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Switzerland

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Overview of the current energy mix, and the place in the market of different energy sources

The Swiss energy mix (consumption) is a stable mix dominated by fuel products (52%). The share of electricity is 24%, gas contributes 14%, and 10% are other energy sources such as wood, district heating, waste, etc.

In general it should be noted that Swiss energy policy focuses on electricity, rather than fuel products and gas. This may be explained by the fact that fuel products and gas are only imported (no production in Switzerland); in contrast, electricity is produced and also exported.

Almost 58% of the electricity consumed in Switzerland comes from hydropower plants; nuclear power accounts for 37%. The share of new renewable energies is 2%, and other sources of electricity, e.g. fossil fuel power plants, make up 3%. In 2014, Switzerland consumed almost 62,000 GWh of electricity and produced a net total of 67,300 GWh. However, as electricity production is below demand during the winter period, this surplus is not distributed evenly over the course of the year. The resulting supply shortfall is covered by imports from abroad. In 2014, 37,400 GWh were imported, and 42,900 GWh were exported. Switzerland is a transit country for electricity.

Switzerland has the long-term goal of increasing its renewable energy sources. The chosen main instrument to promote electricity production from renewable energy sources is a feed-in tariff (*cf.* also below in section, "Changes in the energy situation during the last 12 months which are likely to have an impact on future direction or policy"). A feed-in tariff is available for hydropower with an output up to 10 MW, photovoltaics, wind energy, geothermal energy, biomass and biological waste. The tariffs have been specified on the basis of reference power plants for each technology and output category. Remuneration is applicable for 20 to 25 years, depending on the technology, and is only available for new production facilities that are put into operation and are registered with the national transmission system operator, i.e. Swissgrid AG. Presently, there is a waiting list for the registration of new production facilities. In addition, the remuneration rates are subject to a gradual downward curve in view of the anticipated technological progress and the increasing degree of market maturity of new technologies.

Since 1 July 2014, photovoltaic systems with an output up to 10 kW have received a one-off grant rather than a feed-in remuneration. Operators of photovoltaic systems with an output of between 10 kW and 30 kW can choose between feed-in remuneration and the one-off grant. There are no contingents for systems receiving the one-off grant.

Changes in the energy situation in the last 12 months which are likely to have an impact on future direction or policy

Hydropower

As set out above, more than half of Switzerland's electricity production comes from hydroelectric power generation. This situation is unlikely to alter regardless of changes in the energy policy. On the contrary: in order to facilitate the planned phase-out of nuclear power, the Swiss Government plans to expand hydropower within the context of its forward-looking policy process, known as "Energy Strategy 2050". However, it must be noted that the available potential for hydropower is rather limited, and even in the best-case scenario it will not be more than 3.2 TWh or around 10% of the current hydropower generation. One third of this increase is supposed to come from the upgrading of existing power stations, and one third each from the construction of new small and new large hydroelectric power stations.

Hydropower is not only a central pillar of the Swiss electricity supply, it is also an important economic factor, particularly in the mountainous cantons. Owners of the resource "water" are the cantons and their communities. They lease the raw-material water to the electricity companies for an agreed period, usually 80 years, for use by the electricity companies. In return they receive concession fees, water rates and tax revenues.

Hydropower is coming under increasing pressure from two sides, namely: (i) externally, i.e. outside of Swiss borders: the feed-in tariff systems, in particular the German system, bring about substantially lower market prices, in particular during times of the day when in the past Swiss hydropower was well-placed to sell at high prices; and (ii) internally: the cantons and communities are not willing to renew the water concessions and wish to take over the direct generation of the electricity themselves. At the same time, federal legislation has caused a rapid increase in the burden placed on hydropower through duties and taxes. The latest examples are the progressive increase in the water rates as well as the introduction of a 'renaturation tax' aiming at river protection measures.

The restructuring of the electricity supply infrastructure, with increasingly irregular and distributed sources of supply, is leading to a European-wide increase in the requirement for storage. Pumped storage power stations allow spontaneous compensation for the over-production or under-production from wind and solar energy sources and, if necessary, permit the temporary storage of electricity for days or weeks. Crucial to the flexibility of these power stations is the size of the available storage. Switzerland provides a substantial number of pumped storage power stations and at present, a number of pumped storage power stations are under construction in Switzerland. It must be noted, however, that the total Swiss storage capacity can only meet a fraction of the European-wide requirement for storage.

Feed-in tariff

Per 1 January 2015, the feed-in tariff for renewables and river protection measures (renaturation tax) was increased to 1.1 cents (Swiss francs) per kWh. The Swiss Government has determined this in a revision of the Energy Ordinance (*Energieverordnung*, SR 730.01) in order to guarantee the continued liquidity of the grid surcharge fund, increasing the grid surcharge by 0.6 cents/kWh to 1.1 cents/kWh.

The grid surcharge (feed-in tariff) imposed on electricity consumers flows into the grid surcharge fund. With this fund, the compensatory feed-in remuneration, the one-time remuneration for small photovoltaic systems, the competitive tenders for electricity efficiency, the reimbursements to large-scale consumers, the risk guarantees for geothermal

projects, the enforcement costs as well as the renaturation tax are being financed. The Energy Act (*Energiegesetz*, SR 730.0) defines a maximum grid surcharge of 1.5 cents/kWh (0.1 cents/kWh thereof for river protection measures). An increase of the maximum grid surcharge to 2.3 cents/kWh is currently being discussed in the Parliament.

Within the scope of this maximum, the Swiss Government determines the exact amount of the grid surcharge, taking into account the economic efficiency and the potential of the technologies. If the imposed grid surcharge no longer suffices for the financing of the above purposes, the Swiss Government may increase the grid surcharge.

The financial burden caused by the grid surcharge for a four-person household with an average yearly consumption of 5,000 kWh therefore increases by CHF 25 to CHF 55 per year (2014: CHF 30). If one day the maximum grid surcharge of 1.5 centimes/kWh is imposed, it will increase to CHF 75 per year.

In the Energy Act revised as per 1 January 2014, the reimbursement of the grid surcharge for large-scale consumers was extended. Therewith, those companies are relieved by roughly CHF 55m to 70m. Due to a revision of the Energy Ordinance, large-scale consumers may request the reimbursement of the grid surcharge to be carried out monthly as of 1 June 2015, instead of annually. For small and medium-sized firms without entitlement to such reimbursements, the increase of the grid surcharge means a noticeable increase in electricity costs.

The one-off grants for photovoltaic systems with an output under 30 kW paid since 1 July 2014 amount to a maximum of 30% of the investment costs of reference systems. As there are no contingents for photovoltaic systems receiving one-off grants, the one-off grants are disbursed within a few months after initial operation of the respective photovoltaic system and signing up with the national transmission system operator, i.e. Swissgrid AG. For operators of photovoltaic systems with an output of between 10 kW and 30 kW who can choose between feed-in remuneration and the one-off grant, this is an advantage over the feed-in tariff which is disbursed only after registration, and where the time on the waiting list for registration is not compensated.

Developments in government policy/strategy/approach

General

In 2011, in the aftermath of the Fukushima nuclear accident, the Swiss Government and Parliament decided that Switzerland is to withdraw from the use of nuclear energy on a step-by-step basis. The existing five nuclear power plants are to be decommissioned when they reach the end of their safe service life, and will not be replaced by new ones. As a result of this decision and various other profound changes that have been observed for a number of years, in particular in the international energy arena, the Swiss energy system will require successive restructuring in the period up to 2050. In view of this, the Swiss Government has, in the context of the Energy Strategy 2050, developed a long-term energy policy based on the revised energy perspectives. And at the same time, it has produced an initial package of measures aimed at securing the country's energy supply over the long term.

In the initial stage, the Government's new strategy will focus on the consistent exploitation of the existing energy efficiency potential, and on the balanced utilisation of the potential of hydropower (*cf.* above) and new renewable energy sources. At a later stage, the Government wants to replace the existing promotion system with a steering mechanism. In a first step to lead over to such a system, the Government has submitted for consultation a legal basis for steering fees which should be implemented in the Swiss Constitution, as well as transitional provisions which will regulate the step-by-step reduction of the existing

promotion system and lead to a system based on steering mechanisms. The consultation ended on 12 June 2015.

Network infrastructure

As an essential link between production and consumption, the networks are of central importance for the electricity and gas supply. Alongside the Energy Strategy 2050 the Swiss Government also produced a network strategy, which focuses mainly on the electricity grid. The strategy sets out the prerequisites for network development. The objective of the strategy is to make sure that the networks are developed in line with the requirements and without delay so that the energy supply can be secured at all times – the right network at the right time. The network strategy addresses the following issues:

(i) Criteria for determining the requirements for the expansion and modification of Swiss electricity networks.

(ii) Technical criteria and requirements for taking the decision whether to install underground cables or overhead lines.

(iii) Optimisation of licensing procedures for transmission line projects.

(iv) Improvement of approval process and transparency of transmission line projects.

The Swiss Government adopted the detailed concept for the electricity networks strategy, and the consultation procedure carried out by the Federal Department of the Environment, Transport, Energy and Communications (DETEC) ended in March 2015.

Gas industry

With regard to the gas industry, the following two topics are noteworthy: (i) in order to increase investment security, the industry has requested the authorities to draw up a gas regulation act which will, *inter alia*, also lay out the principles of calculation for third party grid tariffs; and (ii) it is planned to merge the regional pipelines into one company and thereby establish a ownership-unbundled pipeline company.

Developments in legislation or regulation

Remit

In order to increase transparency in electricity trading, the Government added provisions to the Electricity Supply Ordinance (*Stromversorgungsverordnung*, SR 734.71, "ESO") according to which data related to the wholesale electricity market have to be reported to the Swiss Federal Electricity Commission ("ElCom"). The data mainly concerned is the data which must be reported in the European Union in accordance with EU Regulation No. 1227/2011 on wholesale energy market integrity and transparency ("EU-REMIT"). The new regulations entered into force on 1 July 2013.

In case a company is, according to the EU-REMIT, obliged to transmit data to the relevant authorities of the European Union or of the Member States, it is obliged to transmit the same data to ElCom at the same time and in the same format. Furthermore, insider information which has been published in accordance with EU-REMIT, plus details of where the information has been published, must be transmitted to ElCom.

ElCom based its decision regarding timing on the implementation procedures in the EU. In December 2014, the EU Commission Implementing Regulation No. 1348/2014 on data reporting implementing Article 8(2) and Article 8(6) of EU-REMIT was passed. It stipulates the details of the reporting obligation for the various types of data. The reporting obligation for fundamental data on gas, wholesale energy products and electricity applies

from 7 October 2015; for other types of data, such as data on transactions and contracts, the reporting obligation applies from 7 April 2016. In June 2015, ElCom communicated that the registration system for the initial submission of data has been set up, and market participants are obliged to register.

Either the company name, legal form and domicile have to be registered with ElCom, or the registration form which has been submitted in the EU for registration in accordance with EU-REMIT has to be provided to ElCom.

ElCom collects the data within the scope of its supervision of the security of supply of the electricity market. It may evaluate the transmitted data, and if it detects any potential irregularities (e.g. market manipulation or insider trading), it may contact the market players concerned.

The Swiss Government announced that it will verify whether to submit an act for regulation of electricity trading along the lines of the EU-REMIT to the Parliament, whereby this act would contain further-reaching provisions than the new provisions in the ESO.

Furthermore, in 2013 the weighted average cost of capital ("WACC") calculation method applied to the grid tariff was altered. After the alteration, the method corresponds to general capital-market practice and increases the attractiveness of investments in grid infrastructure. The WACC for 2016 is set at 4.70%, which is the same level as in 2015, and is revised annually (taking into account developments of interests paid for government bonds).

Judicial decisions, court judgments, results of public enquiries

Costs of system services

In a recent ruling, the Federal Supreme Court stated that power plant operators are not obliged to pay a portion of the costs for the procurement of system services, and declared that the corresponding provision in the ESO (as defined above) is not applicable. In view of this, in its own ruling dated 4 July 2013, ElCom instructed the Swiss transmission system operator (i.e. Swissgrid) to refund all outstanding payments for system services for 2010 to the involved power plants. In the meantime, all power plants have received a refund of the amounts paid for system services in 2009 and 2010. Some power plant operators also claimed late payment compensation, and ElCom ruled that Swissgrid has to pay them 5% interest with effect from the date of the reminder. This ruling had not yet become legally binding as of the end of 2014.

In two other rulings, the Federal Administrative Court stated that the balance groups to which the Gösgen and Leibstadt nuclear power plants are allocated may not be billed for the costs arising in association with the retention of positive tertiary reserve capacity, and it thus repealed the corresponding order issued by ElCom in 2010. As a consequence of this, ElCom reassessed another, similar case. In accordance with another ruling by the Federal Administrative Court, owners of a cross-border connecting line cannot be billed for costs associated with idle energy. The Court did not rule on the question of whether a sufficient legal basis exists for billing individual system services to parties that are not end consumers.

Ownership unbundling

Per January 2015, the majority of the transmission system grid was sold to Swissgrid. Prior to the transmission network transaction, ElCom had specified the method of valuation of the facilities to be transferred. The associated ruling of September 2012 stipulated that the valuation of the various transmission network components was to be based on the regulatory criteria which are applicable for pricing in the electricity supply legislation. This would

have amounted to a value of around CHF 2bn. Various companies lodged appeals against this ruling, so at the end of 2013 the Federal Administrative Court upheld these appeals and referred the matter back to ElCom for reconsideration. At the same time it specified a variety of criteria regarding the valuation method to be applied.

In August 2013, ElCom also ruled that stub lines (with and without supply character) that are operated at the 220/380 kV level belong to the transmission network and have to be transferred to the ownership of Swissgrid. This ruling has become legally binding. This means that uniform criteria are applicable throughout the country with respect to the allocation of stub lines to the transmission network, which now encompasses all lines and installations at the 220/380 kV level.

Right of appeal by end consumers

Tariff audit proceedings may be opened on the basis of a report, or by ElCom in its capacity as regulator. In two rulings, the Federal Administrative Court found that ElCom was not authorised to rule in a specific case upon petition of end consumers regarding tariffs. While an end consumer is entitled to lodge a complaint with ElCom, it is ElCom which has to open proceedings in its capacity as regulator. As complainant, an end consumer does not have the rights of a party in the proceedings. The Federal Administrative Court subsequently qualified this ruling in a decision in which it noted, somewhat vaguely, that this restrictive description of the authority of ElCom was not binding. Thus the authority of ElCom and the status of end consumers in such proceedings will have to be defined more specifically in future rulings.

Major events or developments

Nuclear power station Mühleberg

The Swiss energy company BKW will take its Mühleberg nuclear power station off the grid in 2019. Until then, it will undergo various retro-fitting projects. Mühleberg is one of Switzerland's five nuclear power plants. Built in 1972, Mühleberg is frequently cited by opponents of nuclear energy as ready for closure.

Full liberalisation

The Swiss electricity market was partially liberalised on 1 January 2009. As from this date, customers with an annual consumption in excess of 100 MWh are entitled to choose their provider. In the first years of liberalisation only a few companies have made use of this option, as in most cases basic service provision has been cheaper. However, given the recent downward trend in market prices, this situation has changed and competition among providers has increased.

The Electricity Supply Act (*Bundesgesetz über die Stromversorgung*, SR 734.7) aims at the electricity market being fully liberalised by 2014 (i.e. option to choose provider for all customers), provided no referendum against full liberalisation is launched and Swiss voters do not vote in favour of the referendum. However, after the events in Fukushima, the political agenda was dominated by the topic of nuclear phase-out, which caused a delay. The Swiss Government recently announced that it now envisages the market being fully liberalised as from 2018.

Proposals for changes in laws or regulations

Energy Strategy 2050

The new strategy for Swiss energy until 2050 is still in the process of public consultation. According to the Government's proposal, the strategy will ultimately enable the country to

reduce *per capita* consumption of energy and electricity, reduce the share of fossil fuels and replace nuclear power with energy efficiency measures and renewable energy. However, to achieve those goals, the strategy says Switzerland will need to rely on imported energy and electricity and to develop fossil-fuelled combined heat and power plants and combined cycle gas turbines, at least as an interim measure.

The proposed strategy makes reducing energy and electricity consumption its first priority, followed by decreasing the proportion of fossil fuels in the Swiss energy mix, and expanding the use of hydroelectricity and renewables. The Government wants to see annual *per capita* energy consumption 35% below 2000 levels by 2035, with electricity consumption − currently increasing − stabilised by 2020.

Generation from hydroelectricity and renewables is to increase: targets see annual production of at least 37,400 GWh of hydroelectricity and 11,940 GWh of electricity from renewables by 2035. The strategy recognises that the use of fossil fuels for electricity generation and combined heat and power plants may also need to increase.

Meanwhile, the average Swiss household can expect its annual electricity bill to go up, reflecting the production costs of renewable electricity, investments in the grid to support the new power system, and also some slight increases in public taxes. Large consumers will receive tax exemptions in order to protect the country's economy.

In a country where local and national referenda play a pivotal role in policy and decision-making, the strategy directs that Swiss cantons, or states, must delineate areas for the development of renewable energy, and that steps should be taken to expedite the construction of renewable energy installations. A new law will specify that renewable energy development is in the national interest and that this consideration must be seen as "equivalent or superior to" environment and landscape protection interests.

Grid tariffs

The grid tariffs are governed by a cost-plus regulation. The grid tariffs at the high voltage level (transmission grid level) have been repeatedly examined by ElCom in the past few years, and the principles for this task have been clarified in a complex process which had to be modified following various court rulings. ElCom limits itself to summary examinations of the tariffs at the high voltage level, as no major changes have taken place regarding the installations and activities of the national network operator.

With respect to distribution network tariffs, ElCom has carried out preparatory work on a "sunshine" solution and is currently undertaking a two-year trial period. In ElCom's view, this solution should give rise to a reduction in the number of proceedings. ElCom decided to examine the possibility of introducing a "sunshine" regulation and developing concepts for implementation in Switzerland with the objective of creating greater transparency. All network operators will be subject to a standardised and transparent comparison process based on various indicators.

The resulting increase in transparency is expected to render the quality and cost-effectiveness of the electricity supply generally more visible, and encourage public debate on this issue. This may help ensure that network operators act in compliance with the applicable electricity supply legislation, without the need for the regulator to directly intervene. Those network operators which produce unsatisfactory results would be urged to take steps to eliminate identified weak points. In its selection of criteria for the comparison process, ElCom decided in favour of a multidimensional solution that departs from a strictly cost-related viewpoint.

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Phyllis Scholl's practice focuses on advising companies active in the energy & natural resources industry on general corporate and regulatory matters, M&A transactions as well as representing them in litigation and administrative proceedings.

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Phyllis Scholl is also admitted to trading on the EEX (European Energy Exchange).

In the Euromoney LMG European Women in Business Law Awards in June 2014 Phyllis Scholl was shortlisted for the title "Rising Star Corporate".

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