Report on the activities of ElCom 2014

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Carlo Schmid-Sutter
President of ElCom

The Swiss electricity industry is experiencing a period of transition and uncertainty. It is facing far-reaching changes, some of which have taken place unexpectedly and suddenly, and in many cases it has not yet been possible to gain an overview of the consequences. The partial liberalisation of the market advocated at the political level has transformed stable subscriber relations into volatile customer relations that are subject to competition; new technologies are opening up access to services for new, previously non-sector players, e.g. in the areas of metering and pooling, which will give rise to distribution conflicts; and inherent and external influences are distorting the market, making investments in production facilities appear unviable and creating uncertainty. No one is able to say with certainty what the future may hold for the industry, in which direction the change in energy strategy will move, and how the energy landscape will be transformed. We are witnessing the destruction of old business models. But whether this destruction is creative in nature, as postulated in Josef Schumpeter's creative destruction theory, remains to be seen. The industry structures will in any case change – in fact, this process is already in progress.

What is the role of the regulator in this process? ElCom is not a structure regulator, i.e. it does not regulate either the preservation or the transformation of structure: in this general energy sector mêlée it does not play an active role, i.e. it does not act as either a brake or a driving force. The regulator merely has to perform its legally specified mandate, even in these turbulent times: securing network access, monitoring regulated tariffs, keeping a close eye on supply security, supporting cross-border electricity exchange and, in the future, supervising the market.

In the year under review, no problems arose relating to securing access to the network. Impediments to network access are now rare: associated disputes concern complex issues in which the right to network access is not evident.

With respect to monitoring regulated tariffs, most of the proceedings at the transmission network level were brought to a conclusion. At the distribution network levels, the annual cost account audits have proved to be an effective means of informally encouraging network operators to structure their tariffs in accordance with the relevant legal provisions. Progress continues to be made in preparing the Sunshine Regulation.

In the year under review, with the publication of its first report on electricity supply security in Switzerland, ElCom created the basis for uninterrupted monitoring of the electricity supply in our country. The aim is to update this report every two years.

Market supervision is scheduled to become operational in 2015, and in the year under review ElCom made the necessary preparations in terms of organisation, personnel and information technology.

In view of the importance of supply security, special attention has to be paid to cross-border electricity exchange. The Swiss electricity grid is highly intermeshed with neighbouring countries via a large number of cross-border transmission lines, and thus technically forms an integral part of the European electricity network. This means that developments in the energy

sectors of our neighbouring countries, as well as energy policy decisions taken by the EU, also significantly affect Switzerland. In view of this, in the interests of an orderly coexistence Switzerland has unilaterally implemented major components of European electricity market legislation in the past few years. The transmission network has been uncoupled, non-discriminatory network access for third parties has been established in the relevant wholesale segment, cross-border transport capacity is being allocated on a market-oriented basis during periods of congestion, transit through Switzerland has been enabled, and there is also a transmission system operator (TSO) and a regulator.

The upcoming move towards integration would involve the more efficient use of cross-border transport capacity with market coupling. This promotes cross-border wholesale electricity trading and has a positive influence on the Swiss electricity market thanks to more efficient use of the transmission networks, simplified access to the major markets for Swiss producers, and a tendency towards lower wholesale prices.

However, the EU is currently blocking further moves towards integration by imposing institutional obstacles, and is threatening to revoke those steps that have already been taken (e.g. intraday trading) unless a bilateral electricity agreement is concluded. Since participation in the European internal electricity market is of particular importance to Switzerland in view of the Federal Council's Energy Strategy 2050, it is to be hoped that Switzerland's exclusion from the internal market can be avoided. On the other hand, all political options have to be taken into account, and the corresponding consequences have to be considered – in other words, we also need to anticipate options that may have to be adopted in the event of Switzerland's exclusion from the market. For example, if we were to be excluded from the ITC mechanism, we would have to consider ways in which it would be possible to continue to fulfil the legal mandate to ensure that Swiss consumers do not have to bear transit costs. And in connection with the planning for an efficient network expansion, Switzerland would have to focus on the transmission lines that would be required for domestic supply, and waive investments in transmission lines that have little to do with domestic supply.
In the current situation, ElCom intends to maintain contacts with the regulatory authorities in the EU and Switzerland's neighbouring countries and to gather facts with the aim of supporting concrete solutions for securing the country's electricity supply.

To conclude, on behalf of ElCom I wish to express my thanks to Aline Clerc for her valuable services. She was offered a post at the Energy Office of the Canton of Vaud, and for this purpose she left ElCom at the end of 2014. Aline Clerc joined ElCom in 2007. Thanks to her extensive experience in the field of consumer affairs and her outstanding specialised knowledge, she supported the development of ElCom with a great deal of personal commitment.

Finally, I hope you will find this 2014 report on ElCom's activities both interesting and informative.

2 Supply security

The Lucendro-Sella Reservoir (photo: Alpiq)

2.1 Interview with Renato Tami on the topic of supply security in Switzerland

In accordance with Article 22 Paragraphs 3 and 4 of the Federal Electricity Supply Act, ElCom is responsible for monitoring the country's supply security. In the event that the supply of electricity should be seriously threatened in the medium or long term, ElCom is required to propose suitable measures to be taken by the Federal Council. In the Dispatch to Parliament dated 3 December 2004 regarding the amendment of the Federal Electricity Act and the Federal Electricity Supply Act, ElCom defined supply security as follows: "Supply security is guaranteed when the desired quantity of energy is available in the entire network at the desired quality and at acceptable prices."

ElCom bases its assessment of Switzerland's supply security on comprehensive monitoring of the situation incorporating numerous criteria in a broad variety of areas. Its assessment generally encompasses a medium-term timeframe of three to five years.

What role does ElCom play in monitoring supply security?
Renato Tami: On the one hand, ElCom has to ensure that network operators and market players comply with the relevant legal provisions. In addition to the operation of a safe, productive and efficient network, this includes non-discriminatory access to the network and a safe and affordable supply in all regions of the country. On the other hand, ElCom is empowered to propose measures to be taken by the Federal Council in order to guarantee supply security. In the year under review, for example, ElCom initiated and supported the clarification of the legal provision for enforcing a tariff for balance energy, which provides market players with an incentive to avoid undue risk.

What is ElCom's assessment of Switzerland's supply security?
The level of Switzerland's electricity supply security is high, and it is also assured over the medium term. The most important assessment criteria for the operation of the transmission network have developed positively during the past three years. These include n-1 loads, control quality and frequency and voltage quality (cf. box). The degree of availability in the distribution network is also very high in an international comparison. With the introduction of Energy Strategy 2050, the volume of electricity fed into the grid from decentralised sources will increase, and this means that the demands on system operation and the loads on the transmission and distribution networks will also increase. In order to maintain supply security at this level over the long term it will be necessary to pay more attention to network expansion.

With regard to the energy and capacity assessment, on the production side supply security appears to be assured until 2020. However, today we are already dependent on imports during the winter months. This is attributable to the lower quantity of water available for use by run-of-river power plants and simultaneously higher electricity demand in Switzerland. It is important to continue to keep a close eye on the country's dependency on imports during the winter months, especially in connection with the introduction of Energy Strategy 2050 and the possible withdrawal from the use of nuclear energy. In the event that substitution measures, in particular the construction of new renewable energy facilities, should prove to be inadequate, the dependency on imports could in fact increase.

How can Switzerland maintain its supply security at a high level in the future if the construction of new renewable energy facilities does not proceed as planned?
In this case, the volume of imports in proportion to domestic production could continue to increase in the medium to long term. In an international comparison, Switzerland's available physical capacity for electricity imports is high in proportion to its national consumption. Higher imports would therefore be possible, but would depend on whether and at what conditions the exporting countries are in the position to supply the corresponding quantities. The risk of insufficient production capacities will also be reduced thanks to the fact that combined gas and steam power

> *"The level of Switzerland's electricity supply security is high, and it is also assured over the medium term"*
>
> *Renato Tami, Head of the Technical Secretariat*

plants could be put into operation within a few years. The capacity for imports of gas for several such power plants is also available.

What were the main challenges associated with the preparation of this report?
The impetus came from Werner Geiger, who was a member of ElCom from 2007 to 2013. One of the biggest challenges at that time concerned the definition of the evaluation and monitoring criteria. How can we make quantitative and qualitative statements relating to supply security? Despite the presumed clear definition of quality of supply security, i.e. that the desired quantity of energy is always available in the entire network at the desired quality and at acceptable prices, there remains a certain amount of room for interpretation. On the one hand, each person's perception of quantity, quality and prices always encompasses a certain degree of subjectivity, and on the other hand the negative impacts of a power shortage can vary considerably. The definition and practical implementation of suitable monitoring criteria were always among the biggest challenges for a report of this nature. Another challenge concerned the interpretation of the findings. For this purpose, ElCom always attached a great deal of value to holding dialogue with the involved players.

The report contains a broad range of information – which data were you able to refer to?
In its report on Switzerland's supply security, ElCom primarily obtained data from Swissgrid and the Swiss Federal Office of Energy, but data from network operators were also of great importance for evaluating a variety of daily activities.

What did ElCom's analysis focus on in 2014 in connection with supply security?
ElCom has developed a comprehensive method of monitoring medium- and long-term supply security which focuses on four aspects: networks, production, tariffs and framework. Each of these areas was evaluated at different levels. For example, for networks we defined around a dozen criteria together with Swissgrid. This approach enabled us to make objective statements regarding system management, network availability, network status and network development. In the area of production we focused on three main criteria: power plant capacity, import options and investments in power plants. The report therefore incorporated more than 30 monitoring criteria.

Will ElCom continue to publish reports on Switzerland's supply security?
In addition to supply security, ElCom also monitors supply quality. Supply quality concerns the duration and frequency of power supply interruptions in Switzerland's networks. This analysis is carried out annually and encompasses interruptions in the networks of the 85 largest operators in the country. For ElCom, the chronological development of the monitoring criteria is just as important as the absolute values. Monitoring supply security is therefore an ongoing process, while the report is only published every two years.

Brief explanation of the most important terms:

» **N-1 load**
One of the most important evaluation benchmarks for the operation of a transmission network is compliance with the n-1 criterion, which specifies that, following the failure of any given grid element, the load levels of the remaining components may not exceed 100 percent in the event of an n-1 occurrence. This does not concern the actual grid load, but rather a prior simulation calculation. The aim of this calculation is to determine the load that would arise for the remaining grid elements in the event of the failure of a given element. This analysis helps the operator of the transmission network to prepare – and where necessary, implement – system management measures if the simulation indicates that the n-1 criterion could be exceeded.

» **Control quality**
In order to maintain the stability of an integrated network, the frequency of 50 Hz has to be kept within the tolerance range. This is accomplished by maintaining the production and consumption of energy in the synchronous network in a state of equilibrium. This equilibrium is achieved by calling on reserve energy. A control zone is regarded as stabilised if the reserve energy that has been called on is sufficient to maintain a balance between electricity supply and demand.

» **Frequency and voltage quality**
Frequency quality is an important indicator for assessing the stability and operational safety of the entire electricity grid. In Europe, the target frequency for the supply of electricity via alternating voltage is 50 Hz (the frequency of the Swiss Federal Railways transmission network is 16.7 Hz).

The frequency fluctuates depending on the actual balance between production and consumption. If the level of consumption is lower than that of production, the frequency is above 50 Hz, and, vice versa, if the level of consumption is higher than that of production, the frequency is below 50 Hz. For assessing the frequency quality, all fluctuations are recorded that are above or below 75 millihertz (mHz) during a period of at least 15 seconds.

The full report on Switzerland's supply security may be downloaded from the ElCom website (www.elcom.admin.ch > Dokumentation > Berichte und Studien (not available in English).

2.2 Quality of supply

One of the indicators for a high level of supply quality is a high degree of network availability. In Switzerland, the development of chronological network availability has been monitored since 2010. For this purpose, ElCom uses the two standard international key indicators, SAIDI and SAIFI. SAIDI (System Average Interruption Duration Index) quantifies the average duration of interruption per end user, while SAIFI (System Average Interruption Frequency Index) quantifies the average frequency of interruption per end user. SAIDI and SAIFI calculations incorporate all unscheduled interruptions that last longer than three minutes and occur as the result of natural disasters, human error, operational problems or actions by third parties.

ElCom evaluates the interruptions in the networks of the 85 biggest Swiss operators, who account for around 80 percent of the country's electricity output. As we can see from Table 1, the 85 biggest Swiss network operators recorded 6,330 unplanned interruptions in 2013. The number of unscheduled interruptions thus fell by almost 1,000 versus 2012, but the figure was still slightly higher than those for 2011 and 2010. However, this figure has to be placed in relation to the duration of interruptions and the number of affected end users.

	2010	2011	2012	2013	Unit
Interruptions	6,080	6,000	7,280	6,330	Number of unscheduled interruptions
SAIDI	14	16	22	15	Minutes per end consumer
SAIFI	0.28	0.28	0.34	0.28	Interruptions per end consumer

Table 1: Development of supply quality from 2010 to 2013

In 2013, the average duration of unscheduled interruptions per end consumer was 15 minutes, which was roughly the same as the average duration recorded in 2010 and 2011. The average frequency of unscheduled interruptions per end consumer fell in 2013 versus 2012 to 0.28. The higher SAIDI and SAIFI figures in 2012 were primarily attributable to extraordinary natural disasters (storms and snow).

Overall, Switzerland's supply quality can be described as good. According to the official statistics of the Council of European Energy Regulators (CEER), the level of network availability in Switzerland is good in an international comparison. For example, in our neighbouring countries (Germany, Austria, France and Italy) the average duration of unplanned interruptions per end consumer in 2014 was between 15 and 68 minutes.

Alongside a high degree of network availability, the level of available import capacity is a key factor with respect to supply security. In view of this, ElCom is keeping a close eye on the development of available cross-border capacity (referred to as net transfer capacity, or NTC). NTC indicates how much cross-border transport capacity is available with neighbouring countries without breaching safety standards. Swissgrid specifies this figure for all four Swiss borders together with the involved transmission network operators. For the Principality of Liechtenstein, which belongs to control zone Switzerland, the proportion of import capacity is included in the figure for Austria. Table 2 presents an overview of the trend in available import capacity.

NTC	2010	2011	2012	2013	2014
France	3,116	3,116	3,109	3,060	3,093
Germany	1,055	1,087	895	965	1,094
Austria	305	312	456	512	612
Italy	1,721	1,721	1,724	1,726	1,722
Total (Switzerland)	**6,197**	**6,236**	**6,184**	**6,264**	**6,521**

Table 2: Trend in Switzerland's import capacity (NTC)

The total NTC at Switzerland's four national borders amounted to between 6,197 and 6,521 MW between 2010 and 2014. A notable increase was recorded between 2013 and 2014, which was attributable to reductions in shortfalls and increases in capacities as a result of the relocation and construction of a 380/220 kV transformer (Bassecourt/Bickigen). The import capacity of 6,521 MW at Switzerland's four national borders is high in proportion to the level of national consumption and thus makes a major contribution towards a secure and affordable supply in all parts of the country. ElCom aims to keep this proportion high in the future.

In view of the high transit flows through Switzerland from north to south, the available export capacity to Italy is also an important factor for Switzerland's supply security. The level of this export capacity has a significant influence on the allocation of import capacity at the French, German and Austrian borders. In order to maintain network stability in Italy, the Italian transmission network operator, TERNA, imposed capacity reductions more frequently in the past few years (cf. section 5.1). The trend in export capacity to Italy is depicted in Table 3.

NTC [MW]	2010	2011	2012	2013	2014
Italy	3,130	3,050	2,826	2,767	2,557

Table 3: Trend in Switzerland's export capacity (NTC) to Italy

2.3 Capacity markets

The European electricity market is about to undergo further major changes that will also affect Switzerland. In the existing market structure, electricity producers primarily earn their revenue from the sale of energy. In a number of EU countries, including Switzerland's neighbours France, Italy and Germany, doubts exist as to whether this electricity market structure will be able to create sufficient incentives over the long term to maintain adequate production capacities and continue to expand them. With the currently low wholesale prices on the electricity market it is not possible to cover the full costs of numerous existing power plants, let alone justify the construction of new ones. To ease the situation, the option of a capacity mechanism is under consideration. The idea here is that, in addition to the market for electricity, the output provided by power plant operators would also be compensated. While the debate is still ongoing in Germany, Italy has already introduced a corresponding concept, and France is expected to do so in the course of 2015.

The majority of scientific studies conclude that a reform of the electricity market, and in particular the renouncement of politically specified pricing thresholds (price caps), would more efficiently encourage the construction of power plants than the introduction of capacity mechanisms. ElCom shares this view and is inclined to advise against the introduction of capacity mechanisms in Switzerland.

Decisions relating to the market structure within the EU can have direct consequences for market conditions in Switzerland. In view of its close ties with foreign markets, the Swiss electricity market cannot be considered as an isolated entity. ElCom therefore regards it as appropriate that Swiss producers, too, should have free access to capacity markets that are formed within the EU in order to avoid competitive disadvantages. In addition to offering its primary support for electricity market reforms, ElCom also aims to exert its influence in this direction.

2.4 System services

In order to guarantee supply security, the desired quantity of energy has to be available in the entire network at the desired quality and at acceptable prices. The prerequisites for this include the availability of sufficient network capacities for the production of the required electricity and adequately dimensioned transmission and distribution networks for the secure transport of energy to end consumers. However, these two criteria on their own are not sufficient to guarantee a secure electricity supply. Since electricity cannot be stored in the grid, at any given time exactly the same quantity has to be taken out of it as is fed into it. But it is never possible to predict precisely how much electricity will be produced and how much will be consumed. In order to offset forecasting errors and maintain a constant balance between production and consumption, additional power plant capacity has to be made available. This reserve energy is an integral part of system services, both for reasons of supply security as well as from the point of view of costs. The purpose of system services is to secure the uninterrupted operation of the grid. ElCom therefore attaches a great deal of importance to the provision of reserve energy, and supports measures aimed at promoting its efficient use.

Figure 1 depicts the trend in the price of secondary reserve energy (for the twenty most expensive MW) that is required in order to compensate any imbalances in the network within a few minutes. These prices can fluctuate considerably in the course of the year. As a rule, they rise in the spring as a consequence of the low water levels in natural reservoirs such as lakes prior to the onset of the annual thaw. The resulting reduction in output from storage power plants leads to a shortage in the supply of reserve energy. In 2013, the prolonged winter gave rise to a premature reduction of water levels in reservoirs, and this in turn led to an unusually sharp increase in reserve energy prices. By contrast, the price increase in spring 2014 was relatively moderate. This was partly attributable to the milder winter, but also to the targeted promotion of an increase in the supply of reserve energy. Here, for example, additional power plants were persuaded to provide reserve energy. But with the aid of targeted steering of consumption, another resource was exploited that can contribute towards network stability. Generally speaking, the costs for reserve energy have constantly fallen, except in 2013. Alongside the cited optimisation efforts, the main reason for this is the general price trend on the European electricity exchanges.

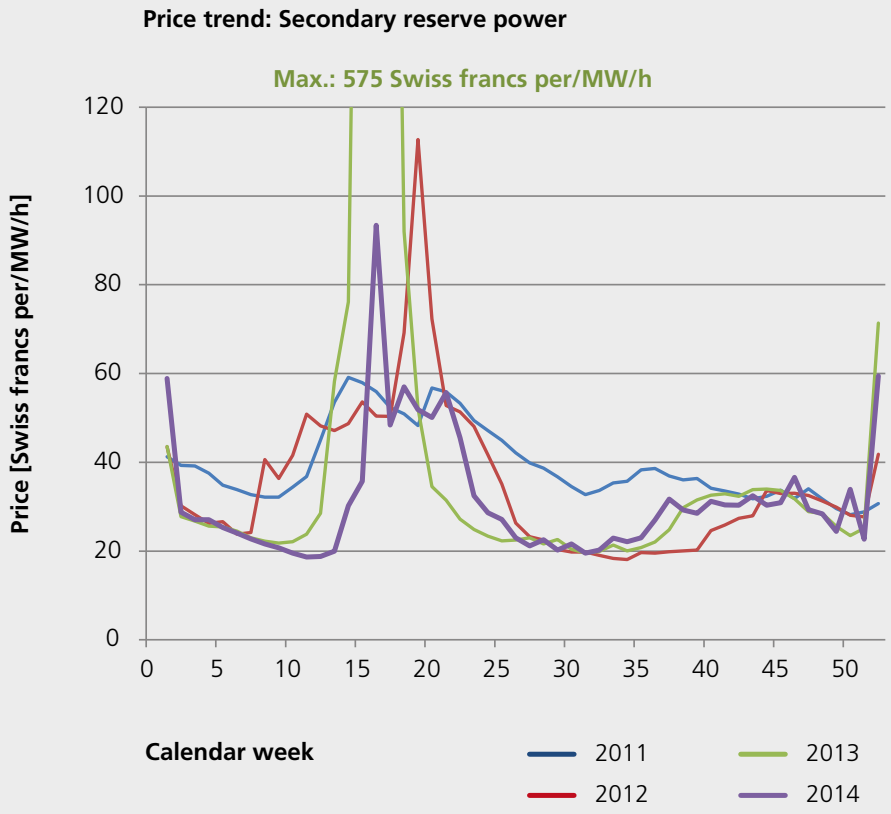


Figure 1: Price trend of secondary reserve energy for the 20 most expensive MW

3 Networks

Transmission network pylon (photo: Repower)

3.1 Facts and figures relating to Switzerland's electricity networks

In the year under review, ElCom collected cost accounting and infrastructure data from all network operators. Table 4 presents an overview of the most important installations in the Swiss electricity network. The figures are based on self-declarations by the operators.

Type of installation	2010	2011	2012	2013	Unit
Pipe System, high voltage (NL3), medium voltage (NL5) and low voltage (NL7)	101,409	102,832	104,894	111,626	km
Cable (NL3)	1,893	1,917	1,980	1,976	km
Cable medium voltage (NL5)	30,607	31,370	32,174	32,833	km
Kabel, low voltage (NL7)	72,852	72,491	73,382	75,127	km
Cable, connection to household (NL7)	45,926	46,454	47,957	50,972	km
Supply line HHS (NL1)	6,750	6,750	6,750	6,750	Line-km
Overhead line (NL3)	7,057	6,935	6,918	7,059	Line-km
Overhead line, medium voltage (NL5)	12,232	11,888	11,570	11,151	Line-km
Overhead line, low voltage (NE7)	11,558	11,117	10,835	10,227	Line-km
Substation NL2, NL3, NL4 and NL5	1,114	1,192	1,144	1,097	Quantity

Type of installation	2010	2011	2012	2013	Unit
Transformer NL2	150	158	154	155	Quantity
Switching field NL2 [1)]	139	164	185	163	Quantity
Transformer NL3 [2)]	92	96	97	82	Quantity
Switching field NL3 [1)]	1,917	2,268	2,577	2,449	Quantity
Transformer NL4	1,117	1,140	1,147	1,144	Quantity
Switching field NL4 [1)]	1,384	1,781	1,906	1,952	Quantity
Transformer NL5 [2)]	1,067	758	585	536	Quantity
Switching field NL5 [1)]	27,467	27,811	27,366	29,468	Quantity
Transformer station NL6	48,985	49,190	51,100	51,862	Quantity
Mast transformer station NL6	6,287	6,150	5,716	5,831	Quantity
Cable distribution box, low voltage (NL7)	155,764	158,937	156,839	170,285	Quantity
No. of network operators	687	683	679	671	

[1)] Switching fields encompass the upper and lower field at the respective network level, except in the case of network level 2, for which the upper switching field is allocated to network level 1 in accordance with Article 2 Paragraph 2 of the Electricity Supply Ordinance.
[2)] Transformers at network levels 3 and 5 handle different voltage series within the network level (e.g. at network level 3, 110 and 50 kV).

Table 4: Installations in the Swiss electricity network

The inventory of installations in the Swiss electricity network has undergone very little change in the course of the past few years. The only changes of note are a reduction in the number of overhead lines and a slight increase in underground cables.

The residual value of the installations in the distribution network is around 18 billion Swiss francs. The amount of network use revenue (excluding fees and payments to the state and remuneration of feed-in at cost) is 3.3 billion Swiss francs per annum after deduction of redundancies. Figures 2 and 3 below show the distribution of these two totals by size of company. In both figures, the 100 biggest network operators are divided into groups of 10, while the remaining almost 600 operators have been grouped together in a separate category. The 10 biggest network operators (dark blue) account for more than 40 percent, the 50 largest (dark blue, brown, green, violet and light blue) for 75 percent and the next 50 for around 10 percent of all declared installations. This means that the remaining 600 network operators (in the "Remainder" category) merely account for around one-sixth of the total value of the installations in the distribution network.

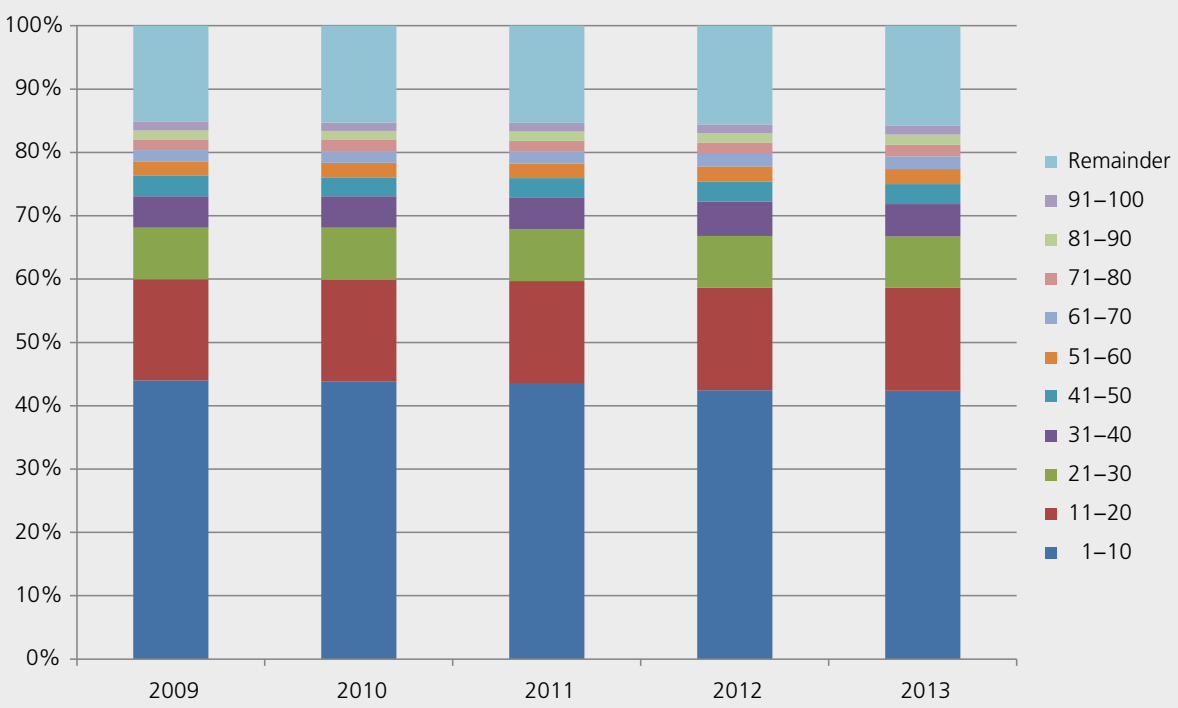


Figure 2: Proportional holdings in the distribution network by company size

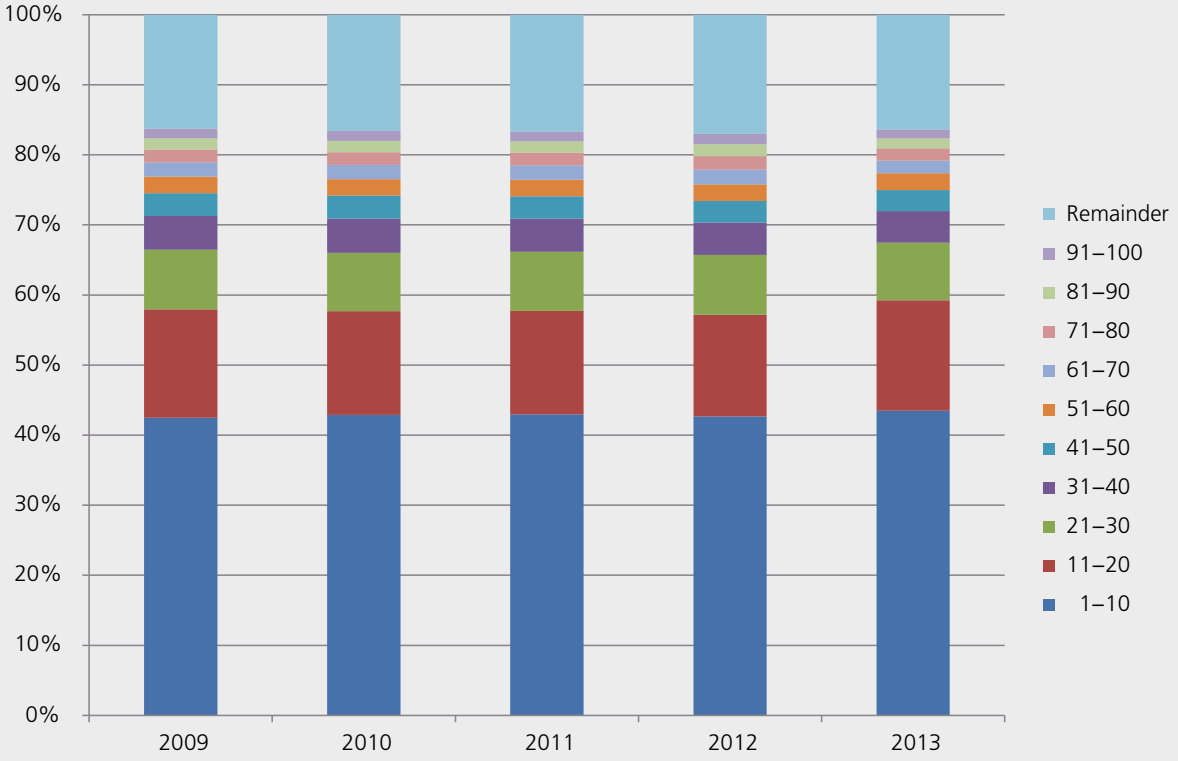


Figure 3: Proportion of network utilisation revenue (distribution network) by size of operator

The distribution depicted in Figure 2 corresponds to the revenue generated from network use (Figure 3). The relative importance of the network operators by size of company remained unchanged in the period under review.

Figure 4 shows the proportional composition of the annual network costs (including taxes, plus fees and payments to the state) totalling almost 4 billion Swiss francs. At around 80 percent, operating and capital costs account for the largest share. The remaining amount comprises direct taxes, plus fees and payments to the state (including the fee for remuneration of feed-in at cost and for the protection of bodies of water and fish).

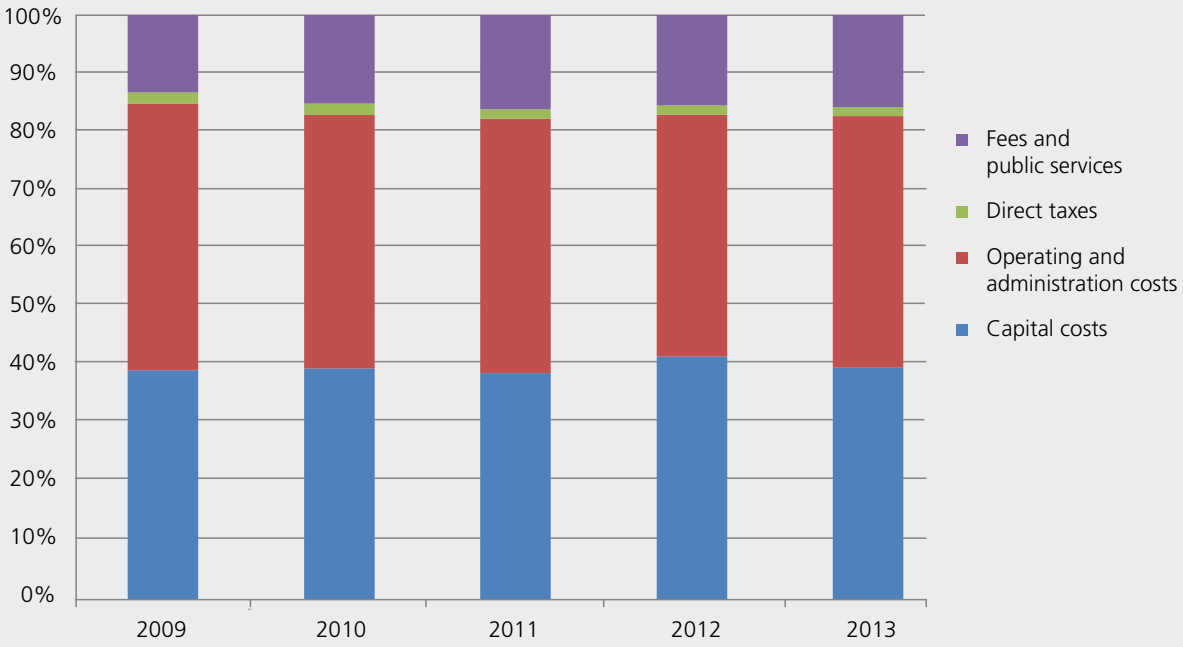


Figure 4: Breakdown of network costs

3.2 Grid expansion and planning

Network operators are required to draw up long-term plans regarding the expansion of the network infrastructure, while Swissgrid is responsible for the planning of the overall transmission network. The aim here is to ensure that the networks are continually maintained and expanded. ElCom is involved in the preparation of long-term plans and assesses them from the point of view of safety, performance and efficiency. In the year under review, Swissgrid drew up the long-term plan and submitted the draft version to ElCom at the end of 2014. This means that it was not possible for ElCom to closely examine the content of the plan in the year under review.

ElCom commented on the expansion plans produced by distribution network operators whenever uncertainties existed regarding the recoverability of the costs of the various expansion concepts.

3.3 Investments in the distribution network

Within the scope of its supervisory duties, ElCom determines whether enough investments are being made so that the electricity network can be maintained in good condition. For the period from 2009 to 2013, the distribution network operators reported annual investments of around 1.4 billion Swiss francs, and write-offs amounting to approximately 0.8 million Swiss francs (cf. Figure 5). Since the supply quality can be described as good in an international comparison (cf. section 2.2) and the investments clearly exceed the write-offs, ElCom considers the investments to be sufficient.

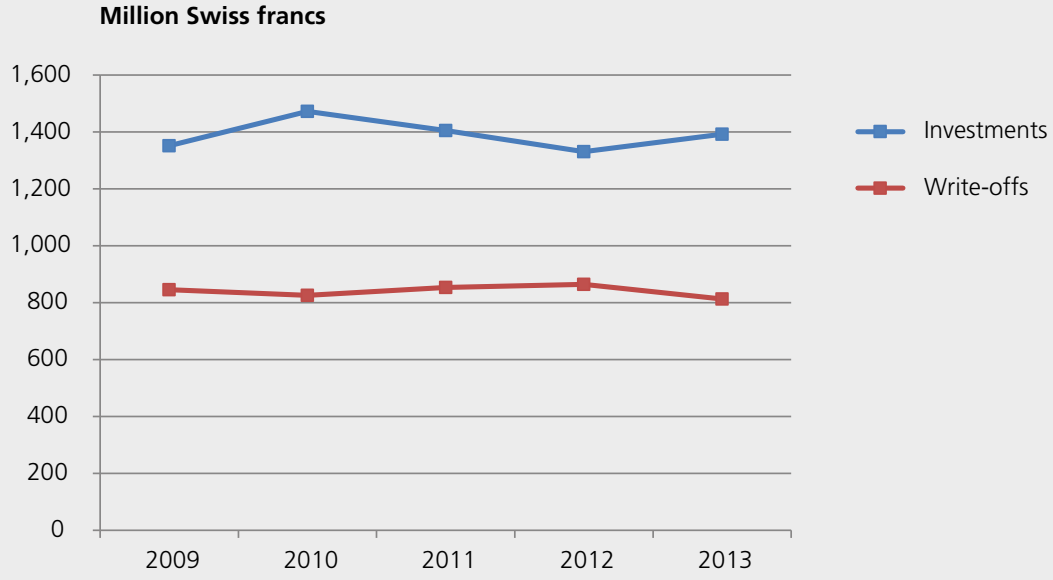


Figure 5: Trend in investments and write-offs in the distribution network

3.4 Increases in network capacity, connection to the grid

Additional network capacity may become necessary in order to connect producers of electricity from renewable energy to the grid. Swissgrid refunds the associated costs by incorporating them into its calculation of the system services tariff. This form of remuneration therefore requires the approval of ElCom. ElCom bases its activity on a directive that serves as a guideline for network operators to submit applications. This directive also specifies the criteria for the assessment of such applications, and ElCom revised it in 2012 while taking its previous practice as well as the interests of the network operators into account. In the revised version, the requirements regarding the provision of documentation were specified in greater detail, as were the regulations governing remuneration in cost accounting. It also describes the procedure relating to the step-by-step expansion of independent energy production plants.

In the year under review, ElCom assessed around 100 applications for remuneration of costs for increases in network capacity and in the course of the past five years, it has pronounced 181 rulings in this regard (cf. Figure 6). The total costs for increases in network capacity reached 27.8 million Swiss francs, and the total power plant capacity reached 140.4 MW. Table 5 presents an overview of the key data relating to increases in network capacity in the period from 2009 to 2014. The costs of increases in network capacity are not financed from the federal budget for the promotion of renewable energy, but rather via the system services tariff.

	Total	Photovoltaics	Wind	Other
Rulings	181	169	3	9
Minimum generator output [kW] [1)]	18	18	3'000	90
Maximum generator output [kW] [1)]	74,000	1,235	16,000	74,000
Total generator output [kW]	140,355	21,188	23,000	96,167
Average generator output [kW]	802	130	7,667	10,685
Minimum costs [Swiss francs] [1)]	7,141	7,141	1,805,003	19,311
Maximum costs [Swiss francs] [1)]	9,262,389	329,735	9,262,389	2,117,200
Total costs [Swiss francs]	27,781,736	10,461,782	13,523,872	3,796,083
Average costs [Swiss francs] [2)]	158,753	64,183	4,507,957	421,787
Minimum relative costs [Swiss francs/kW] [3)]	3	25	451	3
Maximum relative costs [Swiss francs/kW] [3)]	7,418	7,418	819	1,865
Average relative costs [Swiss francs/kW] [3)]	198	494	588	39

[1)] Per application/ruling
[2)] Corresponds to the average value of approved costs of network capacity increases per ruling
[3)] Relative costs = ratio of costs to installed capacity

Table 5: Figures relating to rulings on network capacity increases pronounced between 2009 and 2014 (status: 31.12.2014)

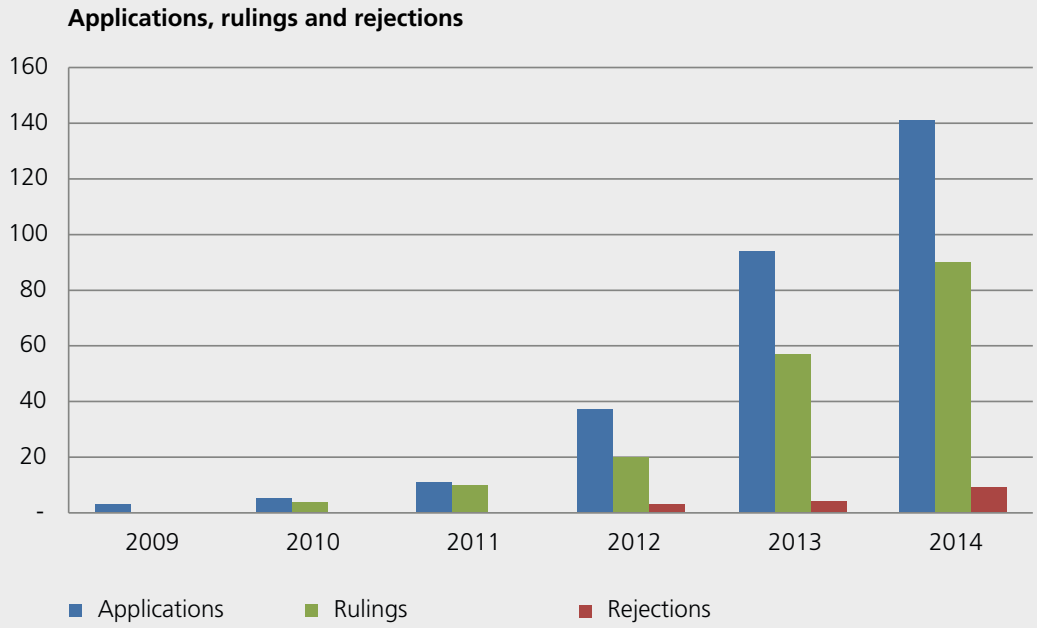


Figure 6: Trend in the number of rulings on network capacity increases (status: 31.12.2014)

In the year under review, ElCom pronounced several rulings concerning the conditions governing the connection of end consumers and energy production plants to the electricity grid. In the case of one end consumer, ElCom noted in an interim ruling that it is not responsible for specifying network connection costs as well as the contribution to network costs. However, it confirmed that it was responsible for verifying the network connection point and, where applicable, for auditing the network use remuneration. This ruling is not yet legally binding and a decision by the Federal Administrative Court is still pending.

With regard to the connection conditions for a photovoltaic installation, the Federal Administrative Court rejected a ruling by ElCom. The Court decided that the producer has to pay remuneration if he intends to use the existing infrastructure of the network operator for his feed-in.

ElCom also rejected an application by imposing a precautionary measure. This case concerned the temporary connection of a photovoltaic installation to the electricity grid. The matter in dispute was the question of whether or not the technical connection conditions of the network operator were lawful.

3.5 National grid operator

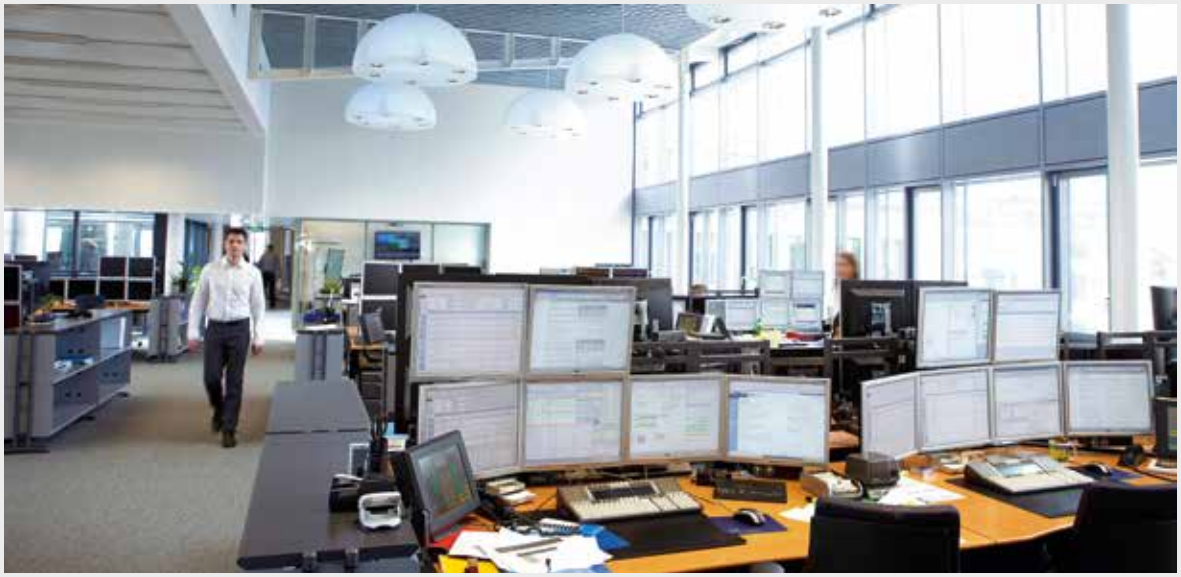
In accordance with Article 33 of the Electricity Supply Act, the existing network operators are required to transfer the installations at network level 1 to national grid operator Swissgrid. Once, in the case of a single operator, ElCom had to order the transfer in the form of a ruling. The Federal Administrative Court rejected the appeal against this ruling in the year under review, confirming that ElCom had correctly ordered the immediate transfer of the shares of the transmission network operator to Swissgrid AG. The transfer was effected at the beginning of 2015, together with other sections of the transmission network that were hived off to Swissgrid. The transfer of other components is scheduled to take place at the beginning of 2016.

In order to carry out an evaluation of the transmission network and define the method to be applied, ElCom held talks with a variety of partners in the year under review, and this process has not yet been concluded.

For various components that were transferred to Swissgrid at the beginning of 2014, an official valuation had not yet been made so, in these cases, ElCom pronounced rulings in the year under review in order to be able to make an initial adjustment of the value of the components in question. These rulings therefore formed the basis for compensation for the transferred components. In 2015, ElCom is to pronounce similar rulings concerning transferred components of the transmission network.

In 2014, various shareholders of Swissgrid AG announced their intention to sell their holdings in the national grid operator. The transfer of shares has to take place in accordance with the provisions of the Electricity Supply Act and it is primarily the responsibility of the board of directors of Swissgrid AG to ensure that the relevant provisions are duly complied with. In its capacity as supervisory authority, ElCom's duty is to monitor compliance with the legal provisions. The planned share sales also gave rise to political moves that raised questions regarding the control of the national grid operator by the cantons and municipalities, as well as the pre-emptive rights of the cantons, municipalities and electricity supply companies under Swiss control.

4 The Swiss electricity market



Alpiq trading floor in Olten (photo: Alpiq)

4.1 Market situation

In the initial stage of market liberalisation, only large-scale consumers with an annual consumption of at least 100 MWh could choose their supplier themselves. The group of large-scale consumers accounts for around half the total quantity of electricity consumed by end users in Switzerland (excluding public transport). In order to calculate the number of end consumers in the free market, ElCom conducted a survey among the 80 biggest distribution network operators, who together cover around 80 percent of the country's end consumption (excluding public transport) of around 55 TWh. As we can see from Figure 7, in the first few years after the opening of the market (up to and including 2011), very little use was made of this option: in the networks of the operators questioned, around 28,000 end consumers would be entitled to free market access, but only 7 percent chose to make use of this option (red curve). These end consumers entitled to free market access consume electricity totalling approximately 19 TWh. The proportion of energy volume (blue curve) is twice as high, which shows that the involved consumers are very big ones. Over the next two years (2012 and 2013), these proportions doubled to 13 and 26 percent respectively. This trend rose sharply in the year under review (27 and 47 percent respectively) and is currently persisting (though less significantly), so that figures of 33 and 53 percent (approximately 9,200 end consumers with consumption of around 10 TWh) can be anticipated for 2015. This means that one-third of end consumers entitled to free market access are now making use of this option because prices on the market have become cheaper than those for basic supply.

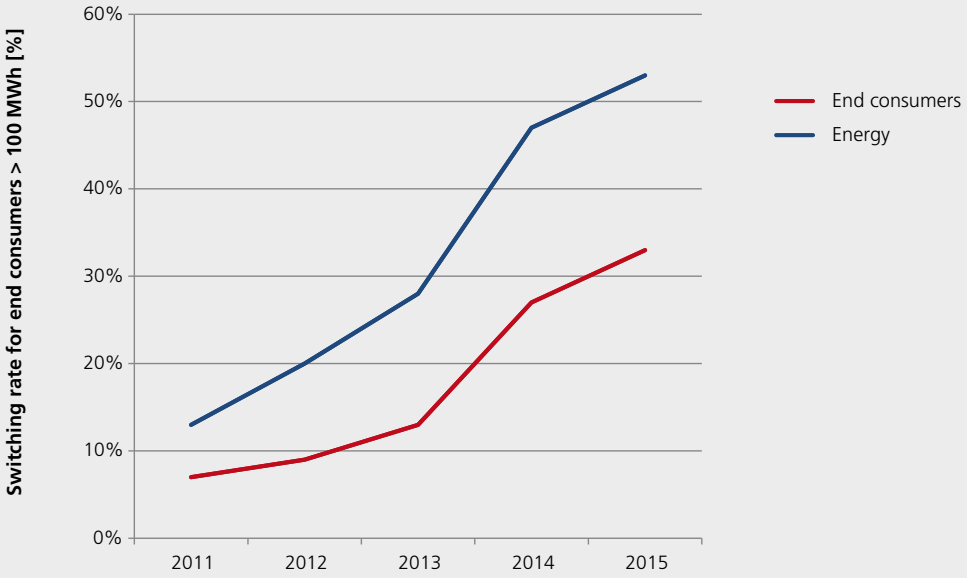


Figure 7: Transfer to free market

As we can see from Figure 8 below, the 10 biggest network operators (dark blue) alone supply around 40 percent of the total quantity of electricity in the distribution network to end consumers. If we look at the figures for the 50 biggest network operators (dark blue, brown, green, violet and light blue), we can see that they account for around three-quarters of the supplied energy. The next 50 biggest network operators together supply one-tenth, while the remainder supply one-sixth of the energy consumed by end users.

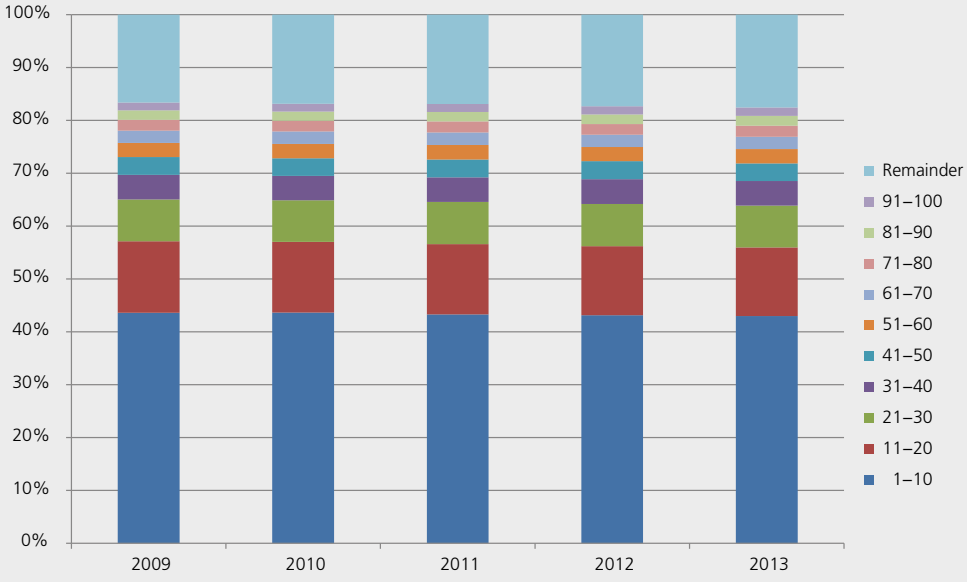


Figure 8: Proportion of energy supplies via the distribution network by company size.
The structure in Figure 2 is almost identical to that depicted in Figure 8, but it does not always represent the same companies.

4.2 Transmission network tariffs

In the period from 2011 to 2015, the tariffs for the use of the transmission network and the general system services were subject to considerable fluctuations (cf. Table 6). The reasons for this were various court rulings and the resulting payments to owners of the transmission network and to power plants.

	2011	2012	2013	2014	2015
Grid usage					
Working tariff [cents/kWh]	0.17	0.15	0.16	0.19	0.22
Power tariff [Swiss francs/MW]	25,600	23,500	24,600	30,900	36,100
Fixed basic tariff per exit point	248,800	225,000	235,400	285,500	336,300
System services tariff [cents/kWh]	0.77	0.46	0.31	0.64	0.54

Table 6: Trend in transmission network tariffs for network use and general system services for distribution network operators and end consumers

If we express the overall tariffs for network use and system services in the transmission network in cents per kWh, the resulting tariffs for 2014 and 2015 are around 1.3 cents per kWh. On average, an end consumer in category H4 (which is equivalent to a 5-room apartment without an electric boiler, with an annual consumption of 4,500 kWh) pays 9.8 cents per kWh for network use in 2015 (see below). The proportion of the transmission network (1.3 cents per kWh) to the overall network costs is therefore around 13 percent.

4.3 Distribution network tariffs

Since the tariffs for 2015 were already published at the end of August 2014, it is possible for them to be commented on here and compared with those for the year under review. The overall tariffs for households thus increased by 0.5 cents to 20.4 cents per kWh (cf. Figure 9, showing figures based on the example of consumer profile H4). This is attributable to the increase in the federal levy for the promotion of renewable energy (including the fee for the protection of bodies of water and fish) from 0.5 to 1.1 cents per kWh. In addition, the network tariffs rose by 0.2 to 9.8 cents per kWh, and the payments to the state by 0.1 to 1.2 cents per kWh. On the other hand, the average energy tariffs were reduced by around 0.2 cents to 8.2 cents per kWh. Overall, this means that the current tariffs for category H4 have reached the highest level since the entry into force of the Electricity Supply Act.

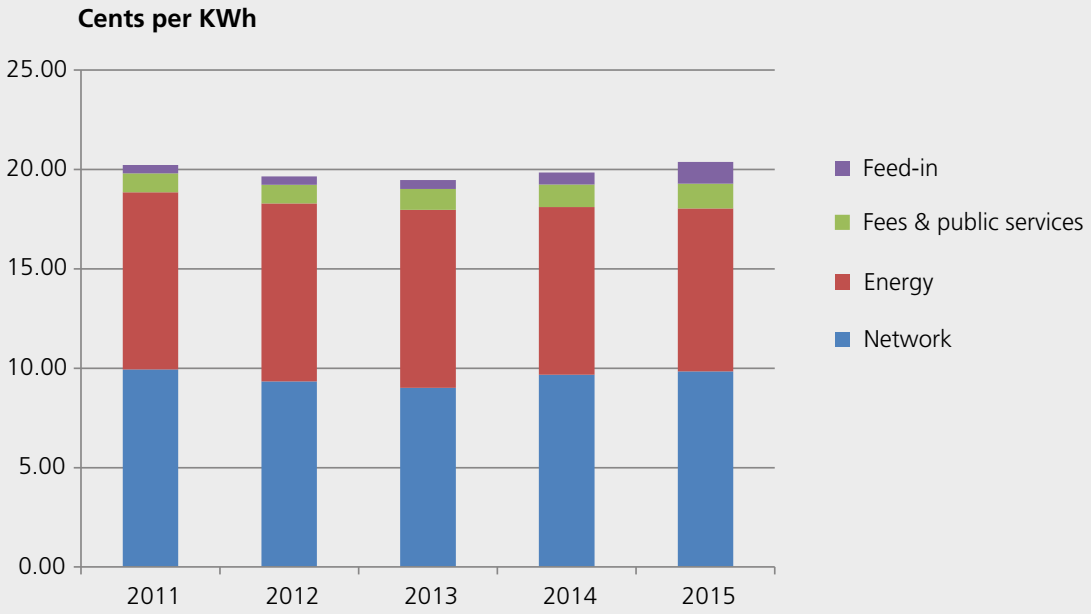


Figure 9: Cost components of the overall electricity price for consumer profile H4 (excluding value-added tax)

The average cantonal tariffs for network use did not change significantly in terms of either level or regional distribution (cf. Figure 10). By contrast, energy prices were lower on average, but the discrepancy between east and west grew more pronounced (cf. Figure 11).

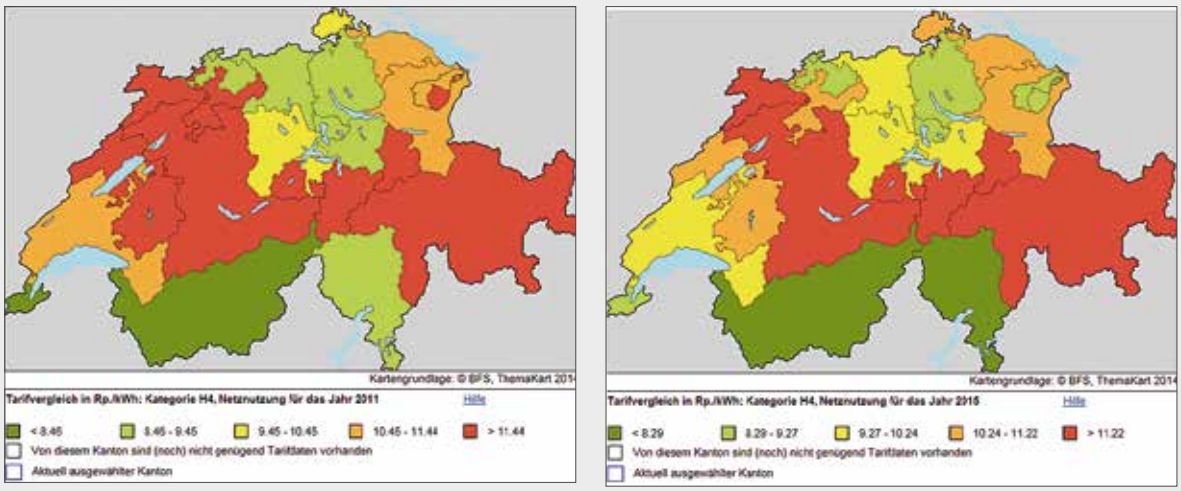


Figure 10: Comparison of average cantonal costs for network use for consumer profile H4 in 2011 and 2015

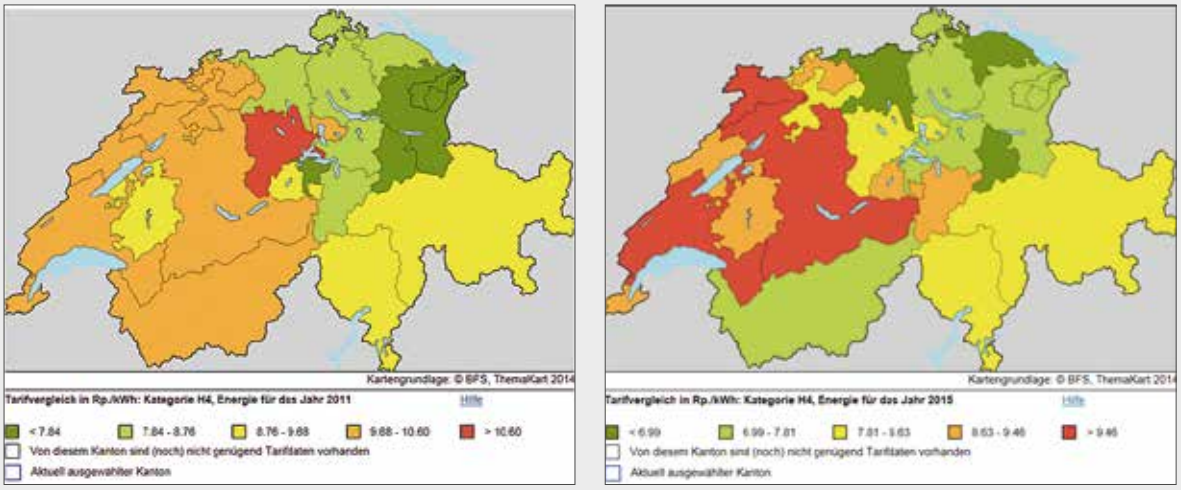


Figure 11: Comparison of average cantonal costs for energy for consumer profile H4 in 2011 and 2015

As we can see from Figure 12, the average cantonal tariffs for cantonal fees and payments to the state (excluding the federal levies for the promotion of renewable energy and the protection of bodies of water and fish, which are uniform throughout the country) rose in the period under review by around 0.2 cents per kWh. Furthermore, we can also see that there are frequently high and low, but very few intermediate (indicated in yellow) levels. Unlike the costs for network use and energy, the level of fees and payments is not determined by ElCom, but rather is specified via the cantonal and municipal political process.

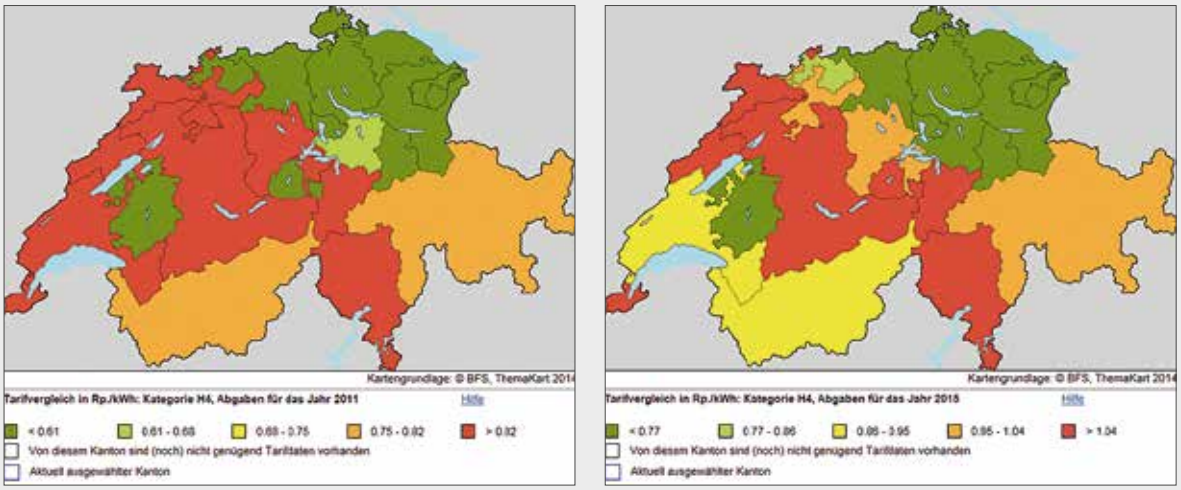


Figure 12: Comparison of average cantonal costs for fees and payments to the state for consumer profile H4 in 2011 and 2015

4.4 Examination of tariffs

In the year under review, ElCom examined the conformity of tariffs in four different ways:

» Each network operator was required to submit its cost accounting by the end of August, which formed the basis for network and energy tariffs for the following year. ElCom checked these in order to identify any errors, inconsistencies and implausible figures, and returned its evaluation to the network operator for adjustment where necessary. All 664 network operators who submitted their cost accounting on time or after the first reminder received ElCom's assessment in the year under review.

» ElCom also examined the figures submitted by network operators based on criteria such as tariff, applied interest rate and compliance with the "95 Swiss francs" rule. According to the latter, the balance of costs and profit in the area of energy distribution is regarded to be of relevance if it exceeds 95 Swiss francs per bill recipient. In a total of 75 cases, the balance was found to be in order. ElCom informed these operators that it would not be opening proceedings against their tariffs next year in its capacity as regulator. Furthermore, in the spring ElCom was already able to provide positive feedback to 44 network operators regarding the figures for their 2014 cost accounting.

» If a network operator still included unlawful or implausible figures in its cost accounting even after it had been adjusted, ElCom carried out an audit in the corresponding segments. In previous years, the focus was on the application of inappropriate price indices in synthetic evaluation, the failure to include a calculation of the differences in network cover and an overly high weighting of average cost of capital (WACC). It is pleasing to note that these problems barely arose in the year under review. In view of this, ElCom focused on infringements against the "95 Swiss francs" rule. It also discovered that some network operators were offering energy tariffs to end consumers entitled to market access that were below the average purchase costs. The operators in question cover these (uncovered) costs, at least to a certain extent, through higher tariffs for smaller end consumers with basic supply. The investigation of these cases was still ongoing as of the end of the period under review.

» Finally, in some cases ElCom comprehensively examined the entire spectrum of network and energy costs (the latter only for end consumers with basic supply) and could pronounce rulings relating to network valuation in three cases, and thus conclude the process.

In the year under review, tariff audits focused on the following aspects:

» **Network valuation:** Following various rulings by the Federal Supreme Court and the Federal Administrative Court in 2012 and 2013, ElCom adjusted its valuation practice. It now tends to recognise synthetic network valuations with the corresponding adjustments. In some cases, write-offs in the year in which a facility was put into production gave rise to discussions because in the view of the network operators, write-offs on a facility should only be made for the first time in the following year. By contrast, ElCom adopted the position, based on Article 13 Paragraph 2 of the Electricity Supply Ordinance, that write-offs are to be made from the time at which a facility is put into operation. In addition, in another case the uniform synthetic values calculated by the industry were closely examined. It was concluded that, due to their unclear derivation and their lack of reference to the network operator, they could not be applied in the case in question.

» **Operating costs:** As in previous years, the majority of adjustments concerned the distribution of costs by segment and recoverability. With respect to the distribution of costs by segment, in many cases the common costs charged to the network were once again too high. Non-recoverable costs include, for example, sponsoring costs, which have nothing to do with the operation of a safe, productive and efficient network. In one case, a network operator included the same costs in both the operating costs and the imputed depreciation and interest via the fixed assets. Facilities that were built after the entry into force of the Electricity Supply Act may not be charged twice to end consumers. The costs are therefore recoverable either as operating or as capital costs.

» **Energy costs:** Here, in the same way as in the examination of cost accounting (see above), the focus was on the "95 Swiss francs" rule.

4.5 Billing of network use remuneration between two distribution network operators

In its ruling dated 11 March 2014, ElCom stated that, under certain circumstances, a network operator is to be treated as an end consumer with reference to a transformer station in its possession. This applies if the transformer station does not form a connection from an upstream distribution network operator to a downstream, autonomous, regionally interconnected network unit. Through the mere purchase of a transformer station of an end consumer, a network operator does not become the operator of the corresponding network level. In the case in question, with respect to the transformer station, the treatment by the upstream operator of the downstream operator as an end consumer and the former's billing of the latter for a network use product for end consumers instead of a network use product for distribution network operators was reconcilable with the provisions of the electricity supply legislation.

4.6 Judicial practice with respect to tariffs

In the year under review, the relevant courts again pronounced a variety of rulings relating to network valuation. The judicial practice was confirmed in some cases and further developed in others. For example, the Federal Administrative Court confirmed that, in accordance with the electricity supply legislation, tariffs based on the reference year may be examined by ElCom before the effective costs are known. The historical and synthetic methods are the two potential types of valuation, but there is no room for an additional one. In accordance with the practice of the Federal Administrative Court, in addition to statements of construction costs, other forms of evidence of construction costs are possible: for example, construction costs listed in the annex to a utilisation rights agreement, for which it may be assumed that the construction costs have been audited and any inconsistencies have been corrected, may be used as evidence of construction costs. With respect to synthetic valuation, the Federal Administrative Court also expressed the view that, for the purpose of valuation, individual transmission line sections should wherever possible be clearly differentiated from one another. If the sections in question can be valuated separately without restriction, they are to be regarded as individual facilities, and as many lines as possible are to be valuated historically. The Federal Supreme Court confirmed ElCom's practice according to which recoverable costs only apply to those costs that arose at the time the installation was constructed and do not include purchase prices paid by buyers at a later juncture. The Court also confirmed that ElCom may specify an amount at its discretion if the documentation that is required for assessing the legality of declared expenditure is not submitted (infringement of cooperation requirement).

4.7 Sunshine Regulation

As reported a year ago, ElCom is currently working towards an expansion of the existing "cost plus" regulation. Within the broader framework of a so-called "Sunshine Regulation" the aim is to make the quality and efficiency of network operators more visible with the aid of a transparent and standardised comparison process. Greater transparency will enable network operators to identify and eliminate their own weaknesses, while the associated sensitisation of the general public will motivate them to improve their services.
The Swiss Federal Office of Energy (SFOE) and all organisations invited to participate in the consultation procedure (trade and industry associations, businesses, consumers) have spoken out in favour of the project. The fact that not only financial aspects, but also key data relating to supply quality, are to be included in the planned comparisons was especially welcomed.

In spring 2014, initial talks were held between industry representatives and ElCom aimed at defining various aspects. The talks focused on the selection of the comparison criteria and their practical implementation. However, both sides emphasised that the targeted key data should form relevant thematic areas for the electricity supply. Additional costs for the network operators should also be avoided as far as possible, and issues relating to the depiction and publication of the results, as well as legal aspects of their publication, were also addressed.

All participants agreed on the central issue, namely that in order to ensure that the Sunshine Regulation is successful and enjoys a broad degree of acceptance, it is essential that all network operators are compared on a fair and reasonable basis. In view of this, the national and cantonal comparisons that are published by ElCom for assessing tariffs (cf. www.strompreis.elcom.admin.ch) are to be supplemented and refined. It is clear that supply networks in rural and mountain regions, which have a higher proportion of overhead lines, tend to be affected by supply interruptions more frequently than networks in urban centres due to climatic and topographical conditions. Network costs, too, can be influenced to a considerable extent by topographical conditions or the consumption behaviour of end users. Network operators should not have to be penalised because they operate in an unfavourable environment. It is therefore appropriate that the structural circumstances which network operators are unable to influence should be taken into account as far as possible, and that those operators who are to be compared with one another should be allocated to homogeneous groups.

Towards the end of the year under review, ElCom began the process of forming such groups. For this purpose it is using the cost accounting submitted by all network operators, as well as data provided by the Swiss Federal Statistical Office. However, it is clear that there is some potential for uncertainty in the formation of such groups. The Sunshine Regulation method will nonetheless enable each network operator to identify unfavourable indicators when making a comparison with the respective group.

Trial runs are to be carried out in the course of 2015, and the results of the comparisons will only be communicated to the respective operators. Once the test phase has been evaluated and concluded, ElCom will decide whether this method of comparison is to be definitively introduced and, if so, when, and later ElCom will communicate the results to the general public. The relevant legal provisions will, of course, have to be duly complied with.

4.8 Measurement costs

In its 2011 communication on measurement costs and access to measurement data, ElCom stated that the costs for a load output measurement amounting to around 600 Swiss francs were not unduly high. This figure includes the proportional acquisition costs of a load output measurement with the aid of a low-voltage transformer, plus recurring costs, but not those relating to the transmission of data.

The load output measurement costs incurred by producers and end consumers who obtain their energy on the market only account for around 6 percent of the overall measurement costs (all meters, including ripple control, etc.) and less than 1 percent of the overall network costs. With unduly high measurement costs, network operators to some extent hamper the entry of end consumers into the market, as well as the construction of smaller facilities for the production of renewable energy (e.g. photovoltaic systems).

In 2014, the Technical Secretariat of ElCom therefore contacted numerous network operators whose measurement costs were higher than 600 Swiss francs. It discussed savings options with these operators, such as the provision of services via cheaper providers, and pointed out inconsistencies with respect to the calculation of measurement costs. In most cases, this gave rise to a reduction in measurement costs. In two cases, an investigation into the level of measurement costs is pending.

As a result of the initiative launched by end consumers and producers of renewable energy, the provision of measurement services by players other than network operators gained in importance. Because some network operators are still adhering to measurement costs above 600 Swiss francs for a load output measurement, the affected players are increasingly turning to third parties who provide the same services at a lower price. However, to date some operators are still refusing to accept the service providers chosen by end consumers and producers. ElCom therefore opened proceedings against three network operators. Two of these cases were suspended until the conclusion of the pilot case. In accordance with the Electricity Supply Ordinance, network operators are obliged to accept third parties who provide measurement services. In the pilot case, the main issue to be examined is whether network operators may only refuse to accept third-party providers if the operational security of the network is endangered because a third party provides the measurement services.

4.9 Change of supplier, network access

In accordance with the applicable legal provisions, only major consumers with an annual consumption of at least 100 MWh are entitled to network access and thus to choose their electricity supplier. Fixed end consumers – i.e. those with an annual consumption below 100 MWh – do not yet have the option of choosing their supplier. In the year under review, the Federal Council initiated the consultation procedure for the second stage of the liberalisation of the electricity market, according to which consumers with an annual consumption below 100 MWh will be able to freely choose their electricity supply for the first time as of 1 January 2018.

Following a petition by two building consortiums and their new electricity supplier, ElCom pronounced two rulings granting network access for the involved consumption sites. Both consortiums are structured as ordinary partnerships in accordance with the Swiss Code of Obligations. In the provisional rulings it pronounced in the previous year, ElCom had refused to grant network access because it was unable to determine from the submitted documentation whether the consortiums form an economic and locational unit, and thus a consumption site as defined in the Electricity Supply Ordinance. In particular it was not clear whether the entity took the form of an unlawful bundling of several end consumers in order to reach the minimum consumption level of 100 MWh.

During the main hearing, ElCom concluded that, despite the lack of legal status, the partnerships in question represent economic and locational units (i.e. consumption sites) as defined in the Electricity Supply Ordinance. According to ElCom, in order for a partnership to form a consumption site as defined in the cited Ordinance it may not be structured as a loose association. This prerequisite means that the dissolution of a partnership is far from easy, and the amalgamation may not serve the purpose of bundling electricity consumption.

In its rulings, ElCom also found that the partnerships in question use the electricity for their own facilities in order to meet contractual obligations and can therefore be classified as end users with own electricity consumption. In addition, ElCom noted that, in the case in question, an existing energy supply contract between buyer and network operator that was adopted in work contracts concluded between the partnerships and the buyer does not represent an individually negotiated energy supply contract relating to the partnerships in accordance with the Electricity Supply Ordinance. An appeal against these rulings was lodged with the Federal Administrative Court, and the cases are still pending.

4.10 Feed-in remuneration at cost

ElCom is empowered to rule on disputes relating to remuneration at cost for feed-in to the grid, which was introduced on 1 January 2009 for producers of electricity from renewable energy sources. In the year under review, it primarily had to rule on disputes in the area of photovoltaics. In the majority of cases, these concerned the question whether a photovoltaic system was built on or integrated. ElCom determined that a photovoltaic system can only be classified as integrated in accordance with the definition in the Federal Energy Ordinance if it is integrated into the roof structure. In addition to energy production, it also has to perform another function such as weatherproofing (requirement of dual function). These two requirements must be met accumulatively. In order for a system to be classified as integrated, it not only has to be mounted on the existing roof, but also has to form an integral part of the roof. This dual function only exists if the function of the roof would be restricted following the removal of the photovoltaic system.

With respect to the classification of photovoltaic systems, the Federal Administrative Court ruled on a case in December 2014, confirming ElCom's initial ruling in which it had classified a photovoltaic system as built on. Here the Federal Administrative Court pointed out that it is not the selected model that is decisive, but rather the question of whether the photovoltaic system truly replaces a component

of the building. This was the first court ruling relating to the classification of photovoltaic systems.

In the year under review, ElCom also had to clarify whether there is an entitlement to remuneration of feed-in at cost in the German enclave of Büsingen, and it concluded that this entitlement does in fact exist. By contrast, ElCom rejected an application for remuneration of feed-in at cost submitted by a waste incineration plant, because the plant in question was unable to meet the minimum requirements right from the start, though through no fault of its own. Finally, in the case of a small hydropower plant, the revocation of feed-in remuneration at cost was found to be formalistically excessive and was repealed by ElCom. Here, all the criteria in accordance with the Federal Energy Ordinance had been met, and the applicant had merely failed to submit the application form to Swissgrid by the stated deadline.

As of the end of the year under review, two cases were still pending with the Federal Administrative Court: one of these concerns the classification of a photovoltaic system, while the other concerns the degree of electricity use by a waste recycling plant.

4.11 Competitive tenders

The Federal Energy Act specifies the option of conducting competitive tenders for efficiency measures. The administrative office, "Pro Kilowatt", implements calls for tenders on behalf of the Swiss Federal Office of Energy (SFOE). The associated costs are covered via surcharges on the transmission costs of the high-voltage network. In the year under review, ElCom pronounced three rulings concerning decisions taken by Pro Kilowatt in the framework of competitive tenders in 2012 and 2013 relating to efficient water use, selectively variable timetables and efficient street lighting for municipalities. In all three cases, Pro Kilowatt rejected the applications to participate in the tendering process because they did not meet the specified requirements. In one case, ElCom decided that the programme could be subsequently admitted to the tendering process, but in the other two cases it confirmed that the admission requirements had not been met.

5 International activities

Birsfelden border power plant (photo: iwb)

5.1 Congestion management

The Swiss transmission network is connected to the transmission networks in neighbouring countries at 40 locations. While electricity exchange takes place without restrictions within Switzerland, the network capacity for cross-border energy flows is limited in order to prevent the transmission network becoming overloaded. Cross-border network capacities are thus defined as congestion capacities, which in accordance with Article 17 Paragraph 1 of the Electricity Supply Act, have to be awarded on the basis of market-oriented procedures. Cross-border capacities are divided into annual, monthly and hourly products and are auctioned by CASC, a subsidiary established by West European grid operators in Luxembourg. The capacity prices are generally based on the main trading direction from north to south, i.e. from the often lower-priced electricity price zones in Germany, France and Austria to the often significantly higher price zone in Italy. Congestion management therefore has a direct influence on the wholesale electricity price in Switzerland, and is also of great importance for the country's economy.

In the year under review, import capacities were increased slightly versus the prior year thanks to operational optimisation and network expansion. At the border between Germany and Switzerland, for example, an average of around 350 MW was available to the market in 2014. By contrast, the tendency at the Italian border persisted: in 2014, the export capacity from Switzerland to Italy had to be reduced even more frequently than in 2013 at the request of the Italian grid operator, Terna, which meant that, on average, there was less capacity available in the direction of Italy.

A more efficient procedure for awarding available capacities was already established in 2013 at the borders with France and Germany. With the aid of this implicit intraday trading across both borders, the volatility of electricity prices opens up new market opportunities for the flexible Swiss electricity pro-

duction sector. This new trading method was increasingly used in 2014.

The EU intends to also award cross-border capacities in day-ahead trading, which is considerably more important in terms of volume (market coupling). The associated activities, which the transmission network operators and exchange companies are implementing within the framework of the third EU energy package, have made a great deal of progress or have already been implemented in the neighbouring countries. Since market coupling gives rise to a significant increase in efficiency, Switzerland is also interested in participating and thus in implicitly awarding cross-border capacities in day-ahead trading in the transmission network. In addition to the optimisation of consumer and producer surpluses and auction proceeds, another economic benefit concerns the fact that a reduction in congestion potentially reduces the need for new transmission lines. However, the conclusion of an agreement between the EU and Switzerland (as a non-member state) is a prerequisite for the latter's participation. Market coupling at Switzerland's borders is therefore blocked for the time being, but from both a technical and an economic point of view, market coupling at Switzerland's borders would be more efficient for both sides. In view of this, the preparation of practical implementation by Swissgrid and EPEXspot, which provides the exchange services for the Swiss wholesale market, was continued in 2014 and largely brought to a conclusion.

5.2 Border power plants

In terms of cross-border network use, the 30 hydropower plants that produce energy from bodies of water bordering neighbouring countries represent a special case for Switzerland's production facilities. Here, treaties – some of which date from the 18th century – form the basis for the distribution of the energy that is produced from these bodies of water. Due to the technical connections between the power plants, it is often not possible to exchange energy and power across the borders in accordance with the provisions of the existing treaties. For this reason, since the entry into force of the Energy Supply Act, in accordance with Swiss legislation certain priorities have been granted in the cross-border transmission network (which possesses a number of capacity bottlenecks). This means that the capacity for these energy supplies does not have to be auctioned. However, the granting of priorities has often developed historically and does not always take sufficient account of the present-day circumstances. In view of this, ElCom is reviewing the technical and legal conditions for each of these power plants. In the case of some border power plants, ElCom has now opened proceedings aimed at adapting the priorities granted in the transmission network. In 2014, however, the German transmission network operators repealed the granting of priorities in general as of the end of the year at the border interconnection point between Germany and Switzerland, even though Article 17 Paragraph 2 of the Electricity Supply Act both prescribes and protects priorities.

5.3 Merchant line

In the year under review, ElCom pronounced a partial ruling concerning the new regulation governing the exemption capacity of a merchant line. The term "merchant line" refers to a cross-border transmission network line that supports the exchange of electricity between neighbouring countries. A merchant line enjoys a special position with respect to network access and the calculation of recoverable costs: here, in contrast to other lines, the operator is not obliged to grant third parties non-discriminatory access to the network. In 2009, ElCom granted the Mendrisio-Cagno merchant line an exemption. In so doing, it specified that the applicable capacity in the first five years was 100 percent. Three months prior to the expiry of the five-year period, the operator of the merchant line in question submitted an application for a reassessment. Based on this request, ElCom reassessed the exemption capacity in a partial ruling and specified a formula for its calculation. The adjustment of the capacity was based on a significant and lasting change in the technical network situation over the past five years. A decision regarding an adjustment of the duration of the exemption will be made in a separate ruling at a later date.

5.4 Market transparency

The demands in terms of transparency and integrity in the wholesale energy market and the monitoring of the market are increasing not only in the EU, but also in Switzerland. Within the EU, the monitoring of the electricity and gas markets on the basis of Regulation (EU) No. 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency (REMIT) has already begun. Swiss market participants who conclude transactions with the EU as destination are also subject to the reporting and registration obligations. On 17 December 2014, the REMIT Implementing Regulation entered into force in the EU, and this means that the supply of data will commence in 2015. In Switzerland, the Federal Council added a new clause to the Electricity Supply Ordinance on 30 January 2013, according to which Swiss market participants who are required to submit data in accordance with REMIT also have to submit the data to ElCom.

However, as before, there is no legal basis in Switzerland for a comprehensive and effective monitoring of wholesale electricity trading. In contrast to the situation in stock market trading in Switzerland and energy trading in the EU, market manipulation and insider trading in wholesale electricity trading are not illegal in Switzerland. The Swiss Federal Office of Energy has prepared draft federal legislation governing the integrity and transparency of the wholesale electricity and gas markets, but to date no further action has been taken.

ElCom is currently working on the development of a monitoring system for wholesale trading, based on existing principles and in particular on Article 26a of the Electricity Supply Ordinance. For this purpose, a separate Market Surveillance section was created within the ElCom Technical Secretariat in 2014 with the focus on background work and the development of a new network in the first year. The Technical Secretariat maintains close

contact with Swiss market participants who are subject to the REMIT regulations, and thus to Article 26a of the Electricity Supply Ordinance as well. Discussions have already taken place with EPEXSpot electricity exchange regarding the development of market activity in short-term trading in the Swiss segment. Furthermore, there have been significant discussions with the neighbouring national energy regulation authorities who are about to implement REMIT. ElCom is also actively involved in a CEER workgroup which is mainly focusing on issues relating to the implementation of REMIT. However, a great deal of the preparatory work is aimed at finding suitable electronic systems for processing data for the implementation of Article 26a of the Electricity Supply Ordinance. ElCom is receiving support from the Federal Office of Information Technology. It is also preparing the acquisition of specialised software for monitoring the market.

5.5 Auction proceeds

The auctioning of cross-border transmission network capacities generates proceeds that are divided equally at each border between Swissgrid and the transmission network operator on the other side of the border. Article 17, Paragraph 5 of the Electricity Supply Act specifies how Swissgrid may use these proceeds, namely for the costs of holding auctions and eliminating congestion, for reducing recoverable costs (tariffs) and for the maintenance and expansion of the transmission network. How these proceeds are divided among these three categories is subject to a decision by ElCom. While around 40 million Swiss francs a year were used for reducing recoverable costs in the period from 2009 to 2012, in 2014 ElCom decided that the auction proceeds from 2013 are to be used for the maintenance and expansion of the transmission network. Swissgrid petitioned for the proceeds from 2014 to be used exclusively for the reduction of network tariffs, because the investments in the transmission network in the previous years could not be carried out to the originally intended extent and, in addition, the network tariffs at network level 1 need to be more balanced. However, ElCom was not yet able to make a decision regarding the use of the 2014 auction proceeds because discussions on financial planning and investments within the scope of the long-term transmission network planning were still ongoing. Figure 13 shows how the auction proceeds generated at Switzerland's borders were used between 2010 and 2013, and how Swissgrid envisages using the 2014 proceeds.

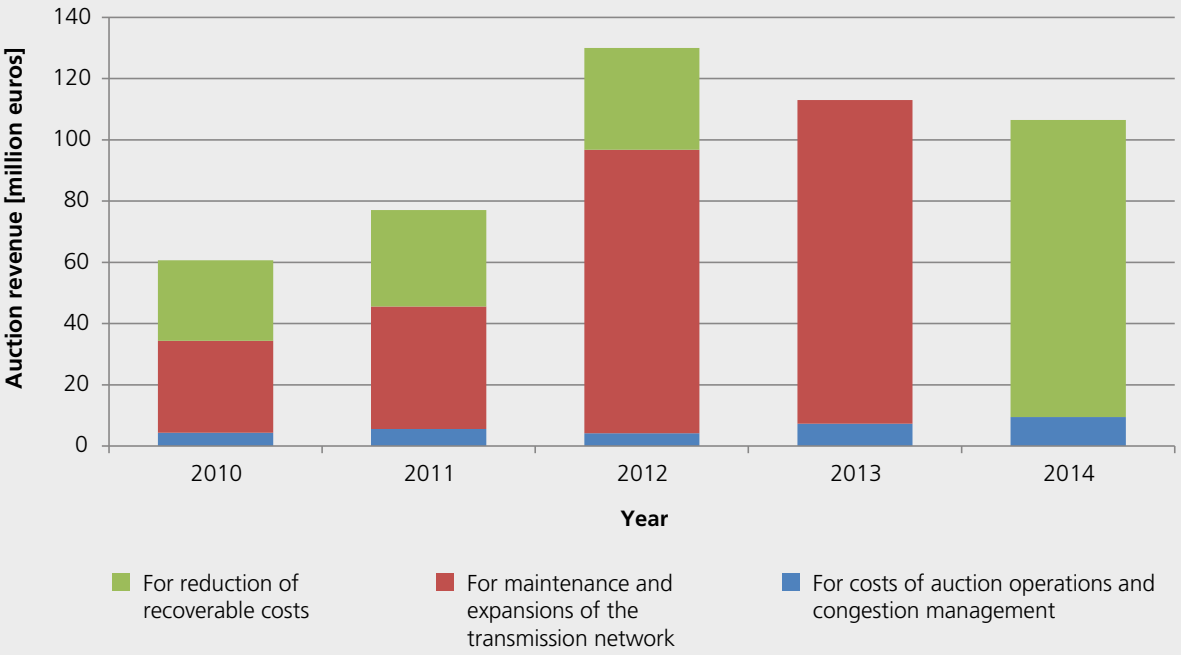


Figure 13: Total auction proceeds generated at Switzerland's borders and their allocation in accordance with the applicable legislation

5.6 International bodies

European Union: ElCom continued to support efforts at the technical level to conclude a bilateral electricity agreement between Switzerland and the EU by searching for solutions for long-term supply contracts, as well as by laying the foundations for monitoring the wholesale market in Switzerland and for coupling the Swiss and European markets, and by implementing the European regulations scheduled to enter into force in 2015.

Agency for the Cooperation of Energy Regulators (ACER): Due to the lack of an agreement between Switzerland and the EU, on which our country's participation in ACER depends, ElCom only participated in certain activities associated with market coupling in Europe, and only contributed to a limited extent to the annual report of ACER concerning the monitoring of the internal electricity and gas markets. This report, which was prepared together with CEER, revealed that unscheduled flows which affect a number of countries and pass through Switzerland influence the interconnection capacities at our country's borders. It also underscored the fact that commercial transactions do not always fully utilise the available capacity with our neighbouring countries, or they continue to take place contrary to price differentials.

Council of European Energy Regulators (CEER): ElCom participated at some of the general assemblies of the CEER as an observer and contributed towards the updating of indicators compiled by this organisation relating to the continuity of electricity supply.

International Confederation of Energy Regulators (ICER): The activities of this body are primarily focused on the preparation of the 6th World Forum on Energy Regulators of May 2015.

Alongside the international bodies to which it is admitted, ElCom is maintaining regular contact with other national regulators, above all in Austria, France, Germany and Italy.

5.7 Network codes

One of the main areas of focus of the third package of measures for the liberalisation of the European energy market concerns the development of EU-wide network codes and binding guidelines of the EU Commission. Network codes and guidelines will set uniform standards for cross-border networks and market integration, for example in the areas of network operation, connection to the network, congestion management and reserve energy. The objective here is to create a common European electricity market with equal rights and obligations for all market participants.

The network codes and guidelines are based on Regulation (EC) No. 714/2009 and for member they have the same binding effect as an EU Directive. The European Network of Transmission System Operators for Electricity (ENTSO-E) and the Agency for the Cooperation of Energy Regulators (ACER) are both playing a major role in the development of these codes and guidelines. The network codes are to define explicit duties and responsibilities of the regulatory authorities of the EU member states. Although EU legislation is not binding for Switzerland, it is of relevance for Swiss players on the internal European electricity market. In view of this, ElCom closely observed and analysed the development of this legislation in the year under review.

As a first step, on 5 December 2014 the EU member states adopted the central guideline for international electricity trading, "Capacity Allocation and Congestion Management", in accordance with the comitology procedure. If the European Council and the European Parliament do not veto this resolution, the guideline will enter into force towards the middle of 2015. It has to be anticipated that the relevant bodies will adopt further network codes and guidelines in the course of 2015.

6 About ElCom

ElCom, from left to right: Antonio Taormina (Vice President), Matthias Finger, Aline Clerc, Christian Brunner, Brigitta Kratz (Vice President), Carlo Schmid-Sutter (President), Anne d'Arcy

6.1 Duties

ElCom is responsible for monitoring the Swiss electricity market and securing compliance with the Federal Electricity Supply Act. As an independent state supervisory authority, ElCom is playing an active role in the transition from a monopolistic electricity supply system to a competition-based electricity market. One of its duties is to monitor electricity tariffs for end consumers with basic supply. It also ensures that the network infrastructure is properly maintained and expanded as needed in order to guarantee future supply.

Key data relating to the electricity sector
ElCom is responsible for supervising wholesale electricity trading and the electricity sector, including Swissgrid, with respect to network use tariffs, electricity tariffs for fixed end consumers, supply security, status of the electricity networks and allocation of capacities in the event of congestion at the country's borders.

Number of network operators in 2014:	approximately 700
Number of network levels:	7
Length of electricity networks:	network level 1: approx. 6,700 km network level 3: approx. 9,000 km network level 5: approx. 44,000 km network level 7: approx. 85,400 km (overhead lines and underground cables)

Total amount of network use remuneration in 2014:	4 billion Swiss francs
Annual investments:	approx. 1.4 billion Swiss francs
Annual electricity consumption:	57 TWh
Production:	66 TWh
Electricity imports:	36 TWh
Electricity exports:	38 TWh

Sources: ElCom and the Swiss Electricity Statistics for 2013 of the Swiss Federal Energy Office SFOE

ElCom has been entrusted with wide-ranging competencies for performing the following duties in particular:

» Supervision of electricity tariffs for fixed end consumers (basic supply, households and other end users with an annual consumption below 100 MWh) and end consumers who choose not to gain access to the network. Elcom also examines network use remuneration. It may prohibit unjustified electricity price increases, or, if tariffs are too high, it is empowered to order price reductions. It may take steps in response to complaints or requests or on its own initiative in its official capacity as regulator. With respect to tariffs, ElCom may only intervene in the event of violations of legal provisions, but is not authorised to intervene in the exercising of discretion on the part of the network operators. Additional supervision of tariffs at the cantonal level is no longer in accordance with the law.

» Ruling on disputes associated with free access to the electricity network. With effect from 1 January 2009, large-scale consumers (i.e. those with an annual consumption of at least 100 MWh) have been able to freely choose their electricity supplier. Consumers with an annual consumption below 100 MWh will only be able to gain free access to the electricity market from 2018, providing that full market liberalisation is accepted at the political level.

» Ruling on disputes relating to remuneration at cost for feed-in to the grid, which was introduced on 1 January 2009 for producers of electricity from renewable energy sources.

» Monitoring electricity supply security and the status of the electricity networks.

» Defining the procedures for the allocation of network capacities in the event of congestion in cross-border transmission lines and co-ordinating its activities with European electricity market regulators.

» Comprehensive supervision of the national grid operator (Swissgrid) now that ownership of the transmission network has been transferred to the latter (separation process).

» Supervision of wholesale electricity trading following the entry into force of Articles 26a ff of the Electricity Supply Ordinance on 1 July 2013.

6.2 Organisation and personnel

ElCom comprises five to seven independent members appointed by the Federal Council, plus a Technical Secretariat. It is not subject to any directives of the Federal Council and is independent of the administrative authorities.

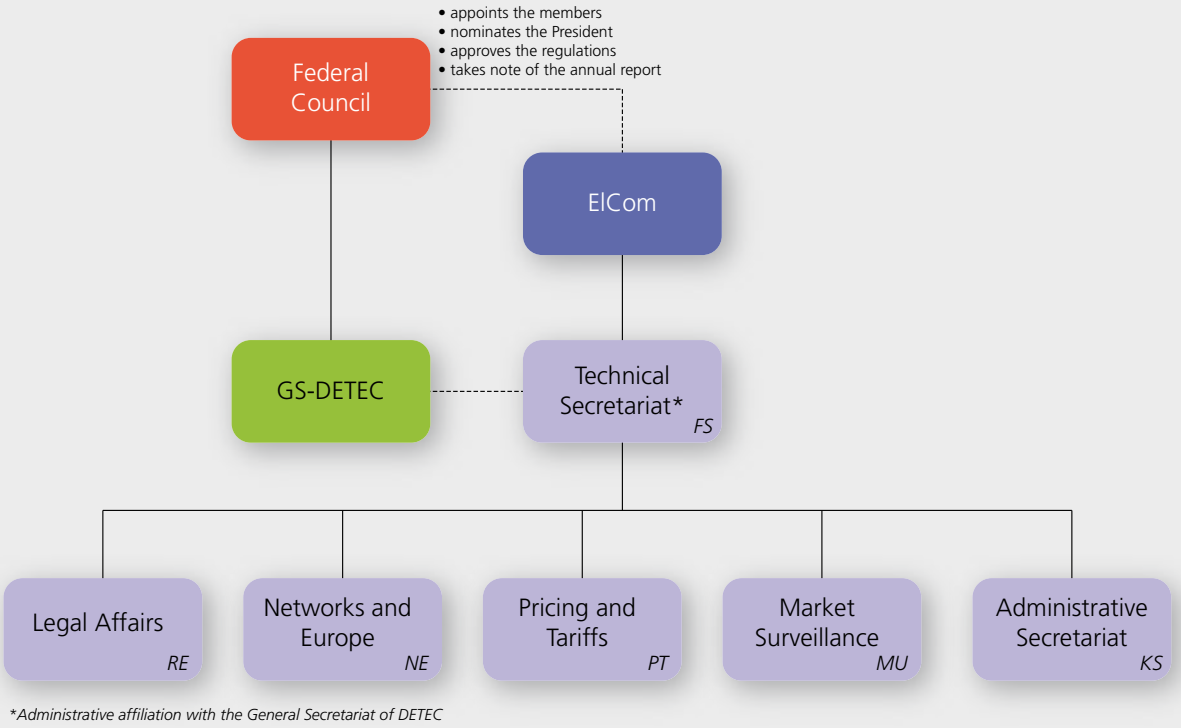


Figure 14: Structure of ElCom

6.2.1 The Electricity Commission

The seven Commission members are independent of the electricity industry, and they all act on a part-time basis. On average, the Commission holds a plenary meeting once a month, and its members also attend meetings of the four committees: "Pricing and Tariffs", "Networks and Supply Security", "Legal Affairs" and "International Relations".

In the year under review, the composition of the Commission was as follows:

President:

» Carlo Schmid-Sutter (since 2007): former member of the Council of States, attorney-at-law and notary public

Vice Presidents:

» Brigitta Kratz (since 2007): attorney-at-law, tutor in private law at the University of St Gallen and lecturer in energy law at the Zurich University of Applied Sciences (ZHAW)
» Antonio Taormina (since 2014): mathematics degree, Federal Institute of Technology, Zurich, former member of the management board and head of Energy Western Europe at Alpiq

Members:

» Anne d'Arcy (since 2007): Professor of Corporate Governance and Management Control, Vienna University of Economics and Business
» Aline Clerc (since 2007): degree in engineering from the Swiss Federal Institute of Technology, Lausanne, specialist in rural and environmental engineering, expert at the Consumers' Association of Suisse Romande (FRC) in Lausanne
» Matthias Finger (since 2007): PhD (political science), Professor of Management of Network Industries at the Swiss Federal Institute of Technology, Lausanne
» Christian Brunner (since 2014): degree in electrical engineering, Federal Institute of Technology, Zurich, former director of Alpiq Networks Business Unit

Committees

In the year under review, the Commission operated the following committees:

Prices and Tariffs

» Anne d'Arcy (chair)
» Aline Clerc
» Christian Brunner
» Carlo Schmid-Sutter

Legal Affairs

» Brigitta Kratz (chair)
» Carlo Schmid-Sutter

Networks and Supply Security

» Christian Brunner (chair as of 1 September 2014)
» Aline Clerc (chair until 31 August 2014)
» Matthias Finger
» Carlo Schmid-Sutter

International Relations

» Matthias Finger (chair)
» Antonio Taormina
» Brigitta Katz
» Christian Brunner

Resignations and new appointments

In September 2014, Aline Clerc announced that she will be stepping down as a member of ElCom as of the end of 2014. The Federal Council will be deciding on her successor in the course of 2015.

6.2.2 Technical Secretariat

The Technical Secretariat provides the Commission with technical and specialised support, prepares the Commission's decisions and implements them. It conducts administrative proceedings and carries out the necessary clarifications. It is independent of any other authorities and is solely subject to the directives of the Commission. At the administrative level, the Technical Secretariat is affiliated with the General Secretariat of the Federal Department of the Environment, Transport, Energy and Communications (DETEC). In the year under review, the number of employees of the Technical Secretariat was increased by two following the creation of the Market Surveillance section, which is under the leadership of Cornelia Kawann, who was previously deputy head of the Networks and Europe section.

As of 31 December 2014, the Technical Secretariat employed 41 personnel (15 women and 26 men), including 2 trainees, representing an equivalent of 36.7 full-time jobs. The average age of all employees is 42.

Breakdown by national language:
Italian: 4 employees
French: 6 employees
German: 31 employees

Head of the Technical Secretariat
(41 employees)

Renato Tami
attorney-at-law and notary public

Networks and Europe
(9 employees)

Michael Bhend
engineer (Federal Institute of Technology)

Prices and Tariffs
(10 employees)

Stefan Burri
PhD in political science

Market Surveillance
(4 employees)

Cornelia Kawann
degree in engineering, MBA

Legal Affairs
(10 employees)

Nicole Zeller
attorney-at-law

Commission Secretariat
(7 employees)

Barbara Wyss
PhD in economics

6.3 Finance

In the year under review, ElCom had a budget of 10.04 million Swiss francs at its disposal. Its effective expenditure amounted to 8.85 million Swiss francs, which covered its entire personnel and operating costs.

On the income side, ElCom received a total of 4.56 million Swiss francs. The main sources were payments of supervisory fees by Swissgrid for ElCom's cooperation with foreign authorities, and court costs paid by parties involved in legal proceedings.

6.4 Events

6.4.1 2014 ElCom Forum

The fifth ElCom Forum was held in 2014 at the Congress Centre, Biel. It was entitled "Wholesale electricity trading in transition" and focused on the challenges associated with international electricity trading. Following the completion of the market coupling process in 2014, more than 75 percent of Europe's electricity markets are now linked together. This means that a major milestone was reached for the realisation of the internal European energy market. European market integration promotes cross-border electricity trading, which is growing increasingly dynamic. All these developments are posing major challenges for the electricity industry. Leading figures from a variety of institutions addressed an audience comprising around 300 specialists.

The next ElCom Forum will be held in Basel on Friday, 20 November 2015.

6.4.2 Information events for network operators

In the year under review, ElCom held 10 information events at various locations in Switzerland. The main topics were the "Sunshine Regulation", network costs and ongoing legal issues. In addition, the Swiss Federal Office of Energy (SFOE) gave a presentation on significant developments in the area of Swiss energy policy. A total of 750 people attended these sessions, which were offered on a non-profit basis. These events provided a welcome opportunity for the participants, as well as the involved ElCom and SFOE personnel, for exchanging professional views and experiences.

7 Appendix

7.1 Facts and figures for 2014

Complaints, etc.	Brought forward from previous years	Received in 2014	Dealt with in 2014	Carried forward to 2015
Specific matters relating to tariffs	147	73	138	82
Feed-in remuneration at cost	60	117	107	70
Other cases	329	386	338	377
Total	**536**	**576**	**583**	**529**

Table 7: ElCom activities: statistics for 2014

7.2 Appeal statistics

	No appeal	Appeals to Federal Administrative Court	Appeals to Federal Supreme Court
388 pronounced rulings 2008–2014	323	65	17

Table 8: Pronounced rulings and appeals, 2008–2014

7.3 Meetings

The members of ElCom attend monthly plenary meetings. In addition, the four committees hold their own meetings and ElCom also organises workshops and other extraordinary meetings. In the year under review, the members of ElCom attended a total of 14 full-day and 28 half-day meetings within Switzerland.

7.4 Publications

Rulings (in national languages only)

22.12.2014	Accès au réseau ; mesures superprovisionnelles
11.12.2014	Merchant Line Mendrisio-Cagno, Neufestlegung Ausnahmekapazität (Teilverfügung)
11.12.2014	Vergütung Netzverstärkung für PV-Anlage […] in 3665 Wattenwil
11.12.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8934 Knonau
11.12.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8909 Zwillikon

11.12.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8906 Bonstetten
11.12.2014	Vergütung Netzverstärkung für PV-Anlage […] in 9476 Weite
11.12.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8717 Benken
11.12.2014	Vergütung Netzverstärkung für PV-Anlage […] in 3232 Ins
11.12.2014	Vergütung Netzverstärkung für PV-Anlage an der […] in 3063 Ittigen
11.12.2014	Vergütung Netzverstärkung für PV-Anlagen […] und […] in 3235 Erlach
11.12.2014	Vergütung Netzverstärkung für PV-Anlage im […] in 8926 Kappel am Albis
13.11.2014	Indemnisation des coûts de renforcement de réseau pour l'installation de biomasse, sise [...], à 1124 Gollion
13.11.2014	Indemnisation des coûts de renforcement de réseau pour l'installation PV, sise [...], à 2615 Sonvilier
13.11.2014	Indemnisation des coûts de renforcement de réseau pour l'installation PV, sise [...], à 1745 Lentigny
13.11.2014	Vergütung Netzverstärkung für drei PV-Anlagen […] in 8722 Kaltbrunn
13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8505 Pfyn
13.11.2014	Vergütung Netzverstärkung für drei PV-Anlagen […] sowie […] in 3777 Saanenmöser
13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 3773 Matten
13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8497 Fischenthal
13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 3256 Bangerten
13.11.2014	Kostendeklaration der ewz Übertragungsnetz AG für die Tarifjahre 2013 und 2014 der Netzebene 1
13.11.2014	Gesuch um Gewährung des Netzzugangs und Zurverfügungstellung der für die Abrechnung der Stromlieferung notwendigen Messdaten und Informationen / Feststellungsgesuch / Schadenersatz - Consorzio Lotto 814
13.11.2014	Gesuch um Gewährung des Netzzugangs und Zurverfügungstellung der für die Abrechnung der Stromlieferung notwendigen Messdaten und Informationen / Feststellungsgesuch / Schadenersatz - Consorzio Comestei (Lotto 813)

13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 7482 Stuls
13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 4410 Liestal
13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 9043 Trogen
13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8873 Amden
13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8465 Wildensbuch
13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8105 Regensdorf
13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8872 Weesen
13.11.2014	Vergütung Netzverstärkung für PV-Anlage […] in 7012 Felsberg
16.10.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8955 Oetwil an der Limmat
16.10.2014	Vergütung Netzverstärkung für PV-Anlage […] in 8932 Mettmenstetten
16.10.2014	Vergütung Netzverstärkung für PV-Anlage […] in 9620 Lichtensteig
16.10.2014	Vergütung Netzverstärkung für PV-Anlage […] in 9621 Oberhelfenschwil
16.10.2014	Vergütung Netzverstärkung für PV-Anlage […] in 6064 Kerns
16.10.2014	Vergütung Netzverstärkung für Kleinwasserkraftwerk […] in 3916 Ferden
16.10.2014	Anschluss einer PV-Anlage; Gesuch um Erlass einer vorsorglichen Massnahme
16.10.2014	Vergütung Netzverstärkung für PV-Anlagen […] und […] in 8233 Bargen
18.09.2014	Vergütung Netzverstärkung PV-Anlage […] in 3317 Mülchi
18.09.2014	Regulatorischer Übertragungswert NE1 AET
18.09.2014	Regulatorischer Übertragungswert NE1 AIL Servizi
18.09.2014	Regulatorischer Übertragungswert NE1 AIL
18.09.2014	Regulatorischer Übertragungswert NE1 EWO
18.09.2014	Regulatorischer Übertragungswert NE1 SBB
18.09.2014	Vergütung Netzverstärkung PV-Anlage […] in 4900 Langenthal
18.09.2014	Vergütung Netzverstärkung PV-Anlage […] in 9464 Lienz

18.09.2014	Vergütung Netzverstärkung PV-Anlagen […] in 4624 Härkingen
18.09.2014	Vergütung Netzverstärkung für vier PV-Anlagen […] in 8892 Berschis
18.09.2014	Vergütung Netzverstärkung PV-Anlage […] in 4938 Rohrbachgraben
18.09.2014	Vergütung Netzverstärkung PV-Anlage […] in 3556 Trub
18.09.2014	Bescheid über die definitive Höhe der kostendeckenden Einspeisevergütung (KEV), Kategorisierung der Photovoltaikanlage
18.09.2014	Bescheid über die definitive Höhe der kostendeckenden Einspeisevergütung (KEV), Kategorisierung der Photovoltaikanlage
14.08.2014	Tragung von Messkosten für Energieeinspeisung
14.08.2014	Vergütung Netzverstärkung PV-Anlage […] in 6162 Rengg bei Entlebuch
14.08.2014	Vergütung Netzverstärkung PV-Anlage […] in 6234 Kulmerau
14.08.2014	Wettbewerbliche Ausschreibungen 2013 - Effiziente Strassenbeleuchtung für Gemeinden
14.08.2014	Décision relative au montant définitif attribué en vue de la RPC, qualification de l'installation photovoltaïque
14.08.2014	Vergütung Netzverstärkung PV-Anlage […] in 9306 Freidorf
14.08.2014	Vergütung Netzverstärkung PV-Anlagen […] in 3629 Kiesen
14.08.2014	Vergütung Netzverstärkung PV-Anlage […] in 4950 Huttwil
14.08.2014	Vergütung Netzverstärkung PV-Anlage […] in 3303 Jegenstorf
14.08.2014	Vergütung Netzverstärkung PV-Anlage […] in 3264 Diessbach b. Büren
03.07.2014	Vergütung Netzverstärkung PV-Anlage […] in 9243 Jonschwil
03.07.2014	Vergütung Netzverstärkung PV-Anlage […] in 4552 Derendingen
03.07.2014	Vergütung Netzverstärkung PV-Anlage […] in 6247 Schötz
03.07.2014	Vergütung Netzverstärkung PV-Anlage […] in 8488 Turbenthal
03.07.2014	Vergütung Netzverstärkung PV-Anlage […] in 9463 Oberriet
03.07.2014	Vergütung Netzverstärkung PV-Anlage […] in 3629 Jaberg

03.07.2014	Bescheid über die definitive Höhe der kostendeckenden Einspeisevergütung (KEV), Kategorisierung der Photovoltaikanlage
03.07.2014	Décision relative au montant définitif attribué en vue de la RPC, qualification de l'installation photovoltaïque
03.07.2014	Neuverfügung der anrechenbaren Netzkosten der CKW für das Tarifjahr 2008/2009
03.07.2014	Verzugszinsen auf SDL-Nachbelastung, Wiedererwägung der Verfügung vom 15.11.2011
12.06.2014	Bescheid über die kostendeckende Einspeisevergütung (KEV) vom 12. Dezember 2013
12.06.2014	Vergütung Netzverstärkung Windkraftwerk […]
12.06.2014	Vergütung Netzverstärkung PV-Anlage […] in 3305 Iffwil
12.06.2014	Vergütung Netzverstärkung PV-Anlage […] in 9442 Büriswilen
12.06.2014	Vergütung Netzverstärkung […] in 8489 Wildberg
12.06.2014	Vergütung Netzverstärkung PV-Anlage […] in 4702 Oensingen
12.06.2014	Vergütung Netzverstärkung PV-Anlage […] in 8311 Brütten
12.06.2014	Gesuch um Gewährung des Netzzugangs EKZ-AEK / Gegenstandslosigkeit des Verfahrens und Verfahrenskosten
12.06.2014	Widerruf der kostendeckenden Einspeisevergütung (KEV) / überspitzter Formalismus
12.06.2014	Décision relative au montant définitif attribué en vue de la RPC, qualification de l'installation photovoltaïque
12.06.2014	Indemnisation des coûts de renforcement de réseau pour l'installation PV sise […] à 1233 Bernex
12.06.2014	Indemnisation des coûts de renforcement de réseau pour l'installation PV sise […] à 1345 Le Lieu
12.06.2014	Festlegung Einspeisepunkt Politische Gemeide Kradolf-Schönenberg
12.06.2014	Verzinsung SDL-Akontozahlungen 2009 und 2010 AET, Swissgrid
12.06.2014	Verzinsung SDL-Akontozahlungen Electricité de la Lienne SA, Swissgrid
13.05.2014	Vergütung Netzverstärkung PV-Anlage […] in 3306 Etzelkofen
13.05.2014	Vergütung Netzverstärkung PV-Anlage […] in 6456 Luthern

13.05.2014	Vergütung Netzverstärkung PV-Anlage […] in 8725 Ernetschwil
13.05.2014	Vergütung Netzverstärkung PV-Anlage […] in 9500 Wil
13.05.2014	Vergütung Netzverstärkung PV-Anlagen […] in 9200 Gossau
13.05.2014	Vergütung Netzverstärkung PV-Anlagen […] in 6340 Baar
15.04.2014	Kostentragungspflicht des Produzenten sowie Variantenwahl in Bezug auf den Anschluss der PV-Anlage […]
15.04.2014	Vergütung Netzverstärkung PV-Anlage […] in 3863 Gadmen
15.04.2014	Vergütung Netzverstärkung für die Wasserkraftwerke […] in 3682 Oberstocken
15.04.2014	Vergütung Netzverstärkung PV-Anlage […] in 3324 Mötschwil
15.04.2014	Vergütung Netzverstärkung PV-Anlage […] in 8421 Dättlikon
15.04.2014	Beurteilung des Bescheids der Swissgrid AG vom 8. August 2012 über die Anmeldung zur kostendeckenden Einspeisevergütung […]
15.04.2014	Bescheid über die definitive Höhe der kostendeckenden Einspeisevergütung (KEV), Kategorisierung der Photovoltaikanlage
15.04.2014	Kostendeckende Einspeisevergütung (KEV), Anmeldung
15.04.2014	Anschluss Fideriser Heuberge, Zuständigkeit
15.04.2014	Wettbewerbliche Ausschreibung 2012 – Selektiv variabler Taktfahrplan
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Directives (in national languages only)

16.10.2014	2/2014	Pflicht der Netzbetreiber zur Erfassung und Einreichung der Daten über die Versorgungsqualität im Jahr 2015
11.03.2014	1/2014	Transparente und vergleichbare Rechnungsstellung

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14.08.2014	Überprüfung der Kapitalkosten des Verteilnetzes der BKW für das Jahr 2010
14.05.2014	Prüfung der Kapitalkosten für die Tarifjahre 2009-2011
15.04.2014	Examen des tarifs de l'électricité 2009 et 2010 de SEIC – clôture

Newsletters (in national languages only)

27.11.2014	Newsletter 05/2014
13.08.2014	Newsletter 04/2014
24.06.2014	Newsletter 03/2014
09.05.2014	Newsletter 02/2014
04.04.2014	Newsletter 01/2014

Press releases (in national languages only)

14.11.2014	Europäischer Markt attraktiv für die Schweiz
23.10.2014	Rücktritt von Aline Clerc aus der ElCom
04.09.2014	Strompreise 2015: Durchschnittlich steigende Tarife für Haushalte und mittlere Betriebe
12.06.2014	Sichere Stromversorgung in der Schweiz
26.05.2014	Die ElCom nimmt die Verkaufsabsichten von Alpiq zur Kenntnis

7.5 Glossary

Balance energy	Electricity that is billed in order to balance the difference between the effective quantity purchased or supplied to a balance group and the quantity purchased or supplied in accordance with the timetable.
Balance group	Formal grouping of participants in the electricity market for the purpose of forming a common measurement and billing unit within control zone Switzerland towards the national network operator.
Balance management	Measures for constantly maintaining the electricity and capacity balance in the electricity system. It includes timetable management, data measurement and balance compensation management.
Congestion management	Ensures that the secure operation of the network can be maintained through preventive measures (e.g. NTC specification, capacity auctions) and operational measures (e.g. re-dispatch, reductions).
Control zone	Zone in which the national grid operator is responsible for network control. This zone is physically defined through measurement stations.
Day-ahead trading	Trading of energy on the day prior to its effective delivery or purchase.
Distribution network	High, medium or low voltage network for the purpose of supplying electricity to end consumers or electricity supply companies.
End consumers	Clients who purchase electricity for their own consumption. This does not include power plants that buy electricity for their own consumption and for powering pumps in pump storage power plants.
Inter TSO compensation	Compensation mechanism between participating transmission system operators (TSOs) for the network use costs associated with cross-border supplies of electricity.
Intraday trading	In intraday trading, short-term transactions are carried out after closure of day-ahead trading in order, for example, to be able to respond to deviations of the load from the forecast level or to failures of power plant blocks and thus to reduce the deviation from the timetable.
Net transfer capacity (NTC)	Maximum exchange programme between two network zones that is reconcilable with the safety standards of both zones and which takes technical uncertainties regarding future network situations into account.
Network access	Right to use a network in order to obtain electricity from any supplier or to feed electricity into a network.

Network use	Physical use of a network system based on feed-in or withdrawal of electricity.
Reserve energy	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 safe operation of the network.
SAIDI	The System Average Interruption Duration Index (SAIDI) indicates the average duration of interruptions in supply to an end consumer in an electricity supply system.
SAIFI	The System Average Interruption Frequency Index (SAIFI) indicates the average frequency of interruptions in supply to an end consumer in an electricity supply system.
System services	Auxiliary services required for the safe operation of networks. These include in particular: system co-ordination, balance management, retention of reserve energy, self-contained start and independent operation capability of generators, maintenance of voltage level (including idle component), operational measurement and compensation of active current losses.
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. The following items are integral parts of the transmission network: a) transmission lines and support structures; b) coupling transformers, switching systems, measurement, control and communication equipment; c) systems that are used jointly with other network levels, mainly in association with the transmission network. Without these systems the transmission network cannot be operated safely and efficiently; d) switching fields before the transformer at the transfer point to another network level or a power plant.
Weighted average cost of capital	Network use remuneration is a major component of an electricity tariff. It comprises operating costs and capital costs. For the capital that is already invested in existing electricity networks or invested in new electricity networks, the investor is entitled to receive interest. This is specified in an imputed interest rate, referred to as the weighted average cost of capital.

7.6 List of abbreviations, tables and diagrams

Abbreviations

ACER	Agency for the Cooperation of Energy Regulators
CEER	Council of European Energy Regulators
ElCom	Swiss Federal Electricity Commission
ENTSO-E	European Network of Transmission System Operators for Electricity
EU	European Union
ICER	International Confederation of Energy Regulators
ITC	Inter TSO Compensation
NL 1 to NL 7	Network levels 1 to 7
NTC	Net Transfer Capacity
REMIT	Regulation on Wholesale Energy Market Integrity and Transparency
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
TSO	Transmission System Operator
WACC	Weighted Average Cost of Capital

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