity supply in all parts of the country. This means it will possess the authority to carry out important duties relating to security of supply in addition to monitoring non-discriminatory access to the transmission network.

Paragraph 4 states that the ElCom is responsible for co-ordination with foreign regulatory authorities, and is to represent Switzerland's interests in international regulatory committees.

In accordance with *paragraph 5* the ElCom is to inform the general public about its activities and submit an annual report on its operations to the Federal Council.

Article 18i

This provision takes account of the increasing international importance of the electricity sector. It is similar to Article 64 of the Federal Telecommunications Act dated 30 April 1997 (FMG, SR *784.10*).

It empowers the Federal Council to conclude international agreements concerning cross-border matters within the scope of application of this Act. In this way, Parliament is relieved of the burden of approving each individual agreement.

On the basis of Article 48a of the Federal Law on the Organisation of Government and Administration (RVOG, SR *172.010*), the Federal Council may also delegate the authority to conclude agreements with an administrative and technical content to DETEC or the Swiss Federal Office of Energy. This corresponds to existing practice relating to the conclusion of international agreements.

Article 18j

The Federal Appeals Commission for Infrastructure and Environment (formerly Appeals Commission of the Department of the Environment, Transport, Energy and Communications) is responsible for handling appeals against rulings of the ElCom. Appeals against decisions by the above appeals commission may be lodged with the Federal Tribunal. The procedure is based on the provisions of the Federal Administrative Procedures Act dated 20 December 1968 (VwVG, SR *172.021*).

Article 18k

Paragraph 1 requires companies active in the electricity sector to provide the relevant authorities with information and data, and to submit all documents that may be required for the implementation of the provisions of this Act, or for the preparation thereof. The ElCom and the Swiss Federal Office of Energy both rely on such information in order to be able to perform their mandates in accordance with the Act.

The relevant authorities are also entitled to gain access to, and inspect, the premises and facilities of companies covered by the above reporting obligation during normal business hours. However, the relevant authorities may not exercise this access right if the requested information is duly provided and the contents appear to be plausible.

Paragraph 2 extends the reporting obligation specified in paragraph 1 so that co-operation in connection with investigations and clarifications conducted by the ElCom and the Swiss Federal Office of Energy is obligatory not only for private citizens, but also for federal and cantonal authorities. The reasoning here is that for the purpose of examining security of supply in all parts of the country the ElCom may have to rely on the assistance of the cantons.

Article 18l

Article 18l forms the legal basis for collecting a supervision fee from the Swiss transmission network operator. The principle of equivalence does not apply to supervisory duties. Activities that are financed with the supervision fee cannot be individually ascribed. Subject, object and basis for assessment therefore have to be formally defined in the relevant legislation, and *paragraphs 1 and 2* meet this requirement. Here the Federal Council is empowered to additionally demand an annual lump-sum fee from the Swiss transmission network operator to cover the costs of supervisory activities that are not covered by other charges. The supervision costs incurred in the prior year are to serve as the basis for calculation. The Federal Council intends to base the amount for the first-time collection of supervision costs on an estimate. In accordance with *paragraph 3*, supervision costs may not be passed on to domestic end users (cf. Article 18e, paragraph 1).

2.2 Electricity Supply Act

2.2.1 Chapter 1: General provisions

Article 1 Objectives

Article 1 describes the objectives of this Act. It does not contain any specific rights or obligations, and is of a programmatic, not a legal, nature.

It sets out to define the general conditions for a secure and sustainable supply of electricity to end users in all parts of the country. The term “secure supply” refers to a constant supply of electricity and the guarantee of sufficient capacities in the areas of production, transmission and distribution. “Sustainable supply” means that both the social and economic compatibility, as well as the environmentally compatible and careful use of natural resources, have been taken into account. In particular this includes the promotion of electricity production from hydropower in Switzerland.

Another of the objectives of this Act is to specify the frame work for domestic competition and for involvement in international competition in the electricity sector. Creating domestic competition will give rise to increased pressure on the relatively high industrial electricity tariffs in Switzerland, and will also establish a favourable environment for innovation in the electricity sector as well as for growth throughout the entire Swiss economy. Involvement in international competition refers to the maintenance and strengthening of the position of Switzerland’s electricity industry as a major hub in Europe.

Article 2 Scope of application

Paragraph 1 states that this Act applies solely to the network for general national supply that is operated with 50 Hz alternating current. This includes both the transmission network (voltage levels, 220 to 380 kV) and to the distribution networks (voltage levels, 400 V to 160 kV). The construction, operation and maintenance of these networks are governed by the provisions of the Electricity Act date 24 June 1902 (EleG, SR *734.0*) and its associated ordinances. The networks that count as electricity networks in accordance with the Electricity Supply Act are defined in Article 4a of said Act.

Paragraph 2 stipulates that the Federal Council may extend the scope of application of this Act or provisions thereof to other electricity networks insofar as this may be necessary for attaining the objectives of this Act. This delegation of authority means that the principles contained in this Act relating to security of supply and third-party access to the network can be extended to apply to other electricity networks, and at present this concerns in particular the railway electricity network. This network differs significantly from the general national supply network. It is operated with 16.7 Hz alternating current, and due to the nature of the timetable it frequently reaches extremely high loads. Itsconnectivity is also less dense than the general national supply network, and for this reason it tends to react more sensitively to disruptions. In the event that the Federal Council should extend the scope of application of the Electricity Supply Act to other networks such as the railway electricity network in the interests of a functioning electricity market, it will need to take the special technical requirements of such networks as well as the uninterrupted operation of railway services into account.

Article 3 Subsidiarity and co-operation

Paragraph 1 deals with the principle of co-operation, in accordance with which the federal government and the cantons are to work together with the various involved organisations to secure the enforcement of this Act. At the federal government level, the Federal Council is expressly authorised to incorporate private-sector organisations into the enforcement process (cf. Article 28, paragraph 4).

Here the main partner is the Swiss Association of Electricity Producers (VSE), but co-operation also extends to organisations from other areas, e.g. consumer organisations.

Paragraph 2 deals with the principle of giving priority to private measures over state intervention (subsidiarity principle). This principle applies to both the federal government and the cantons, and it obliges them to examine private-sector agreements and to adopt those that are deemed suitable into their regulations, before they issue legally binding ordinances. Such agreements must also be examined from the point of view of compatibility with the relevant legal provisions, and must be concluded within a reasonable period of time.

They may also be incorporated into legislation in part or in their entirety even if they do not concern the electricity industry as a whole. In this way, organisations and companies can be rewarded that do not participate in such agreements (sometimes referred to as free riders) but find suitable solutions for enforcing regulations that are adopted into existing legislation. Before incorporating private-sector insurance companies into legislation, it has to be determined whether other suitable solutions

exist alongside the agreement concerned with which it would be possible to achieve the declared objective of the legislator.

Article 4 Technical terms

The rapid progress of science and technology and ongoing international developments mean that the terminology used in the complex area of electricity supply needs to be adapted without delay. *Paragraph 2* grants the Federal Council the necessary degree of flexibility for this purpose.

2.2.2 Chapter 2: Security of supply

2.2.2.1 Section 1: Guaranteeing basic supply

Article 5 Network zones and connection guarantee

Paragraph 1 states that the cantons are responsible for designating the zones in their sovereign territory in which network operators are active. The term "network zone" refers to the specific area covered by a network within a zone in which end users are connected to it. The aim here is to prevent the formation of "orphan" network zones. The question whether an electricity network is to continue to be operated in an economically unviable region (e.g. in a remote valley) should not be left at the discretion of a network operator. Allocation of network zones must be made on the basis of cantonal legislation. Here, all constitutional rights have to be observed, including in particular the principle of equal treatment. The existing network ownership circumstances should be maintained as far as possible. The cantons may delegate allocation of network zones to the municipalities. Generally speaking, allocation should be made in the form of an official administrative deed that is subject to the right of appeal under cantonal law.

To promote basic supply, the cantons may award mandates to network operators. These may take the form of securing public lighting, maintaining a specified level of reserve capacity, fulfilling supply obligations that extend beyond the scope of the Electricity Supply Act, providing energy-related services, etc.

Paragraph 2 stipulates the obligation to connect all end users to the network. All end users within a given development area, and all electricity producers (including those outside the development area) have the right to be connected to the distribution or transmission network. The legal entitlement to connection to electricity networks is an integral component of basic supply. This clause is subject to any deviating federal, cantonal or municipal provisions that may prohibit the connection of certain electrical installations for safety reasons or on grounds of energy policy considerations, or declare them subject to a licensing obligation (e.g. Energy Act, Article 7, or cantonal provisions governing supply quantities for electric heating systems). The minimum technical requirements for connection to electricity networks (cf. Article 8, paragraph 1d) must be met, and the possibility of interference with the stability of the network must be excluded.

Paragraph 3 states that the cantons may (for example through a formal ruling) oblige network operators active within their sovereign territory to also connect end-users to their network who are outside the designated network zone. Here the principle of appropriateness/proportionality must be observed. An obligation of this nature may be deemed appropriate if other options either do not exist or would be economically unviable (for example, self-supply is associated with extremely high costs), and if connection is technically and operationally feasible for the network operator concerned, as well as economically acceptable.

Paragraph 4 permits the cantons to make certain exceptions to the connection obligation, for example in the case of highly remote areas in which connection costs would be unreasonably high and the inhabitants of the region could be reasonably expected (in economic terms) to operate a self-supply facility. As a rule, each developed area should be smaller than the network zone. The term "development area" includes development zones and their potential expansion in accordance with the area planning of the canton concerned. The cantons may also provide that the principle of non-discriminatory network access is not obstructed due to prohibitively high connection costs.

By contrast with paragraphs 1 to 4, *paragraph 5* has to be enforced by the federal government, and not by the cantons (cf. Article 28, paragraph 1). To counter any potential concerns about monopoly situations arising from sector agreements, the Federal Council may specify principles governing the allocation of customers to specific voltage levels. But in accordance with the principle of subsidiarity (cf. Article 3), it is the responsibility of the network operators to agree on transparent and non-discriminatory regulations governing the allocation of end users, electricity producers and network operators to specific voltage levels. Allocation to a specific voltage level must be carried out on the basis of uniform criteria throughout Switzerland. The ElCom is responsible for ruling on any disputes that may arise in this connection.

Article 6 Delivery guarantee and pricing structure for households

This provision only applies during the first stage of opening of the market (cf. Article 30). During this stage, private households do not have network access (cf. Electricity Supply Act, Article 13, paragraph 2). They do not have free choice of supplier and are therefore placed in a special position under the law. In accordance with Article 30, paragraph 2 of the Electricity Supply Act, five years after the Electricity Supply enters into effect the Federal Assembly is to decide on the transition from partial to full opening of the market, and thus on the repeal of this provision, in the form of a federal resolution that is subject to optional referendum.

Paragraph 1 stipulates an obligation on the part of distribution network operators to supply private households, which have a legal entitlement to receive the desired quantity of electricity at any time, at the desired level of quality and at acceptable prices.

Paragraph 2 specifies two principles concerning electricity tariffs. The principle of solidarity states that, within a given network, the same electricity tariffs must apply to all households with similar consumption characteristics. The second principle states that electricity tariffs should be protected against unforeseen seasonal fluctuations, though as before they may be structured in a differentiated manner, e.g.

winter and summer tariffs, peak and off-peak rates. Electricity tariffs must be published and billed showing a clear distinction between energy supply, network use, fees and payments to the community or state.

Paragraph 3 stipulates that, with respect to network use tariffs the same principles must apply to households as those that apply to end users who have free choice of supplier. The obligation of separate cost unit accounting for the energy supply portion creates transparency and prevents cross subsidisation. In this way, end distributors will be able to demonstrate, if the need should arise, that their energy tariffs are based on true costs and price benefits have been passed on to their customers. In accordance with Article 21, paragraph 2a of the Electricity Supply Act, the supervision of electricity tariffs is the responsibility of the regulatory authority (i.e. the ElCom).

Operators of distribution networks already have unrestricted market access when this Act enters into effect. This means they will no longer be bound to their previous suppliers, and can thus buy from the market with the most favourable prices. *Paragraph 4* obliges these network operators to pass on the benefits obtained on the open market to households.

Article 7 Model for guaranteed electricity supply

This Article is to enter into effect by means of a federal resolution five years after the enactment of this Act (cf. Article 30). In accordance with Article 13, paragraph 1, after full market opening has occurred, households will be able to choose whether they wish to continue to receive their electricity from their present supplier within the scope of the "guaranteed supply" model, or whether they want to change to another supplier. If they take no action they will automatically receive their electricity from their present supplier.

Paragraph 1 obliges operators of distributor networks to supply those households that do not want access to the network with electricity at reasonable prices within their own network zone. In order to be able to judge whether the energy supply portion is within reasonable bounds, and to prevent cross-subsidisation of free end users, *paragraph 3* obliges network operators to practice cost unit accounting for energy supplies to households that do not choose to gain network access. In this way, end distributors will be able to demonstrate, if required, that their energy tariffs are based on true costs. In accordance with Article 21, paragraph 2a of the Electricity Supply Act, the supervision of electricity tariffs is the responsibility of the regulatory authority (i.e. the ElCom).

Paragraph 2 firstly specifies the principle of solidarity for electricity tariffs for households that do not choose to gain network access. Here the same electricity tariffs are to apply for households with similar consumption characteristics. It also states that electricity tariffs should be protected against unforeseen seasonal fluctuations, though as before they may be structured in a differentiated manner, e.g. winter and summer tariffs, peak and off-peak rates. Electricity tariffs must be published and billed showing a clear distinction between energy supply, network use, fees and payments to the community or state.

Paragraph 4 empowers the Federal Council to specify the details concerning supplies to end users in accordance with paragraph 1. The main matter with respect to contractual modalities concerns deadlines in the event of change of supplier.

2.2.2.2 Section 2: Securing the national electricity supply

Article 8 Duties of network operators

Responsibility for ensuring a secure electricity supply lies primarily with companies active in the electricity sector. This Article specifies the duties of operators relating to the section of the network that represents a natural monopoly and is not exposed to direct competition. The term "network operator" refers to operators of distribution networks as well as the Swiss transmission network operator.

Since the security of the network depends on each connected operator, *paragraph 1* stipulates that the activities of network operators must be co-ordinated. *Paragraph 1a* may be understood as a comprehensive obligation of adequate expansion, secure operation and permanent maintenance of the network. Paragraph 1 explicitly specifies other duties such as the organisation of network use, including regulation, provision of the necessary reserve capacities, and the definition of minimum technical and operational requirements for networks. Operators are also obliged to adopt internationally recognised standards and recommendations – e.g. the UCTE (Union for the Coordination of Transmission of Electricity) operating manual for networks – and to integrate them into their own regulations in a binding manner.

Paragraph 2 states that long-term planning is to serve the purpose of guaranteeing security of supply over the medium and long term. *Paragraph 3* also sets out to ensure security of supply in that it obliges network operators to notify the ElCom about the status of their networks each year in the form of a report. These obligations should not give rise to an excessive administrative workload. For this reason, *paragraph 4* authorises the Federal Council to ease the burden on small-scale network operators by granting certain exemptions.

One of the frequently voiced criticisms concerning the draft of the Electricity Market Act was that the obligations on the part of network operators were not sufficiently secured. In view of this, *paragraph 5* empowers the Federal Council to impose sanctions, including compensation measures, in the event of violations of duties. For example, it may order maintenance work to be carried out at the cost of a negligent network operator. Responsibility for imposing sanctions is to be specified by the Federal Council in a separate ordinance.

Article 9 Measures in the event of threats to the power supply

In accordance with the principle of subsidiarity specified in Article 3 of the Electricity Supply Act, responsibility for ensuring a secure electricity supply lies primarily with companies active in the electricity sector. These companies are to work together in the areas of planning, preparation and prevention of power supply shortages, while duly observing the provisions of the Cartels Act. The state is to refrain from intervening as long as these companies (are able to) fulfil their obligations. This principle is based on the Energy Article in the Federal Constitution (Article 89), and also applies in the area of national supply.

The measures on the part of the Federal Council cited in Article 9 may be understood as an *ultima ratio*. The Federal Council may only resort to these measures aimed at securing the national electricity supply if the companies active in the electricity sector are no longer able to guarantee the secure and economical supply of electricity through their own efforts. The aim behind the foreseen package of measures is to secure the national electricity supply over the medium and long term. Short-term measures to eliminate temporary power supply shortages are to be implemented within the scope of the national supply of the country if the companies active in the electricity sector should be unable to overcome these shortages themselves through suitable measures.

Article 9 should be viewed in conjunction with the supervision and monitoring activities cited in Article 21, paragraph 3, according to which the ElCom is to monitor and supervise the development of the domestic and international electricity markets in order to ensure a secure and economical electricity supply in all parts of the country. For this purpose it relies on comprehensive reports from network operators (cf. Electricity Supply Act, Article 8, paragraph 3). If as a result of its monitoring and supervisory activities the ElCom should come to the conclusion that there may be a significant threat to domestic security of supply over the medium or long term that the companies active in the electricity sector will not be able to overcome through their own efforts, it is to submit proposals to the Federal Council, upon consultation with the Federal Office for National Economic Supply and in accordance with Article 21, paragraph 4 of this Act, to take measures as foreseen in Article 9. In addition to the measures foreseen in Article 9, the ElCom may, upon consultation with the Federal Office for National Economic Supply, also propose that the Federal Council should take measures in accordance with Article 28 of the Federal Law on National Economic Supply (LVG, SR *531*). These may include export bans or measures to reduce electricity consumption. In association with measures to be taken in accordance with Article 9, the Federal Council must observe the principle of proportionality, and is obliged to choose the mildest measures for achieving the objective of securing the electricity supply.

In accordance with *paragraph 2*, the Federal Council may carry out requests for tenders for increasing the efficiency of electricity use and the procurement of electricity. In any such requests for tenders it is obliged to specify the criteria relating to security of supply and economic viability.

Additional costs may arise for electric utilities as a result of measures taken to increase efficiency or procure electricity. For example, with respect to the construction of facilities in order to increase production capacities, these additional costs take the form of the difference between the construction costs and the prices effectively obtained for electricity on the market. In accordance with *paragraph* 3, these additional costs may be charged to the Swiss transmission network operator which in turn may incorporate them into the network remuneration. Article 9 does not explicitly contain any stipulations with respect to the financing of measures to increase the efficiency of, and expand, electricity networks. This has to be effected via network remuneration (Article 14). Article 21, paragraph 2c states that the ElCom may also stipulate how revenue from market-based allocation procedures is to be used.

2.2.3 Chapter 3: Network use

2.2.3.1 Section 1: Unbundling, cost accounting and provision of information

Article 10 Unbundling

The purpose of unbundling network operation from the other activities of electric utilities is to secure clear and non-discriminatory network access based on the principle of regulated third-party access (cf. Article 13). Thus in accordance with *paragraph 1*, the market forces arising from network operation may not be misused in the downstream and upstream production, trading and supply markets. There is a risk of such misuse on the part of electric utilities, especially in the form of cross-subsidisation of the monopolistic network operation in competitive areas of activity. The Electricity Market Act stipulated that, in the distribution network the preferential power supply of existing customers was permissible. However, in order to secure a more consistent ban on discrimination, this exception has been omitted from the Electricity Supply Act. The practical impacts of this are unlikely to be of any significance since a change of supplier in the distribution network normally does not result in any network congestion because the new supplier is able to utilise the capacity that would have been used by the former supplier.

The aim of *paragraph 2* is to prevent electric utilities from gaining market advantages for themselves over potential competitors through the use of their knowledge relating to network operation.

Paragraph 3 regulates unbundling in the area of distribution networks by stipulating a requirement of unbundled accounting. In view of the fact that Switzerland's electricity is primarily supplied by relatively small companies and it would therefore be difficult from an organisational point of view to monitor compliance with the requirement of unbundled accounting, the latter has been omitted from the Electricity Supply Act in relation to distribution networks. This is in compliance with EU electricity market directive (2003/54/EG) insofar as Article 15, paragraph 2 thereof states that organisational unbundling does not compellingly apply to integrated electric utilities with less than 100,000 connected customers.

In *paragraph 4*, network proprietors are required to legally unbunble their activities in the area of transmission from other areas of activity such as production, trading and distribution, beyond the scope of unbundled accounting. In this connection it should be noted here that all existing transmission network operators are to be obliged to form a single company as operator of the transmission network (Articles 18 ff.).

Article 11 Annual financial statements and cost accounting

The requirement of unbundling specified in Article 10 is underscored in *paragraph 1* in that operators and proprietors of distribution and transmission networks are obliged to compile an annual financial statement for each network, as well as a statement of costs, both of which have to be clearly unbundled from their other business activities.

On the one hand, this requirement applies regardless of the legal nature of the company (i.e. it also applies to public-law institutions), and on the other hand it also

applies to the proprietors of the Swiss transmission network operator as well as to any separate proprietors of distribution networks.

In view of the broad variety of accounting systems in use today (depending on legal form, ownership structure and degree of internationalisation), and the considerable scope for manoeuvre with respect to cost accounting, in *paragraph 2* the Federal Council reserves the right to stipulate minimum requirements regarding uniform financial and cost accounting if network operators do not voluntarily specify a uniform method. Uniformity will be necessary in that cost accounting will in future extend beyond its conventional function as an internal system and serve as an instrument for the ElCom to verify recoverable costs. Uniform methods in the sense of a binding cost accounting system are essential from the point of view of transparency and comparability, as well as for securing an effective means of regulating remuneration for network use.

Article 12 Provision of information, preparation of invoices

In order to secure the necessary degree of transparency, *paragraph 1* obliges network operators to make all necessary information relating to network use readily accessible. This includes the publication of tariffs for network use, electricity tariffs (for customers in accordance with Articles 6 and 7), minimum technical requirements for network connection, and annual financial statements.

With respect to the preparation of invoices, *paragraph 2* stipulates that all invoices must show the amounts relating to network remuneration and, if the company concerned also supplies electricity to end users, all amounts relating to energy supplies must be shown separately. The term “end users” refers not only to consumers with network access, but also to private households during the period of partial market opening (Article 6), as well as households that do not make use of freedom of choice of supplier after full opening of the market (Article 7).

Fees and payments to the community or state also have to be shown separately in order to increase the degree of transparency with respect to network use. These only concern fees and payments that relate to network remuneration in accordance with Article 1, for example, licensing fees for the special use of public land for laying distribution lines. They do not include water rates and other services relating to operating licences for hydropower plants, since these costs are associated with production, not network operation.

In order to ensure that electric utilities are not able to penalise their customers who decide to change provider, *paragraph 3* stipulates that no charges may be imposed within the specified deadlines for changing supplier. The question whether a change of supplier is permissible has to be answered on the basis of applicable contracts and entitlement to network access in accordance with Article 13, paragraph 1 of the Electricity Supply Act.

2.2.3.2 Section 2: Network access and remuneration for use of network

Article 13 Network access

This Article regulates legal entitlement to network access. Access to the network secures the freedom of natural persons and legal entities to buy their electricity from a supplier of their choice, or to feed electricity into a network. The regulation of network access in accordance with Article 13 takes the form of a special clause that excludes the applicability of the provisions of the Cartels Act. This clause is based on the principle of regulated third-party access.

Paragraph 1 obliges all network operators to guarantee network access. In this respect, network operators are obliged to observe the principle of non-discrimination when allocating available capacities. Network operators who are part of a vertically integrated electric utility are not permitted to give preference to their own company or associated entities (cf. Article 10).

Everyone (end users, electric utilities, electricity producers, electricity trading companies) is entitled to network access except private households (*paragraph 2*). This restriction will no longer apply after the full opening of the market has been effected (cf. Article 30).

Paragraph 3 lists the full range of valid grounds for denying network access. Network operators wishing to refuse network access are required to provide evidence to support the stated grounds for refusal. This must take the form of written substantiation within 10 working days after receipt of the application for network access. *Paragraph 2a* cites the threat to secure network operation as a ground for refusal. Since in accordance with Article 8, paragraph 1a of the Electricity Supply Act network operators are obliged to guarantee secure and reliable operation of the network, the existence of such a threat may give rise not only to grounds for denying access to the network, but also to an obligation to do so.

The second ground for refusing network access is a lack of capacity (*paragraph 2b*). All network operators are obliged to ensure secure and efficient operation, as well as maintain sufficient capacity. In accordance with Article 14, remuneration may not exceed the recoverable costs and fees and payments to the community or state. The purpose here is to ensure that the networks are permanently maintained and can also be expanded as necessary. In both distribution networks and the transmission network it must be possible for capacities to be switched off for a certain period, for example for maintenance purposes. Activities of this type may give rise to temporary network congestion. Paragraph 2b thus permits the transmission network operator to deny users access to the network in such situations.

Paragraph 2c cites the third reason for refusal of access, namely evidence of lacking reciprocity. This means that the obligations for Switzerland arising from international agreements on the basis of this Article should not extend further than previously. The most important international agreements in which obligations with respect to cross-border electricity trading have to be observed are GATT 1994 (SR *0.632.20*), the agreement dated 22 July 1972 between the Swiss Confederation and the European Economic Community (Free Trade Agreement, SR *0.632.401*) and the agreement dated 17 December 1994 concerning the Energy Charta (SR *0.730.0*).

Paragraph 4 lists the priorities (in order of importance) that apply in the event of network congestion. In accordance with *paragraphs 4a and 4b*, priority has to be given to supplies to households (Article 6, paragraph 1) and to those households with guaranteed electricity supply (Article 7, paragraph 1). This is because the respective network operators are bound by a corresponding supply obligation. Paragraph 4a is to enter into effect by means of a federal resolution five years after entry into effect of this Act, while paragraph 5 is to become effective simultaneously (cf. Article 30). In *paragraph 4c*, the input of electricity from renewable energy sources in the event of network congestion is also given priority status in view of the efforts on the part of the federal government to increase the proportion of electricity from renewable energy to overall domestic consumption (cf. amendments to the Electricity Act in the appendix to the Electricity Supply Act).

Article 14 Remuneration for use of network

The term "remuneration" refers to payments made in return for use of the network. This expression contrasts to the Electricity Market Act, where the term "feed-through" charges was used. The term "renumeration" is used to clearly differentiate to other methods where the distance between two points (e.g. generation and consumption point) was to serve as the calculation basis for. In the electricity supply act, the renumeration amount for using the network is not based on the input and output (or connection) points. In the same way as in the Electricity Market Act, in accordance with *paragraph 1*, remuneration for network use is on the one hand based on the costs of an efficiently operated network. These costs are defined in Article 15 of the Electricity Supply Act, and network operators are required to substantiate them on the basis of suitable cost accounting. On the other hand, remuneration for use of the network also encompasses fees and payments to the community or state, for example licensing fees for the special use of public land for laying distribution lines. They do not include water rates and other services relating to operating licences for hydropower plants, since these costs are associated with production, not network operation. Since these amounts are often governed by cantonal or municipal legislation and are therefore predefined, they cannot be reviewed by the ElCom (cf. Article 21, paragraph 2).

The calculation of remuneration for network use should be made in such a way that the amount does not exceed the recoverable costs and fees and payments to the community or state.

Paragraph 2 defines the principle of remuneration based on output. In other words, remuneration for network use has to be provided by the end users. Certain other costs may be charged separately (cf. Article 14, paragraph 3d).

Paragraph 3 refers to other principles that apply to the specification of network use tariffs. *Paragraph 3a* states that, as foreseen in the Electricity Market Act, network use tariffs must be structured in a simple manner, and they must be calculated so that they pass on the costs to end users in keeping with the principle of user pays to the greatest possible extent. *Paragraph 3b* refers to the "postage stamp" principle, i.e. that the distance between the input and output points has no direct bearing on the calculation of network use tariffs. *Paragraph 3c* deals with the principle of equal treatment. Within each network, tariffs must be uniform for each voltage level and client group. *Paragraph 3d* states that costs already charged to network users are not an integral part of network use tariffs. The costs referred to here may include

charges for network connection and enhancements of networks for property owners and independent producers, as well as costs for certain system services that are provided by network operators for independent producers (cf. Energy Ordinance, Article 4, paragraph 2; EnV, SR *730.01*). Such separately charged costs may not be subsequently included in the calculation of network remuneration.

Paragraph 3e refers to the principle of securing the most efficient possible use of energy already laid down in the Energy Act (EnG, SR *730.0*), and requires that the structure of network use tariffs takes account of the objective of economical and efficient use of electricity. Efficient energy use must not be penalised by excessive tariffs and service charges. The term "tariff structure" refers to the weighting of fixed components (basis rates for meters, metering, reading of meters, etc., and service components) and variable components (consumption-based cost elements). This freedom with respect to structuring is necessary in order to reflect differing consumption characteristics of end users. For example, in cases in which energy requirements are low (holiday residences, etc.), e.g. in ski resorts, it must be possible for operators to structure their tariffs in a different manner to those that apply to permanently occupied households. The aim here is to avoid creating false incentives. Nonetheless, tariffs should be structured in such a way that they encourage efficient energy use by placing a strong emphasis on consumption components, especially in private households without separate metering. It is important to ensure that prices are not reduced with increasing consumption levels. Here, suitable models are single or double component tariffs based on peak and off-peak periods, with a basic rate plus energy prices differentiated by period.

Paragraph 4 specifies the responsibilities on the part of the cantons to take appropriate measures to balance out excessive variations. In the event that significant discrepancies in regional network use tariffs should continue to exist even after the implementation of measures to increase efficiency while maintaining secure network operation, the Federal Council may (in addition to the cantons) order suitable measures to be taken, e.g. the formation of an equalisation fund from which the cantons can obtain funds for the purpose of eliminating excessive discrepancies.

Article 15 Recoverable costs

Paragraph 1 states that operating and capital costs that are required for the secure, productive and efficient operation of the network are recoverable. These include the costs cited in paragraphs 2 and 3. Paragraph 1 points out that recoverable costs contain a reasonable profit. Based on the principle of coverage of costs, the degree of appropriateness has to be measured in relation to the efficiency of network operation. In accordance with Article 14, paragraph 1, remuneration of network use must not exceed the recoverable network costs and fees and payments to the community or state. If at the end of a calculation period it should be determined that the collected network use remuneration is higher than the recoverable costs and fees and payments to the community or state, the difference concerned has to be deducted in the subsequent calculation period.

Paragraph 2 restricts the recoverable operating costs to services directly relating to the operation of the networks, e.g. system services, metering and calculation, maintenance, stand-by services, warehousing, repairs and improvements.

Paragraph 3 states that capital costs have to be calculated on the basis of the original acquisition and production costs of the existing facilities. In addition, recoverable capital costs are restricted to calculatory write-offs on the one hand, and calculatory interest on the other hand.

The acquisition value is to serve as the basis for calculating depreciation as per *paragraph 3a*. Annual interest is based on the assets required for operation as per *paragraph 3b*. The calculation of fixed assets is based on the original acquisition value. The interest rate applicable to the permissible assets required for operation is calculated after deduction of the non-interest-bearing capital.

In accordance with *paragraph 4a*, the Federal Council is to specify the details relating to the calculation of recoverable operating and capital costs. In terms of methodical derivation and limitation of recoverable operating and capital costs, the Electricity Supply Act adheres to the same principle as that laid down in the Electricity Market Act.

Annual calculatory write-offs are to be linear and based on the respective normal service life of each object. With respect to comparability and transparency, the normal service life of each object has already been defined (with the inclusion of a permissible fluctuation range of five years) as part of the preparation of the foreseen Electricity Market Ordinance. Depreciation below zero is not permitted. The remainder after expiry of the originally specified depreciation period should be zero.

Calculatory write-offs have to be distinguished from depreciation in the financial accounts on the basis of taxation and financial aspects (hence the use of the term “calculatory” here). Special write-offs made on the basis of taxation or financial grounds and that give rise to the formation of hidden reserves have to be adjusted in the cost or operational accounts. This means that differences may arise between the book value in the financial accounts and the investment value calculated on the basis of the cost accounts.

With respect to interest on equity and borrowed capital, a standardised capital structure is to be assumed in the same way as in the Electricity Market Act (30% equity capital, 70% borrowed capital). This capital structure is oriented on low-cost financing, since the risks associated with the operation of a network as a natural monopoly are very low.

In both cases, the basis for calculating the equity capital and borrowed capital interest rate is the average yield from long-term (10-year) federal bonds as a risk-free basic rate. With return on equity, the use of capital is compensated adequately in line with the risk. To offset annual fluctuations it is useful to take the average level over several (e.g. five) years.

With respect to interest on borrowings, an appropriate premium also needs to be included for credit risk costs. With respect to recoverable borrowed capital costs, it is assumed that an efficient credit management system is in place.

With respect to the calculation of the risk premium for return on equity and costs for borrowed capital risk, in the case of integrated electric utilities the fact that the risk premium is oriented solely on the risks of the distribution and transmission networks should be taken into account. These risks are significantly lower than those associated with electricity trading and electricity production.

With respect to prolonging the service life of transmission and distribution network installations for electricity supply, when any replacement parts are required it is

important that the electric utilities concerned is able to finance the higher costs of the installations concerned through its own capital while preserving the existing capital infrastructure (without increasing the borrowed capital component). In order to ensure that the funds obtained from write-offs and interest are in fact available in the future for financing replacement installations, electric utilities should be required to prepare a comprehensible supplementary statement concerning the fixed assets based on the costs statement. Here, in accordance with Article 669 of the Swiss Code of Obligations, any additionally formed depreciation, value adjustments and provisions, or already formed replacement reserves, should be taken into account.

In accordance with *paragraph 4b*, the Federal Council has to specify the principles governing the passing of costs and fees and payments to the community or state at the various voltage levels in a uniform manner and on the basis of the user pays principle, insofar as direct allocation to network users (i.e. separate billing of network users in accordance with Article 14, paragraph 3d) is not possible. Here it is assumed that all network operators will use the same allocation method, with separation of the various voltage levels and the voltage and transformation levels switched in between. For cost allocation purposes, the horizontally supplied end users and purchases via lower voltage levels are to be treated equally.

In the vast majority of cost allocation schemes in Europe the focus is clearly on charging costs on the basis of purchased services. The main reason for this is that most network costs are of a fixed nature. The expansion of a network and the associated costs depend on the anticipated peak load.

Therefore a cost allocation based on 70 percent of the capacity would be readily justified. The costs are to be distributed in accordance with the highest annual capacity drawn from the next voltage level downstream (with several transfer points measured simultaneously). With a view to taking greater account of the user-pays principle the basis may be quarterly or monthly capacities instead of annual figures.

In accordance with Paragraph 4b, for the purpose of cost allocation the injection of electricity at lower voltage levels has to be taken into account. This is in fact taken into account in that the net principle is implicitly assumed for the purpose of capacity measurement, since this is only based on the power reading at the network connections between the voltage levels. Thus the basis for cost allocations is reduced versus the gross principle to the extent to which injections of electricity at low voltage levels give rise to a reduction of the net measured electricity flowing from the upper to the lower voltage levels. The net principle works in favour of the cantons in mountain regions, which have a high degree of supply autonomy thanks to hydropower plants.

In the same way as was foreseen in the Electricity Market Act, the remaining 30 percent of the costs that cannot be directly allocated to network users are to be allocated on the basis of the total electricity consumption (annual energy) by end users that are directly connected to the voltage level concerned or indirectly connected to lower levels.

Article 16 Costs of network use relating to cross-border supply

Paragraph 1 specifies the principles for calculating remuneration. Remuneration must be based on the costs of physical (i.e. effective) use of the transmission network. The transmission network operator is required to measure additional flows

that arise on the basis of cross-border transactions. The costs must be calculated separately and may not be charged to domestic end users.

Since the costs concerned arise from cross-border deliveries, the method of cost calculation has to comply with international and/or European regulations. Article 3 paragraph 6 of EU Ordinance 1228/2003 is applicable here.

The calculation of costs therefore cannot be made on the same basis that applies to distribution networks, namely an average costs principle that is independent of the use of individual network facilities. In accordance with *paragraph 2*, capital costs are calculated on the basis of the long-range average incremental costs of the used network capacities. The starting point for the calculation of remuneration is therefore those costs that arise as the result of additional cross-border transactions.

In connection with calculation based on individual cross-border transactions and in connection with the above-mentioned EU Directive it is recommended, in view of the presumed intensive competition for cross-border network capacities, to use current cost accounting. This particularly has an effect on the valuation of assets within the scope of the calculation of capital costs (replacement cycle value).

In accordance with *paragraph 3*, the Federal Council may specify the depreciation period and appropriate market interest rate for the assets required for operation, and designate the latter. In principle, this should be based on linear depreciation with specific life-cycles for each component.

Calculation of the risk premium on return on equity should be based on the CAP (Capital Asset Pricing) model developed within the scope of capital market theory. Despite certain weaknesses, the use of this model is nonetheless the best method for securing transparency and comprehensibility with respect to calculation of risk premium, insofar as the risks are typical for the sector. With respect to interest on borrowings, an appropriate premium also needs to be included for credit risk costs. With respect to the calculation of the risk premium for return on equity and costs for borrowed capital, the fact that the risk premium is oriented solely on the risks of the transmission network should be taken into account. These risks are significantly lower than those associated with electricity trading and electricity production.

In order to ensure that the funds generated from depreciation and interest are effectively available in the future for financing (possibly more costly) replacement facilities (cf. Article 17, paragraph 5b), it is necessary to carry out a clearly comprehensible secondary calculation with respect to the fixed assets based on the costs statement. Here, any additionally formed reserves from depreciation, value adjustments and provisions, or already formed replacement reserves, should be taken into account.

Article 17 Network access during capacity shortages in the cross-border transmission network

In accordance with *paragraph 1*, the available capacity is allocated on the basis of market-related procedures. This refers to procedures such as auctions or methods with a similar effect as cited in EU Ordinance 1228/2003.

In *paragraph 2*, the allocation of capacities on the basis of market-related procedures is restricted in two ways: on the one hand with respect to the priority of imports for supplies to domestic end users, and on the other concerning priority for

deliveries in accordance with international sales and supply contracts concluded prior to 31 October 2002. In relation to one another, imports for supplies to domestic end users have a higher priority than international supplies.

31 October 2002 was chosen as cut-off date since the decision to apply market-related allocation procedures for the management of network congestions was taken in November 2002 on the occasion of the Florence Forum of EU Regulators. For long-term international sales and supply contracts that were concluded after this date, it is assumed that these were signed in the knowledge of the future system of network congestion management on the basis of market-related procedures. For reasons of legal security, a preferential status after this date can no longer be justified.

Paragraph 3 states that network capacities allocated to third parties may only be limited subsequently and temporarily if the security of the transmission network is threatened and no other measures can be taken.

In the event of a threat to the security of the network, the transmission network operator may restrict the use of allocated capacities on the basis of a transparent and previously publicised procedure. The "other measures" the transmission network operator is required to take in advance include the implementation of agreed schedules and switching operations to optimise electricity flows.

The aim with *paragraph 4* is to prevent unused capacities from being hoarded in order to gain a competitive advantage or prevent others from doing so. Unused capacities must be returned to the market in accordance with the principle of use it or lose it.

Paragraph 5 specifies how revenue from market-related allocation procedures is to be used. The aim of this provision is to prevent revenue from vertically integrated companies and their proprietors from being used for cross-subsidising other areas of activity, in particular electricity production and trading. In accordance with *paragraph 5a*, this revenue is to be used to cover the costs of cross-border electricity trading that cannot be directly charged to individual parties, e.g. costs of guaranteeing the availability of allocated capacities. *Paragraph 5b* specifies the use of revenue for maintaining and enhancing cross-border transmission capacities. *Paragraph 5c* permits the use of revenue for covering recoverable costs of the transmission network, which can give rise to a reduced proportion of the costs allocated to the lower voltage levels.

In accordance with *paragraph 6*, the Federal Council may provide for exceptions concerning network access (Article 13, Electricity Supply Act) and the calculation of recoverable network costs (Article 15, Electricity Supply Act) for the purpose of increasing cross-border transmission capacities. This means that investments in additional network capacities may be supported. Here, investments may take the form of new facilities as well as increasing the capacity of existing ones. Furthermore, it is a prerequisite that new investments are associated with a significant economic risk. This requirement incorporates the provisions of Article 7 of EU Ordinance 1228/2003 governing merchant lines, but is not limited to these provisions. It should also be noted that in the EU the debate on investment incentives for the expansion of cross-border transmission lines is still in progress. Paragraph 6 is therefore broadly formulated. For example, investment incentives may also take the form of shorter depreciation periods or higher risk premiums instead of restrictions of network access. Since the described investments are

intended to increase cross-border transmission capacities, the associated costs may not be passed on to domestic end users.

2.2.3.3 Section 3: Swiss transmission network

Article 18 Swiss transmission network operator

Article 18 is based on the conviction that the existing structure of the Swiss transmission network, comprising a number of legally independent regional operators in several control zones in Switzerland, no longer meets the requirements of the meanwhile greatly intensified electricity trading throughout Europe and for maintaining security of supply in Switzerland.

Paragraph 1 obliges the present-day transmission network operators to form a single, independent legal entity under private-law for the purpose of operating the entire Swiss transmission network. This will increase the level of transparency in that only one operator would have to be contacted in connection with the use of the network. The need to create a single Swiss transmission network operator is undisputed today, as is clearly demonstrated by the fact that in spring 2004 the existing operators voluntarily decided to join forces and form Swissgrid for the purpose of operating the entire network. The Electricity Supply Act does not require the Swiss transmission network operator to become an owner of high-voltage networks. The establishment of a legally independent operating company is sufficient. On the other hand, the Electricity Supply Act does not prohibit the Swiss transmission network operator from becoming an owner of these networks.

In view of the central importance of the transmission network for securing the supply of electricity in Switzerland, *paragraph 2* stipulates that the transmission network operator must be domiciled in Switzerland and the majority of its capital must be held by Swiss companies. Parliament already cited these minimum requirements for the Swiss network operator within the scope of the debate on the Electricity Market Act. They guarantee that the Swiss transmission network will be operated by a legally and financially independent company that operates within Switzerland.

Paragraphs 3 and 4 regulate the unbundling requirements for the transmission network operator. In accordance with paragraph 3, the provision of a reserve power supply and the procurement and delivery of electricity to ensure uninterrupted network operation are permissible for operational reasons.

In view of the national importance of the transmission network operator, *paragraph 5* stipulates that the cantons are to be granted the right to appoint two representatives (i.e. two to represent all the cantons) to its board of directors. This right must be laid down in the articles of incorporation.

Paragraph 6 stipulates that the articles of incorporation of the Swiss transmission network operator, and any amendments thereof, must be approved by the ElCom. The main aims behind this approval requirement are to safeguard the national supply interests, ensure the independence of the operator and secure the non-discriminatory operation of the network.

Article 19 Duties of the transmission network operator

Article 19 cites the principal tasks the existing transmission network operators are required to hand over to the new Swiss transmission network operator. The duties of the transmission network operator are derived from its function of managing and securing the operation of the entire Swiss transmission network as a single control zone. The ElCom is to rule on any disputes relating to the performance of the duties of the transmission network operator.

Paragraph 1a designates the responsibility for the operation of the control zone (e.g. for operational planning) and the monitoring of the network to the transmission network operator, which operates the entire Swiss transmission network as a single control zone.

Paragraph 1b specifies the functionality of the control zone, and in particular this encompasses schedule management, balance management and the provision of system services. The transmission network operator is obliged to secure the necessary reserve energy capacities for this purpose on the basis of transparent and non-discriminatory procedures. It specifies the level of the reserve capacity to be maintained, and supervises the performance of the associated agreements. Providers of reserve capacities must qualify for this service by meeting the published minimum requirements. The ElCom is responsible for supervising the reserve energy market.

In accordance with *paragraph 1c*, in the event of threats to security of supply the transmission network operator is legally obliged to implement the necessary measures. This means that the transmission network operator is explicitly granted the right to issue directives to network users. The procedure with respect to network congestions must be regulated under private law in collaboration with the involved parties, and must be carried out in a transparent, appropriate and non-discriminatory manner. This requirement also applies to the procedure for dealing with supply shortages cited in *paragraph 1d*.

Paragraph 1e obliges the transmission network operator to work together with foreign transmission network operators and to represent Switzerland's interests within all involved organisations and committees. This applies in particular to the definition of procedures for dealing with network congestions, as well as to the definition of minimum operational and technical requirements for network users.

Paragraph 2 gives the Federal Council the authority to assign other duties to the transmission network operator.

The aim behind *paragraph 3* is to ensure that clear interfaces and competencies are created between the proprietors and the operator of the Swiss transmission network.

Paragraph 4 provides that the Federal Council may grant the right of expropriation to the transmission network operator. The purpose here is to ensure that the transmission network operator will be able to fulfil its responsibility of operating a secure and efficient network even in the event that the proprietors of the networks and production companies should fail to fulfil their obligations either entirely or in part.

Through the unbundling requirement in accordance with Article 10, paragraph 4 of the Electricity Supply Act, the main responsibility for the operation of the transmission network is transferred from its proprietors to the Swiss transmission

network operator. Since for reasons of property protection the present-day proprietors of transmission networks are not to be legally obliged to transfer their property to the transmission network operator, ownership and operation of the transmission network could become divided. It is therefore important from the point of view of security of supply to clearly define the various responsibilities. *Paragraph 5* stipulates that the proprietors of the transmission network are responsible for securing its efficient operation, and in particular for its maintenance and expansion, as well as for activities relating to interoperability (e.g. exchange of information and provision of measurement data).

2.2.4 Chapter 4: Electricity Commission

Article 20 Organisation

Chapter 4 specifies the status and duties of the proposed Electricity Commission (ElCom). This institution is a sector-specific regulatory authority for the electricity industry. In this capacity it is to perform two principal duties, namely the regulation and supervision of the Swiss electricity market. It will need to have regulatory competencies, especially relating to network access, since there will still be no genuine competition situation in this area even after partial opening of the market. In the area of networks, a monopoly situation will continue to exist. To compensate for the lack of market forces in this area, in addition to a regulatory authority it will also be necessary to have a supervisory authority for the purpose of ensuring security of supply, but also to prevent any misuse of the monopoly status.

Article 20 specifies the structure of the ElCom. Its provisions are based on those relating to the organisation of the Communications Commission. As an independent authority, the ElCom is to be granted judicial powers. Its composition will be a decisive factor, and in view of this the Federal Council is anxious to ensure the right balance of personnel. For this purpose, consideration should not only be given to experts with experience relating to the production, distribution and transmission of electricity, but also to those with experience in the consumer environment. The independence of the members of the commission will ensure that its activities focus strictly on professional and technical criteria.

In accordance with *paragraph 2*, the ElCom is to be an absolutely independent authority. For making its decisions it is not subject to any directives from the Federal Council or DETEC, and it is also to remain fully independent of the federal administrative authorities. It will operate its own secretariat, the size of which will depend on the extent to which the ElCom draws on the decisions and rulings of the Swiss Federal Office of Energy required for the preparation of the enforcement of the associated legislation (as provided for in *paragraph 3*). If the ElCom does not require a large secretariat comprising specialised staff, it may request the necessary studies, experts' reports and preparatory decision-making documentation on the basis of the right of the Swiss Federal Office of Energy to issue directives.

The Federal Council is responsible for supervising the management of the ElCom. In accordance with *paragraph 4* its supervisory duties include the approval of the commission's organisational and management regulations.

Paragraph 5 states that the costs of the ElCom are to be covered via administration fees. To cover any costs that are not covered by administration fees, the Federal Council may provide (in accordance with Article 26) that a fee is to be collected each year from the Swiss transmission network operator.

Article 21 Duties

Paragraph 1 describes the responsibility of the ElCom to monitor compliance with the provisions of the Electricity Supply Act and to take decisions or pronounce rulings that are required for their enforcement. The ElCom is responsible for all decisions and rulings that are not expressly reserved for any other authority.

The list of individual duties in *paragraph 2* is not complete, but rather it summarises the most important responsibilities of the ElCom. *Paragraph 2a* specifies its responsibilities in the case of disputes. Network access is governed by Article 5, paragraph 5, and Articles 13 and 17. The ElCom is also empowered to make provisional rulings regarding network access. The aim here is to ensure that network access cannot be delayed indefinitely due to unduly lengthy procedures and the utilisation of all available legal remedies. *Paragraph 2b* specifies the supervisory duties to be performed by the ElCom, which is empowered to take action on its own initiative, i.e. without the existence of a dispute. It may intervene on both an "ex post" (i.e. order reductions) and an "ex ante" (i.e. prohibit increases) basis.

In accordance with *paragraph 2c*, the ElCom is also to decide on the use of revenue from market-related allocation procedures. This means it will have a steering instrument at its disposal in order to ensure that all such revenue is used appropriately and on a need-oriented basis, within the scope of the catalogue cited in Article 17, paragraph 5.

Special note with respect to its price monitoring competencies: the ElCom is responsible for supervising network use tariffs and remuneration, and electricity tariffs for private households during the first stage of market opening, as well as electricity tariffs for households that choose not to gain access to the network in the second stage. Before making its decisions, the ElCom is required to consult the price regulator in accordance with Article 15 of the Pricing Control Act (PüG, SR *942.2*). It does not have any authority to monitor and control electricity prices that are exposed to competition. As before, these come under the responsibility of the pricing control and/or competition authorities.

Paragraph 3 states that the ElCom is to monitor and supervise the development of the electricity markets in order to ensure a secure and economical electricity supply in all parts of the country. This means it will possess the authority to carry out important duties relating to security of supply in addition to monitoring non-discriminatory access to the network and conditions governing the use of the network. In accordance with Article 8, paragraph 2 of the Electricity Supply Act, network operators (including the operator of the Swiss transmission network) are required to draw up long-term plans for operating a secure, productive and efficient network. They are also obliged to inform the ElCom on an annual basis about the operation and load of the networks, as well as about any unusual occurrences. In this way the ElCom will be able to receive all necessary information for assessing the development of medium-term and long-term electricity supply in Switzerland.

If on the basis of information it receives the ElCom should come to the conclusion that there may be a significant threat to domestic supply, it is required in accordance with *Article 4* to propose appropriate measures to the Federal Council (Article 9). These measures may only be implemented if the electricity industry is no longer able to ensure security of supply through its own efforts over the medium and long term.

Paragraph 5 states that the ElCom is responsible for co-ordination with foreign regulatory authorities, and is to represent Switzerland's interests in international regulatory committees.

In accordance with *paragraph 6* the ElCom is to inform the general public about its activities and submit an annual report on its operations to the Federal Council.

2.2.5 Chapter 5: International agreements

Article 22

This provision takes account of the increasing international importance of the electricity sector. It is similar to Article 64 of the Federal Telecommunications Act dated 30 April 1997 (FMG, SR *784.10*).

It empowers the Federal Council to conclude international agreements concerning cross-border matters falling within the scope of application of this Act. In this way, Parliament is relieved of the burden of approving each individual agreement.

On the basis of Article 48a of the Federal Law on the Organisation of Government and Administration (RVOG, SR *172.010*), the Federal Council may also delegate the authority to conclude agreements with an administrative and technical content to DETEC or the Swiss Federal Office of Energy. This corresponds to existing practice relating to the conclusion of international agreements.

2.2.6 Chapter 6: Reporting obligations, official and business secrecy, supervisory duties

Legal protection is based on the provisions of the Federal Administrative Procedures Act dated 20 December 1968 (VwVG, SR *172.021*). Since this is something that is taken for granted, it was decided not to include an explicit clause here.

Article 23 Reporting obligations and inter-authority assistance

Paragraph 1 requires companies active in the electricity sector to provide the relevant authorities with information and data, and to submit all documents that may be required for the implementation of the provisions of this Act, or for the preparation thereof. The ElCom and the Swiss Federal Office of Energy both rely heavily on such information in order to be able to perform their mandates in accordance with the Act.

The relevant authorities are also entitled to gain access to, and inspect, the premises and facilities of companies covered by the above reporting obligation during normal business hours. However, the relevant authorities may not exercise this access right if the requested information is duly provided and the contents appear to be plausible.

The authorities concerned are required to treat all supplied information as strictly confidential, insofar as it may concern business or manufacturing secrets. Article 24 of the Electricity Supply Act is therefore the counterpart of the present clause.

Paragraph 2 extends the reporting obligation specified in paragraph 1 so that co-operation with clarifications by the ElCom and the Swiss Federal Office of Energy is obligatory not only for private citizens, but also for federal and cantonal authorities, within the scope of legal restrictions (e.g. Article 25 of the Cartels Act). The reasoning here is that for the purpose of examining the security of supply in all parts of the country the ElCom may have to rely on the assistance of the cantons.

Article 24 Official and business secrecy

The obligation to observe confidentiality as specified in *paragraph 1* applies to everyone who implements this Act or makes preparations for this purpose. This means that it applies not only to employees of the federal and cantonal administrations, the ElCom and the Swiss transmission network operator, but also to any experts, members of specialised committees and other people entrusted with enforcement duties (cf. Article 28, paragraph 4, Electricity Supply Act). Infringements against official secrecy will be prosecuted in accordance with Article 320 of the Swiss Penal Code (StGB, SR *311.0*).

Paragraph 2 stipulates that no one to whom paragraph 1 applies may disclose any internal information or facts that are of a confidential nature. Infringements against this provision will be prosecuted in accordance with Article 162 of the Swiss Penal Code.

Article 25 Data protection

This provision serves as the legal basis for the processing (including electronic storage) of data relating to administrative proceedings, criminal prosecution and sanctions initiated by the Swiss Federal Office of Energy and the ElCom (cf. Article 27, Electricity Supply Act). These are classified as highly sensitive personal data in accordance with Article 3c, paragraph 4 of the Data Protection Act (DSG, SR *235.1*), the processing of which must be provided for expressly in a formal law (Article 17, paragraph 2, Data Protection Act).

Article 26 Supervision fee

This article forms the legal basis for collecting a supervision fee from the Swiss transmission network operator. The principle of equivalence does not apply to supervisory duties. Activities that are financed with the supervision fee cannot be individually ascribed. Subject, object and basis for assessment therefore have to be formally defined in the relevant legislation, and *paragraphs 1 and 2* meet this requirement. Here the Federal Council is empowered to demand an annual lump-sum fee from the Swiss transmission network operator to cover the costs of supervisory activities that are not covered by other charges. The supervision costs incurred in the prior year are to serve as the basis for calculation. The Federal Council intends to base the amount for the first-time collection of supervision costs on an estimate. The Swiss transmission network operator may pass on this supervisory fee to end users via network remuneration (*paragraph 3*).

In addition to the option on the part of the Federal Council to charge the Swiss transmission network operator a supervisory fee, the Swiss Federal Office of Energy and the ElCom may charge fees to cover the costs of supervision, controls, rulings and other special services. The legal basis here is Federal Government and Administration Act (RVOG, SR *172.010*) Article 46a, which was introduced with effect from 1 January 2005 within the scope of the 2003 federal relief programme.

2.2.7 Chapter 7: Penal clauses

Article 27

Paragraph 1 states that intentionally committing any of the cited deeds or omissions is punishable in accordance with criminal law, and goes on to list all the applicable offences. Punishment is to take the form of fines up to 100,000 Swiss francs, which is the amount cited in the Cartels Act dated 6 October 1995 (KG, SR *251*) and in the relevant provisions of the penal code. This provision will need to be reviewed when the revised Swiss Penal Code (StGB, SR *311.0*) enters into effect (probably in the course of 2006). The revision will provide that fines are to based on economic capacity.

Paragraph 2 states that negligently committing any of the listed deeds or omissions is also punishable by law. Here, punishment is to take the form of fines up to 20,000 Swiss francs.

Attempts are not explicitly declared as punishable by law. The legal basis in accordance with *paragraph* 3 is the Federal Administrative Penal Code (VStR, SR *313*.0) dated 22 March 1974 (Article 2, Federal Administrative Penal Code, in preparation, with Article 104, paragraph 1 of the Swiss Penal Code StGB). However, incitement and aiding and abetting are punishable by law (Article 5, Federal Administrative Penal Code). Paragraph 3 states that the Swiss Federal Office of Energy is the relevant law enforcement authority. This means it is both empowered and obliged to prosecute and judge offences cited in this provision.

Article 27 concerns natural persons who have committed the offence. However, in accordance with Article 6 of the Federal Administrative Penal Code, under certain circumstances a proprietor or employer who has failed to fulfil a legal obligation to prevent an unlawful act may also be subject to prosecution. If a maximum fine of 5,000 Swiss francs is involved, the provisions of Article 7 of the Federal Administrative Penal Code state that the legal entity may be ordered to pay instead of the natural person who committed the offence.

The imposition of a fine (measure with a penal character) does not exclude the ruling of other measures such as confiscation of assets that have been obtained through an unlawful act (Article 59, Swiss Penal Code).

2.2.8 Chapter 8: Concluding clauses

Article 28 Enforcement

Paragraph 1 stipulates that the cantons are obliged to enforce those provisions relating to network zones (Article 5, paragraphs 1 to 4, Electricity Supply Act) and to take measures to eliminate unacceptable discrepancies in network use tariffs in their sovereign territory (Article 14, paragraph 4, Electricity Supply Act). This concerns areas in which various cantonal and municipal provisions apply under existing legislation, and are enforced by the relevant local authorities. Every canton has its own energy office, but they are also at liberty to designate responsibility for enforcing these provisions to another official body.

In accordance with *paragraph 2*, the Federal Council is responsible for issuing the necessary ordinances for enforcement purposes. This includes ordinances that specify the relating legal obligations in detail, as well as provisions governing the method of enforcement insofar as responsibility lies with the federal government.

Delegating enforcement powers at the federal authority level requires an explicit legal basis in the form of an official law. This requirement is met with paragraph 3.

By way of underscoring the principle of co-operation cited in Article 3 of the Electricity Supply Act, *paragraph 4* empowers the Federal Council to call on private-sector organisations to assist with the enforcement of this Act. This calls for the award of a service mandate. However, even if private-sector organisations are involved, the relevant federal authorities remain responsible for enforcement, and they are not permitted to delegate supervisory authority to third parties.

Article 29 Amendments to existing legislation

For explanations concerning revisions of existing legislation (Federal Law on the Use of Hydroelectric Power; Energy Act; Electricity Act), please refer to the appendix to the Electricity Supply Act (see below).

Article 30 Referendum and date of entry into force

One of the key criteria of the commission of experts is that the transition from partial to full market opening is to take place after a period of five years via an optional referendum. This means that some of the provisions of the Electricity Supply Act cannot enter into effect immediately (Article7 and Article 13, paragraph 4b). At the same time, other provisions that are to enter into effect immediately are to be repealed after five years (Article 6, Article 13, paragraphs 2 and 4a). The decisions regarding the repeal and enactment of said provisions are to be taken by the Federal Assembly in the form of a federal resolution in accordance with Article 141, paragraph 1c of the Federal Constitution (BV, SR *101*). The Electricity Supply Act cannot be materially amended within the scope of a federal resolution. Amendments in terms of content have to be effected in the form of a federal law (Article 141, paragraph 1a, Federal Constitution). For the enactment and repeal of the cited provisions, the Federal Council is required in accordance with Article 141, paragraph 1c of the Federal Constitution, to submit a Message to Parliament together with the draft of a federal resolution.

2.2.9 Appendix: revisions of existing legislation

1. Federal Law dated 22 December 1916 on the Use of Hydroelectric Power[3]

Article 8

Article 8 of the above Act cites a licensing requirement for the diversion and use of water and the export of electrical energy produced from bodies of water. The licensing authority is the Federal Department of the Environment, Transport, Energy and Communications (DETEC). A licence may only be granted if the export of electricity produced from hydropower does not have an adverse influence on public well-being, and providing that there is no appropriate use for the water or electrical energy within the country during the period covered by the licence.

The licensing requirement for the export of water is no longer of consequence today in terms of security of supply. In the event of a crisis, short-term measures may be taken to secure domestic supply in accordance with the National Economic Supply Act (*SR 531*). The provision concerned therefore needs to be repealed.

2. Energy Act dated 26 June 1998[4]

Article 7a Objectives and voluntary measures for the production of electricity from renewable energy sources

This provision is based on a corresponding EU regulation. In accordance with Directive 2001/77/EG of the European Parliament and Council dated 27 September 2001, which governs the promotion of electricity production from renewal energy sources (ABl. L 283 dated 27 October 2001, p. 33), the proportion of electricity production from renewable energy sources to electricity consumption is to be increased from the 1997 level of approximately 14% to around 22% by 2010. For this purpose, the EU member states have agreed to meet national targets. According to the appendix to this Directive, Germany is to increase its proportion of electricity production from renewable energy sources from 4.5% in 1997 to 12.5% in 2010. The corresponding figures for Austria are 70% and 78.1%, while Sweden aims to raise this figure from 49.1% to 60%.

By contrast with the draft of the Electricity Supply Act that was submitted for consultation, the present version does not contain an additional quantitative objective for efficient electricity use. This is justifiable since the objective cited in paragraph 1 relating to renewable energy (proportion to consumption) can also be targeted through a reduction in consumption. Furthermore, a specified target for electricity consumption alone is problematic since this could restrict substitutions

3 SR **721.80**

that would be desirable on grounds of climate protection (e.g. use of electric heat pumps instead of heating systems using fossil fuels). The EU guideline on energy efficiency and energy services (KOM [2003] dated 10 December 2003) proposes an objective concerning the increase of overall energy efficiency. It also includes certain obligations for distribution network operators (e.g. services such as energy audits and contracting). The Electricity Supply Act also aims to oblige the electricity industry to implement efficiency measures: In accordance with Article 5, paragraph 1, the cantons may also award service mandates to network operators in the area of efficient electricity use. And Article 14, paragraph 3e states that the structure of network tariffs must not provide incentives to consume more electricity, but instead should promote the efficient use of electricity. Furthermore, the Federal Council may use the authority entrusted to it by the Energy Act to issue regulations concerning the approval of electrical appliances and installations to a greater extent than in the past (Article 8, Energy Act).

In accordance with *paragraph 1*, the proportion of electricity production from renewable energy sources to overall electricity end consumption is to be increased from 67 to 77 percent in the period up to 2030. The proposed indicator may be calculated with the aid of largely secured data. The starting point (67 percent) corresponds to the average production level in the period from 1994 to 2003 in proportion to end consumption. The calculation of the production level is based on the estimated level of use of hydropower, while for electricity from solar, wind, geothermal and biomass energy, including recyclable waste from incineration plants (estimated proportion, 50%), the basis is the effective production volume. This indicator takes the proposals put forward during the consultation procedure into account calling for the requirements concerning production of electricity from renewable energy sources to increase in pace with the level of consumption. This is also in the interests of security of supply. The comparison of increased production from renewable energy sources against the degree of attainment of the target needs to be specified more precisely in the associated ordinance (taking account of own use of facilities, inclusion of foreign origin certificates, renewable energy certificates, holdings in facilities abroad, etc.). Measured against the 2003 level of end consumption, the target (77%) would require additional production from renewable energy sources to the tune of around 5,400 GWh.

Paragraph 2 is intended to maintain the use of hydropower as the main source of domestic electricity production for the period up to 2030. The minimum objective here is for production from the existing hydropower plants to remain stable. The policy is not to add new hydropower plants, but rather to upgrade the existing ones. This represents a considerable challenge since in existing plants the reduced production due to regulations governing residual water, especially for renewals of operating licences, would have to be compensated by increases in efficiency. The uncertainties concerning market opening throughout Europe, together with the fact that production capacities are currently adequate, have caused a slowdown in investment activity. However, the chances of survival for hydropower in the international environment remain intact. The adjustment function of storage power plants is becoming increasingly important, especially as the use of wind energy gains momentum. Within the scope of climate protection and in view of its economic importance at the national and regional levels (employment, income, fiscal revenue), the effects of promoting the use of hydropower extend well beyond the declared energy policy objectives.

To secure a broader impact, requests for tenders for additional electricity production capacities from renewable energy sources may be carried out in accordance with *paragraph 3*. Production increases can be attained through additional facilities or in association with the upgrading of existing ones. The associated (and demonstrable) additional costs can be recovered via a surcharge on the costs of the high-voltage network. In this way, domestic consumers contribute towards the additional costs resulting from promotion programmes. These "additional" costs encompass the costs of the required facilities that cannot be amortised on the basis of market prices, and the costs of programme administration. The allocation mechanism permits prioritisation of the various technologies. In order to also promote technologies that will be required over the long term but which are still a long way from the viability threshold, separate write-offs are to be carried out for these within a limited scope.

These write-offs are to be processed within the scope of the relevant energy policy programme (currently SwissEnergy). In accordance with *paragraph 4*, DETEC is to conclude an agreement with the involved organisations. For enforcement purposes, the creation of an "electricity agency" for network operators is to be considered. Organisations that focus on the promotion of renewable forms of energy – in particular the Agency for Renewable Energy and Efficient Energy Use – may also be involved in both the preparation and implementation of requests for tenders via a Swiss Federal Office of Energy (SFOE) service mandate. All such programmes have to be approved in advance by the Swiss Federal Office of Energy (SwissEnergy). Here the minimum and maximum proportions of the various technologies and energy carriers that are the subject of requests for tenders are to be specified. Furthermore, programme costs and increased production of the promoted technologies also have to be examined by the SFOE.

The attainment of the objectives cited in paragraphs 1 and 2 is to be based on the principles of co-operation and subsidiarity in accordance with the applicable provision of the Energy Act. The Federal Council is to implement the measures cited in Articles 7b and 7c if the partial objectives defined in Article 7a, paragraph 5, are not met or if it already becomes apparent at an earlier stage that it will not be possible to meet them (*paragraph 6*).

Article 7b Quotas and certificates for increasing the production of electricity from renewable energy sources

One of the measures that the Federal Council is to implement in the event that the partial objectives according to Article 7a, paragraph 5 of the Energy Act should not be met, concerns the introduction of minimum output levels for electricity from renewable energy.

Paragraph 1 states that those electric utilities that deliver electricity to end users are obliged to supply their customers with a minimum quantity of electricity generated from renewable sources. The annual minimum quantity is to be specified by the Federal Council, and is expected to take the form of a quota (in percent).

In accordance with *paragraph 4*, the Federal Council is to issue the necessary enforcement provisions in the form of an ordinance, especially governing trading in certificates, the duration of validity of certificates, compensation payments to suppliers that fail to meet the quota or provide certificates, and exceptions for energy-intensive end users.

Article 7c Feed-in tariffs for increasing the production of electricity from renewable energy sources

Another measure that the Federal Council is to implement in the event that the partial objectives according to Article 7a, paragraph 5 of the Energy Act should not be met, concerns the introduction of cost-covering feed-in tariffs for injection of electricity from renewable sources.

Paragraph 1 extends the applicable regulation for new facilities governing the obligation to accept energy in accordance with Article 7 of the Energy Act. This obligation applies not only to companies active in the area of public energy supply, but also to all companies that are responsible for operating an electricity network. Furthermore, paragraph 1 stipulates that the entire produced quantity of electricity has to be accepted, not merely surplus energy. For reasons relating to competition, these acceptance and remuneration obligations apply to all forms of new renewable energy (electricity from solar, wind, geothermal and biomass energy). The technologies to be promoted with input remuneration have to be more precisely specified in the associated ordinance. Hydropower plants with a capacity of less than 1 MW will be compensated as before, in accordance with Article 7, paragraphs 3 and 4 of the Energy Act, on the basis of the costs for the acquisition of equivalent energy from new domestic production plants.

In the provisions of the ordinance relating to *paragraph 2*, the Federal Council will also specify the conditions under which new facilities qualify to be classified as such, and which requirements are to be placed on upgraded facilities.

Paragraph 3 stipulates that cost-covering feed-in tariffs are to be paid to producers from the time of start-up of the facility for a period that is yet to be specified.

In accordance with *paragraph 4a*, differentiated feed-in tariffs are to be paid according to production technology and capacity of the facility, based on the costs of existing reference facilities. In accordance with *paragraph 4b*, the Federal Council is required to reduce the level of feed-in tariffs each year in line with technological progress and cost development. This means that facilities opened at a later date will no longer receive the previously higher level of feed-in tariffs. In accordance with *paragraph 4c*, production plants that make use of these feed-in tariffs will receive compensation over a period to be specified in the ordinance and at a fixed rate.

Paragraph 5 states that the additional costs (i.e. costs that are not covered by market prices) resulting from feed-in tariffs are to be passed on to the costs of the transmission network.

3. Federal Electricity Act dated 24 June 1902[4]

Articles 3a, 18a to 18k, 55, paragraph 1bis

The provisions governing cross-border electricity trading that are to apply in advance are to remain valid until the Electricity Supply Act enters into effect, though no longer than until 31 December 2008. This means that they will have to be repealed once the Electricity Supply Act has entered into force. In the event that

[4] SR **734.0**

Parliament should not approve the proposed step-by-step procedure for revising the Electricity Act and enacting the Electricity Supply Act (cf. 1.5.1), these provisions would become obsolete.

Article 15, paragraph 2, and Article 19

In accordance with Article 19, paragraph 1 of the Electricity Act, the Federal Council appoints a commission for electrical installations comprising seven members to serve for a specified term of office. This commission is required to provide experts' reports on regulations issued by the Federal Council governing the construction and maintenance of electrical installations. Under the present-day circumstances, this commission is no longer required for the preparation and enforcement of electricity legislation, and has in fact already been dissolved. This means that the second sentence of Article 15, paragraph 2 needs to be amended, since reference is made here to an experts report by this commission.

Article 15a

In the same way as revised Article 37 of the Federal Telecommunications Act dated 30 April 1997 (FMG, SR *784.10*; BBI *2003* 8007), this provision excludes the application of the principle of accession as per Article 677 of the Swiss Civil Code (SR *210*). This means that ownership of underground electricity lines and the associated equipment (e.g. cable channels, shafts, etc.) is allocated to the network operators unless servitudes and easements have been entered in the land register.

The adoption of this provision corresponds to an urgent need on the part of companies in the electricity sector. Many network operators have failed to adequately secure their networks on a legal basis, and this has often given rise to problems in the past (e.g. relating to the assignment of ownership of the network, or demands from landowners to remove the electricity lines from their land).

Article 44

Article 44b of the Electricity Act regulates the authority to grant expropriation rights for the purpose of feeding electrical energy to existing electricity supply and distribution networks. Since Article 13, paragraph 1 of the Electricity Supply Act specifies the right of access to the network by third parties, this expropriation right no longer serves any purpose. The clause concerned can therefore be deleted.

The export licensing requirements for water and electricity have both become obsolete. The constitutional basis for a licensing requirement for exporting electricity was repealed in the federal resolution dated 18 December 1998 concerning a new federal constitution (BBI *1999* I 162), and there is thus no longer any purpose in retaining an associated provision in the Electricity Act. The Swiss Federal Office of Energy has also not enforced this licensing requirement for many years now.

3 Impacts

3.1 Impacts at government level

For the federal government, the financial consequences associated with the two drafts are small. The only financial commitment that arises concerns the ElCom, which is to comprise five to seven members plus a secretariat. It is to be assumed that between ten and fifteen full-time staff will be required by the involved specialist groups. The Federal Council proposes to cover the costs for the performance of the specified duties of the ElCom, its secretariat and the supporting staff, partly through charges and partly through annual supervisory fees paid by the Swiss transmission network operator.

3.2 Impacts on the cantons and municipalities

The two drafts do not have any direct financial impacts on the cantons and municipalities. However, both the cantons and the municipalities have a financial involvement in the electric utilities (approx. 50 percent and 31 percent respectively), and thus have an interest in a flourishing electricity industry. Since the revision of the Electricity Act and the introduction of the new Electricity Supply Act will be able to secure Switzerland's position as an electricity hub over the medium and long term, positive financial impacts are to be anticipated for the cantons and municipalities.

As before, they will continue to have the option of collecting fees and taxes. In 2002, 360 million Swiss francs were paid in the form of direct taxes, along with 479 million in the form of water utilisation and licensing fees. Furthermore, the electricity industry is an important employer in all regions of the country.

3.3 Impacts on the economy

3.3.1 Impacts on individual social groups

In view of the competition situation that will be created, the electricity industry will have to focus more strongly on *consumers'* needs. Consumers will also benefit from new products and services that will be introduced as a result of the freedom of choice for end users. Whereas in the monopoly situation it was possible to pass on investments in production capacities to consumers largely without restriction as part of the overall costs, in an open market there will be incentives to avoid unnecessary costs. The revision of the Electricity Act and introduction of the Electricity Supply Act are associated with efforts and expenditures for both the state and network operators. These components that result in price increases are more than outweighed by factors that give rise to price reductions. The separate presentation of network use and energy costs on electricity bills, and the accompanying comparability of network use remuneration, fees to the community or state and energy prices, is likely to give rise to increased cost awareness. Furthermore, the amalgamation of control zones means that reserve capacities can be shared, so that high-quality power plant capacities will be available to the market and thus generate added value for the national economy.

Thanks to the resulting higher degree of transparency, *all trade and industry clients* will already be able to negotiate better electricity supply contracts as soon as the Electricity Supply Act enters into effect. For export companies with a high proportion of energy costs, freedom of choice represents a major opportunity to optimise their production factors and increase their competitive capacity.

During the initial market opening stage, *households* will benefit from the freedom of choice enjoyed by their electric utility. Even without network access, a tendency towards lower tariffs is to be anticipated as a result of itemised billing (network use, fees to the community or state, energy) and the resulting comparability.

For *distribution network operators* the introduction of cost accounting when the Electricity Supply Act enters into effect will give rise to initial costs. The resulting transparency is a prerequisite for regulated network use, and will lead to improvements for electric utilities, but above all for end users. Distribution companies will have to reconsider their strategy and decide which operation they want to retain or expand, and where it makes sense to join forces or outsource. One of the strengths of distribution network operators is the efficient construction and maintenance of the networks. This regulated area is not opened up to competition and contains minimal risks. Another of their strengths is their proximity to their customers for consulting, metering and billing purposes, which they are able to utilise either on their own or together with other distribution network operators. The supply of energy to households in the initial market opening stage and to end users in the second stage (i.e. households that choose not to utilise the option of network access) is a legally defined duty for which the distribution network operators are responsible. They may also contractually assign the duty to supply energy to these customers to a third-party. In association with supplies to these customers, it is also conceivable for them to create or expand their own structures for portfolio and risk management, or to offer this service to other distribution companies, and thus to benefit from economies of scale.

With the new system for cross-border electricity trading, which will be in place in the EU when Ordinance 1228/2003 enters into effect, participation in the settlement of transit costs will be of particular importance for the *proprietors of transmission networks*. In order to ensure the constant exchange of electricity with neighbouring countries and security of supply in Switzerland, it is essential to find a materially correct and fair method of regulating the disposal rights to cross-border transmission capacities to which Switzerland is entitled. Since Switzerland is seeking a solution that is compatible with EU legislation, non-discriminatory use of transmission capacities by third parties has to be assured. The market-oriented procedures for allocating transmission capacities (e.g. auctions) that are to already apply when the revised Electricity Act enters into effect would lead to significant revenue today.

The stronger focus on customers means that *producers* can gain additional momentum. For electricity producers, closer proximity to international conditions on the sales markets is an important prerequisite for medium and long term access to the European markets. In view of the sustained upward trend of wholesale prices, the prospects for hydropower are positive, especially for peak energy in Europe. And in the future, Swiss storage and pumped storage power plants will also be able to participate in the newly forming markets for reserve energy in Europe.

For *producers of electricity from renewable energy sources*, access to the international markets is a prerequisite for increasing the value of their output by participating in cross-border certificate trading. The requirement to declare electricity quality (electricity labelling) that is already in effect in the EU and was introduced in Switzerland on 1 January 2005, along with foreseeable developments in the area of climate protection policy, additionally improve the market chances for CO_2-neutral electricity production. This means that, together with the freedom of choice for end users, the prerequisites can be created for balancing the added value of sustainably produced electricity. The specification of targets for increasing the proportion of renewable energy to electricity supplies also generates added momentum for this market (cf. appendix to the Electricity Supply Act). Demand for electricity from renewable energy sources will increase thanks to greater transparency and freedom of choice for consumers.

Under the general conditions established by the Electricity Supply Act it may be assumed that, in the next few years, there will not be a more pronounced reduction in jobs in the electricity sector than we have witnessed in recent years. The reduction potential regarding the core competencies of most electric utilities in the area of network construction and maintenance is limited since supply quality suffers when delivery has to be made over greater distances. There is expansion potential for innovative electric utilities in the areas of measuring, metering and billing. The stronger focus on customers' needs will mean that marketing, distribution and customer service, IT and controlling will all gain in importance. As a result of the horizontal integration in cross-sector activities, there will be expansion and co-operation potentials in the areas of gas supply, water supply and telecommunications services.

3.3.2 Impacts on the overall economy

In February 2004 the Federal Council approved a package of measures aimed at overcoming the slow pace of growth in Switzerland. It cited the Electricity Supply Act as a measure that is of central importance for increasing the long-term growth potential of Switzerland's economy. Thanks to more *competition on the domestic market*, purchasing power in Switzerland will be improved, as will the level of international competitiveness.

Access to the EU single electricity market will have a significant impact for Switzerland in terms of reducing costs and increasing earnings. On the consumer side it will be possible to cut electricity costs thanks to the possibility of direct imports. On the producer side, thanks to exchanges with neighbouring countries and access to new market places it will be possible to gain new customers, utilise production capacities more efficiently and generate extra revenue for surpluses on various exchange and markets. The steady development of foreign trade and securing international electricity trading are only possible if the legal conditions are duly co-ordinated. Closer co-ordination of the operation of power plants and networks means that existing infrastructures can be utilised more efficiently and extensive network breakdowns can be avoided. The associated cost savings are enormous. The competitive capacity of the electricity industry will be greatly enhanced thanks to increased cost consciousness, a stronger focus on customers'

needs and additional innovation (use of new technologies in the areas of information processing, network operation, etc.). Against this backdrop, the expenditure of around three million Swiss francs p.a. for the regulatory authorities can be readily justified. The initial outlay by network operators for calculating network use remuneration, establishing balance groups and introducing staff training programmes should be within reasonable bounds.

The costs relating to the promotion of renewable forms of energy depend on future electricity prices and the definitive nature of the support model. The expected shortages in production capacities and fossil fuels will mean rising energy prices and thus falling supplementary costs for renewable forms of energy. For the choice of promotion models, priority needs to be given to efficient and low-cost solutions.

3.4 Other impacts

The *supply to outlying regions* will not be affected at all by the revision of the Electricity Act, and will only be affected slightly by the Electricity Supply Act. The cantons may issue provisions governing connections outside a developed area, or can delegate the necessary competencies to municipalities or the electricity sector. This ensures that regional variations will be taken fully into account.

4 Relationship to legislature planning and financial plan

This Message to Parliament corresponds to the objectives of the Federal Council's legislature planning for 2003 to 2007 (in accordance with its report on legislature planning for the period from 2003 to 2007 dated 25 February 2004, BBl *2004* 1195).

5 Legal aspects

5.1 Constitutionality

The draft legislation concerned here has been formulated in accordance with Article 91 of the Federal Constitution (BV, SR *101*), which empowers the federal government to regulate the transmission and distribution of electricity (cf. experts report of the Federal Office for Justice dated 23 October 1996 concerning the constitutional competencies of the federal government relating to the electricity sector, with additional references). In accordance with these comprehensive constitutional competencies, the federal government may specifically monopolise transmission, issue provisions governing tariffs, draw up regulations governing companies in the electricity sector, specify right of network access, and take measures to guarantee security of supply (e.g. stipulate network connection and electricity supply requirements).

The two drafts restrict the fundamental rights of economic freedom and guarantee of ownership (Articles 26 and 27 of the Federal Constitution). This restriction is permissible in that it is based on formal legislation that states that said restriction is justifiable and acceptable since it represents a public interest and does not affect the core content of fundamental rights (Article 36 of the Federal Constitution).

The prerequisite of existence of a legal foundation is met with the Electricity Supply Act and revised Electricity Act. A public interest also exists: the legal unbundling of transmission of electricity from its production and distribution by establishing a Swiss transmission network operator is necessary in order to guarantee security of supply and ensure non-discriminatory network access as well as competition on the upstream and downstream markets. Similarly, the separation of cost accounting and bookkeeping for network distributors is necessary in order to guarantee transparency. The restrictions of economic freedom and ownership guarantee are also within acceptable bounds. They are necessary and suitable for guaranteeing a secure and competition-oriented electricity market. They do not extend beyond the limit of what reasonably needs to be done to attain the declared objectives, are acceptable when measured against these objectives and do not affect the core content of the two fundamental rights concerned. The above restrictions are therefore admissible (cf. experts report by Stefan Rechsteiner dated 2 September 2003 concerning legal issues relating to the establishment of a company to function as Swiss transmission network operator).

5.2 Relationship to other federal laws

5.2.1 Cartels Act

The main purpose of the federal law dated 6 October 1995 on cartels and other restrictions on competition (Cartels Act, KG, SR *251*) is to prevent the harmful economic and social effects of cartels and other forms of restriction of competition, and thus to promote competition in the interests of free trading (Article 1, Cartels Act). It applies to companies under private and public law that form cartels or enter into other competition agreements, exploit market dominance or participate in corporate mergers (Article 2, paragraph 1, Cartels Act). The applicability of the Cartels Act is subject to other provisions governing competition (Article 3, paragraph 1, Cartels Act). This applies in particular to provisions that govern state market or pricing regulations (Article 3, paragraph 1, lit. 1, Cartels Act). The Cartels Act therefore recognises that state market or pricing regulations may exclude competition in a given segment of the economy. However, insofar as state market or pricing regulations include scope for competitive behaviour, and thus the application of competition criteria, the provisions of the Cartels Act become applicable (BBl *1995* 539).

The revision of the Electricity Act concerns cross-border electricity trading and does not affect the applicability of the Cartels Act in any way.

The Electricity Supply Act contains specific provisions governing the right to network access and the amount of remuneration for network use. These areas are therefore subject to special provisions, and this means that the provisions of the Cartels Act are no longer applicable here.

Otherwise the Cartels Act remains fully applicable throughout the electricity sector (unlawful competition agreements, dominance of the market, corporate mergers; Articles 5, 7 and 10, Cartels Act). Here the competition authorities may initiate investigations against companies in the electricity sector as before, or examine proposed mergers that are subject to a reporting obligation.

5.2.2 Pricing Control Act

In accordance with the Price Control Act dated 20 December 1985 (PüG, SR *942.20*), the price regulator monitors price trends and prevents improper price increases or retention of high prices. Certain prices may be monitored by other authorities (Articles 4 and 15, Pricing Control Act).

The Electricity Supply Act provides that both network use tariffs and remuneration (network only) as well as electricity tariffs (network and energy) for households are to be monitored by the ElCom in both stages of opening of the market. The measures cited in Article 15 of the Pricing Control Act relating to the integration by the ElCom of the price regulator into its decision-making process, are to apply (consultation and petitioning rights of the price regulator). The price regulator (or competition authorities) remain responsible for monitoring energy prices that are subject to free competition.

5.2.3 Federal Law on National Economic Supply

The Federal Law on National Economic Supply dated 8 October 1982 (LVG, SR *531*) regulates precautionary measures to protect national economic supply, and measures aimed at securing the national supply of essential goods and services in the event of severe shortages that the economy is not able to counter through its own efforts (Article 1, Federal Law on National Economic Supply).

With respect to securing the supply of electricity, the Electricity Supply Act and the Federal Law on National Economic Supply complement one another. They both provide for measures to guarantee security of supply, but the time horizons and objectives are not identical. This corresponds to the provisions of the Federal Constitution according to which energy policy is to define the frame work for a secure, economical and sustainable supply of electrical energy, whereas the Federal Law on National Economic Supply is intended to overcome severe shortages or emergencies.

The Electricity Supply Act provides for medium-term and long-term measures to secure an electricity supply for end users that are both technically reliable and sufficient in terms of volume. By contrast, the measures contained in the Federal Law on National Economic Supply are of a provisional nature and are intended to overcome technical, natural, security policy or other crises. These primarily take the form of restrictions in consumption (e.g. banning the use of certain equipment, scheduled power cuts). In the event of an impending or already existing electricity shortage, the use of existing quantities may be regulated on the basis of economic priorities in order to ensure that essential activities and functions can be maintained intact and consumers can be supplied as far as possible in the circumstances.

5.2.4 Energy Act

The main purpose of the Energy Act dated 26 June 1998 (EnG, SR *730*) is to help secure a sufficient, broad-based, secure, economical and environmentally compatible

energy supply (Article 1, Energy Act). The declared energy policy objectives will also apply after opening of the market via the Electricity Supply Act. This means that the requirements of using electricity economically and efficiently and utilising the increased domestic production of hydropower have to be taken into account for the purpose of implementing the Electricity Supply Act (cf. 1.2.5).

5.2.5 Swiss Code of Obligations

The question of the relationship to the Swiss Code of Obligations (OR, SR *220*) arises in association with long-term electricity supply agreements. The supply of electricity is based on the principle of private autonomy. It is neither necessary nor purposeful to include a separate provision in the Electricity Supply Act, and a general provision would conflict with the autonomy of the involved companies. The Electricity Supply Act therefore does not contain any provisions governing electricity supply agreements. This means there will be no legal provisions governing the premature termination of existing agreements, or any right of premature termination by notice, when the Electricity Supply Act enters into effect.

Nonetheless, in certain cases it is possible that the enactment of the Electricity Supply Act may have an influence on the duration of existing electricity supply agreements. However, any such influence will not result from the Electricity Supply Act itself, but from other legal sources. This may for example concern explicit agreements between contractual parties to terminate an electricity supply agreement when the Electricity Supply Act enters into effect. By contrast, if the parties concerned should discover that an agreement does not comply with the new regulations unless it is modified or they are able to agree on the necessary amendments, they may under certain circumstances request the adaptation of the agreement to the new circumstances by a court of law (judicial amendment of contract by filling gaps and through interpretation, or on the basis of *clausula rebus sic stantibus*). In extreme cases it is also conceivable that a long-term electricity supply agreement may be null and void under cartel law because it came into being through the utilisation of market dominance by the provider (Article 7, Cartels Act).

5.3 Compatibility with Switzerland's international obligations

Obligations in association with international electricity trading arise from GATT 1994[5] and the agreement dated 17 December concerning the Energy Charter[6] (cf. Article 18i, Electricity Act). The provisions of the Electricity Supply Act and the revision of the Electricity Act provide clarity with respect to the handling of transits. Here, compatibility with international trading regulations is assured in that the associated principles are clearly defined in the two drafts.

[5] SR 0.632.20
[6] SR 0.730.0

5.4 Relationship to cantonal legislation

With the draft of the Electricity Supply Act, no existing cantonal competencies in the areas of electricity production (especially Article 76, paragraph 4, Federal Constitution) and economical and efficient energy use (Article 89, Federal Constitution) will be affected. In accordance with Article 91, paragraph 1 of the Federal Constitution, the federal government may issue provisions governing the transport and supply of electrical energy. This provision takes the form of a competency regulation that grants the legislator a broad scope for manoeuvre regarding the aspects to which legislation is to apply. This constitutional provision gives the federal government a comprehensive competency that competes with the responsibilities of the cantons. Here, competing federal government competency means that the cantons may continue to regulate on matters in this area as long as the federal government does not exercise its own powers. With the Electricity Supply Act and the revision of the Electricity Act, the federal government is in fact exercising its own powers to the extent that, in accordance with Article 91, paragraph 1 of the Federal Constitution, it is to regulate the right of network access (Article 13) and the obligation of remuneration (Articles 14 to 16), issue provisions governing unbundling (Article 10), annual financial statements and cost accounts (Article 11) and assign the operation of the high-voltage network to a Swiss transmission network operator. Otherwise the existing cantonal competencies remain intact, including those relating to the transport and supply of electrical energy. These include the specification of tariffs and tariff structures, insofar as these are not already determined by the Electricity Supply Act. The cantons may now not issue any provisions of their own that restrict the market conditions created by the Electricity Supply Act. Any supply monopolies or purchasing obligations directly or indirectly laid down in cantonal legislation will become null and void when the Electricity Supply Act enters into effect (Article 2, Federal Constitution) insofar as they concern individuals or companies with network use rights in accordance with the Electricity Supply Act (Article 13), and will therefore have to be repealed.

On the basis of these competency provisions, and within the scope of their economic freedom on their sovereign territory, the cantons would be able to (for example) establish a cantonal or regional company to operate networks at the lower voltage levels (i.e. networks that do not belong to the Swiss transmission network operator). Furthermore, the Electricity Supply Act will not prevent cantons and municipalities from issuing provisions concerning the collection of an earmarked electricity tariff surcharge for savings measures and renewable energy use, or the introduction of fees on electricity consumption. These cantonal competencies will all remain intact.

With an opened electricity market, the transport of electricity via public land (e.g. parks) will remain a form of special utilisation of public property. As before, the authorities may award this right via licences and demand suitable remuneration (licensing fee) for special utilisation (i.e. for the transport of electricity). The Electricity Supply Act does not contain any clauses that restrict the autonomy of the cantons or municipalities in any way whatsoever. However, it should be noted that, in a free competition environment, the remuneration provided by the electricity industry to date (of either a voluntary or compulsory nature) will come under pressure and can only be maintained if it is transparent and substantiated (Article 12, paragraph 2, Article 6, paragraph 2, and Article 7, paragraph 2, Electricity Supply Act).

The granting of water rights by the cantons or municipalities is governed by the federal law dated 22 December 1916 on the use of hydroelectric power (*SR 721.80*). In accordance with these provisions, the cantonal and municipal authorities are at liberty to specify general requirements and criteria. Here, too, the Electricity Supply Act will in no way restrict these competencies.

In Articles 5 to 9, the Electricity Supply Act contains provisions governing the guarantee of basic supply and security of supply (universal service). Of these provisions, Article 5, paragraphs 1 to 4 (network zones and connection guarantee), and Article 14, paragraph 4 (offsetting discrepancies in network use tariffs) have to be enforced by the cantons (Article 28, paragraph 1, Electricity Supply Act). These enforcement duties may be carried out by issuing corresponding cantonal provisions or within the scope of revisions or adjustments of licences (e.g. by attaching requirements and conditions to a licence).

5.5 Relationship to European legislation

5.5.1 Relevant provisions in the EU

On 1 July 2004, new provisions entered into effect in the EU governing the co-ordinated implementation of the single electricity market as well as cross-border electricity trading. The instrument concerned is Directive 2003/54/EG of the European Parliament and Council dated 26 June 2003[7] concerning joint regulations for a single electricity market, the repeal of Directive 96/92/EG and the entry into effect of EU Ordinance 1228/2003 dated 26 July 2003[8] concerning conditions for network access in the area of cross-border electricity trading.

The electricity market directive (2003/54/EG) contains the following provisions in particular:

- Member states are required to open the market to all non-household end users with effect from 1 July 2004, and to all customers (i.e. including households) with effect from 1 July 2007. To avoid any imbalances between two member states upon opening of the market, cross-border supplies may be banned in accordance with the principle of reciprocity if the customer has access to the market solely on the basis of regulations in the country of destination, but not in the country of origin of the electricity supply.
- To protect households and small/medium-sized companies, member states may take measures to secure basic supply.
- For the construction of new electricity production facilities, member states must define a transparent, non-discriminatory approval procedure. Responsibility for securing sufficient capacity lies primarily with the companies active in the electricity sector. Requests for tenders relating to the installation of additional capacities by member states are only admissible if the efforts on the part of companies active in the electricity sector should be insufficient, e.g. in the event of a market collapse.

[7] ABl. L 176 dated 15 July 2003, pp. 37 ff.
[8] ABl. L 176 dated 15 July 2003, pp. 1 ff.

– The operation of the transmission network is to be carried out by an independent company. In the event that this company should belong to a vertically integrated group, its independence from the owners and from other business activities of the vertically integrated companies must be secured. This company must take the form of an independent legal entity and have its own autonomous management. This means that its management may not additionally be active in other business areas of the group. However, there is no obligation to unbundle the company from the vertically integrated group in terms of ownership.

– Access for third parties to the transmission and distribution networks has to be based on approved and published tariffs. Access may only be denied due to insufficient capacity and with due substantiation.

– Member states must designate at least one body to function as regulatory authority. The latter is responsible for securing the proper functioning of the market by issuing approvals and acting as supervisory authority, and by ruling on complaints against network operators.

In Ordinance 1228/2003, the following provisions are of particular interest:

– Methods to compensate the costs of transmission networks attributable to cross-border electricity trading.

– Principles for dealing with network congestions.

5.5.2 Compatibility of Switzerland's legislation with EU regulations

The *Electricity Supply Act* is largely compatible with EU regulations. The only differences concern the pace of market opening and the unbundling of distribution networks.

Whereas the EU market is to be already opened to non-household end users on 1 July 2004, and to households from 1 July 2007, in Switzerland the opening of the market for non-households will take place after the Electricity Supply Act enters into effect (provisionally in 2007). For households, the option of choosing the free market is only to become available following a resolution by the Federal Assembly five years after the Electricity Supply Act enters into effect (i.e. provisionally in 2012).

In the EU, unbundling is not only required for operators of the transmission networks that belong to a vertically integrated group, but also to operators of distribution networks if they supply more than 100,000 end users. However, the practical impacts of this difference are minor, since there are only very few electric utilities in Switzerland with more than 100,000 end users.

The *revision of the Electricity Act* is also compatible with EU legislation, with the exception of the possibility of using revenue from market-based allocation procedures for cross-border transmission capacities. In accordance with Article 18f, this revenue may be used for compensating other costs associated with the transmission network, in particular for adequate risk compensation of private proprietors. In the view of representatives of the EU Commission, this use of

revenue is acceptable since it merely takes the form of an interim solution until the Electricity Supply Act enters into effect.

5.6 Form of legislation

In accordance with Article 164 of the Federal Constitution, all important provisions of law must be issued in the form of a federal act. The two drafts meet this requirement.

With respect to entry into effect and repeal of certain articles, the Electricity Supply Act complies with Article 163, paragraph 2 of the Federal Constitution in that it provides for enactment in the form of a federal resolution. Federal resolutions are subject to optional referendum, insofar as this is provided by the constitution and legislation (Article 141, paragraph 1 lit. c, Federal Constitution). The Electricity Supply Act explicitly provides for an optional referendum (Article 30, paragraph 2c, Electricity Supply Act).

5.7 Requirement of approval of expenditure

In accordance with Article 159, paragraph 3b of the Federal Constitution, expenditure requires the approval of a majority of members of both Councils if a resolution involves a one-time outlay of more than 20 million Swiss francs, or recurring costs of more than 2 million Swiss francs. In the present case, the only costs that require approval are those associated with the ElCom. However, the Federal Council is of the view that these costs will be covered via charges and supervisory fees (cf. chapter 3.1).

5.8 Delegation of legislative powers

Legislative powers may be assigned via federal laws insofar as this is not excluded by the Federal Constitution (Article 164, paragraph 2, Federal Constitution). In accordance with the Federal Constitution, the requirement that important, fundamental provisions have to take the form of a federal act (Article 164, paragraph 1, Federal Constitution) represents a general restriction on the delegation of legislative powers.

The Federal Council may issue legally binding ordinances as long as the authority to do so is provided in a formal federal act, concerns a specific matter of regulation, and if in the event of major intervention in the rights of the individual the principles are defined in the form of a federal act (cf. Article 182, paragraph 1, Federal Constitution). The two drafts contain various delegation provisions, and these comply with the above requirements.

The Electricity Supply Act also provides for the option of sub-delegation: the Federal Council may assign the authority to conclude international agreements with a technical or administrative content, as well as to issue technical or administrative regulations, to the Swiss Federal Office of Energy (Article 20, paragraph 3, and Article 28, paragraph 3, Electricity Supply Act).