Legal advice

Please note that the content of this publication does not constitute legal advice and should not be relied on as such. Specific advice should be sought about your specific circumstances. The deadline for the submission of chapters was 31 January 2019.
Foreword


I am delighted to introduce the 2019/2020 edition of "The European Energy Handbook", which provides an in-depth survey of current issues in the energy sector in 42 European jurisdictions.

This year's edition focuses on recent legal and commercial developments in each jurisdiction, and covers issues such as the Energy Union, the adoption of the latest package of EU energy legislation, the 'Clean Energy for All Europeans' bundle of directives and regulations updating the EU's energy policy framework to facilitate the decarbonisation of the sector and the transition towards cleaner energy.

Climate change, the energy transition and associated challenges are strong themes in nearly all of the contributions of this edition - as each jurisdiction aims to meet its EU renewable energy obligations by 2020 and beyond. Other topics in this edition include the increasingly important role of electricity storage, new nuclear projects, the progress of privatisations, new gas and electricity interconnectors, the emergence of subsidy-free renewable energy projects in a number of jurisdictions as well as the growing role of electric vehicles, the need for charging infrastructure, and their impact on electricity grids.

At the time of writing, the exact shape of Brexit is as yet unclear. Wider political implications for the UK and the EU aside, Brexit will also have an impact on the energy sector, as it puts into question the continued coupling of the British (and, indirectly, the Irish) electricity markets to the EU energy markets, and the current electricity and gas trading arrangements between Great Britain and the EU.

As always, I am grateful to the colleagues across Europe who have contributed to this edition.

In addition to contributions for the European Union, Belgium, France, Germany, Ireland, Italy, Russia, Spain, and the United Kingdom from our own offices, this year we have contributions from Schoenherr (Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, Moldova, Montenegro, Romania, Serbia, the Slovak Republic and Slovenia), Loci & Associates (Albania), Kromann Reumert (Denmark), Ellex Raidla (Estonia), Roschier (Finland and Sweden), Kyriakides Georgopoulos (Greece), BBA/Fjeldco (Iceland), Meitar Liquornik Geva Leshem Tal Law Offices (Israel), Kinstellar (Kazakhstan), Cobalt (Latvia and Lithuania), Arendt & Medernach (Luxembourg), Zammit Pace Advocates (Malta), Houthoff (the Netherlands), Karanovic & Partners (North Macedonia), Antzen de Besche Advokatfirma AS (Norway), YWKB Wiercinski, Kwiecinski, Baehr (Poland), Campos Ferreira, Sá Carneiro & Associados (Portugal), Homburger (Switzerland), Kolcuoğlu Demirkan Koçakli (Turkey), and Avellum (Ukraine).

Finally, special thanks are due to Barbara McNulty who has worked tirelessly to make this edition of the European Energy Handbook a reality and without whom this project would not have been possible.

Happy reading and best wishes,

Silke Goldberg

Partner, Herbert Smith Freehills LLP

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Energy law in Switzerland

Recent developments in the Swiss energy market

Mariella Oreili, partner, and Luca Dal Molin, associate, both of Homburger AG, Zurich

Legislative developments

2018 marks an important first step in the implementation of the Swiss Federal Council’s “Energy Strategy 2050”. The goal of this strategy is to promote renewable energy, increase energy efficiency and initiate the phase out of nuclear energy. The Energy Strategy 2050 is therefore essentially based on the following three pillars:

- It provides for a number of measures to promote the generation of renewable energy in Switzerland. Targets for the annual generation of electricity from renewable sources have been increased. To achieve these targets set to be achieved in 2020 and 2035, the process for obtaining authorisations to construct renewable energy generation facilities will be facilitated, investment subsidies continue to be granted for the construction of renewable electricity generation facilities, and distributors and local utilities have to accept and compensate electricity generated from renewable energy that is fed into their networks up to a certain amount.

- It provides for a number of measures to increase energy efficiency and reduce consumption of energy. In particular, the refurbishment of buildings to improve energy efficiency will be incentivised, among others by tax benefits and by mandating adaptations to local regulation governing the construction of buildings. Further, the targets for the average carbon dioxide (“CO₂”) emission of imported cars have been lowered, and the levy on CO₂ emissions exceeding the average determined per importer has been increased. The levy on CO₂ emissions for the creation, extraction and import of fossil fuels has also been increased.

- It provides for the withdrawal from nuclear energy. Therefore, as from 2018, no permissions to construct new nuclear power plants may be granted. The existing nuclear power plants may continue to be operated for as long as they are safe.

- The key piece of legislation implementing the first set of measures aimed at pursuing this Energy Strategy 2050 is the new Energy Act, which entered into force on 1 January 2018, in addition to a number of changes to other federal acts and implementing ordinances.

Full electricity market liberalisation

In addition to the implementation of the Energy Strategy 2050, the Federal Council has again picked up the full liberalisation of the Swiss electricity market, which was mandated by the legislator ten years ago. Under the Act on Electricity Supply (“ESA”) of 2007, the liberalisation of the market was to take place in two steps: as of 2009 for large consumers (consumption of more than 100,000 kWh per year), and five years later for all other consumers. The implementation of the second stage of the liberalisation has been delayed by the Federal Council, mainly because the public consultation that took place between October 2014 and January 2015 provoked controversial results. Additionally, it argued that it wanted to coordinate the full liberalisation of the market with the implementation of the Energy Strategy 2050. The Federal Council preferred to wait for progress in the ongoing discussions and negotiations with the European Union ("EU") regarding the bilateral treaties, before fully opening the electricity market. In view of these negotiations not progressing as desired, however, and given the clear mandate in the ESA, the Federal Council has again taken up its work on the full liberalisation of the market.

In October 2018, the Federal Council released a proposal for a revision of the ESA for public consultation. The key goal of this revision is to allow small consumers (ie consumers with an annual maximum consumption of 100,000 kWh) to procure electricity on the free market and thereby abolish the monopoly of local utilities for supplying electricity to these consumers. It is envisioned that these consumers can either procure electricity from the local utilities, who would continue to be obliged to supply electricity to all consumers within their territory, or from a third party supplier, and that they can reconsider their choice annually (and, therefore, move to the free market and back again). A second key goal of the proposed revision is the promotion of renewable, locally generated electricity. In particular, the proposal includes an obligation of electricity suppliers to offer a standard product consisting exclusively of electricity generated in Switzerland from renewable energy sources. While consumers will be free to choose another product offered by their supplier, it is expected that a large portion of consumers will stick to the standard product, so that this measure is expected to increase the share of electricity generated from domestic renewable sources of the overall mix. In addition, the draft revised ESA includes a number of other changes, such as measures to create additional energy reservoirs to safeguard the availability of energy sources in case of extraordinary circumstances (such as long-lasting droughts limiting the amount of electricity generated in hydro power plants, or technical problems at large generation facilities), a restructuring of the tariff-regime for the use of the distribution network, the implementation of a sunshine regulation to increase transparency on the distribution network operators, and the implementation of measures to incentivise smart grids and flexible use of the available capacities.

Following the public consultation, the Swiss Federal Council is expected to potentially make further amendments to the proposal and to then present the bill to the Swiss Parliament.
Decommissioning of nuclear power plants and other developments relating to nuclear energy

The Swiss Energy Strategy 2050 mandates the decommissioning of the existing nuclear plants at their end of life, and a material refurbishment or the construction of new nuclear power plants is not permitted. The first of the existing nuclear power plants that will be decommissioned is the Mühleberg plant, which will be taken off-grid on 20 December 2019, and thereafter be decommissioned.

Sectoral agreement with the EU

The Swiss Federal Council aims to execute a bilateral sectoral agreement with the EU for the energy sector, however, the negotiations have not progressed as expected and, to date, no agreement could be finalised. In all likelihood, this will not change until Switzerland and the EU agree on a framework agreement to provide an institutional framework for the bilateral relationship between Switzerland and the EU.
Overview of the legal and regulatory framework in Switzerland

A. Electricity
A.1 Industry structure

Nature of the market

The Swiss energy market is characterised by a high degree of fragmentation, reflecting the relative administrative autonomy of the various Cantons comprising the Confederation. There is only one single national transmission system operator ("TSO"), Swissgrid AG ("Swissgrid"), which is owned by a number of state- and private-owned generators and utilities, and has the monopoly right to operate the Swiss transmission network and to provide transmission services. On the lower market levels, there are numerous players active in the generation, distribution and supply market. For instance, the supply of electricity to end users in Switzerland is secured by approximately 700 companies.

Key market players

Market players differ substantially in terms of size, organisational form and scope of activities. In addition to vertically integrated utilities, which cover the entire value chain from power plants to the low-voltage grid, there are numerous smaller plants, of which some supply power to significantly less than 10,000 customers. The largest group of market players are utilities owned by local municipalities that provide power within their municipalities and that are often also responsible for supplying water and gas to local customers. A few of them, in particular utilities of larger cities, also generate power, though generally only in small quantities. Such regional and local utility companies mainly purchase power from the key players in the Swiss electricity market, which are:

- Alpiq Group ("Alpiq"), which is owned by state-owned utilities and private investors and has its shares publicly listed;
- Axpo Group, which is owned by Cantons and local utilities;
- Repower AG, which is controlled by a number of private and public investors and has shares traded on over-the-counter exchange platforms;
- BKW Energie AG ("BKW"), which is controlled by the Canton of Berne and has its shares publicly listed; and
- Elektrizitätswerk der Stadt Zürich, ie EWZ, which is an administration unit of the city of Zurich.

These entities, partly in private and partly in public hands, account for most of the electricity generated in Switzerland, as they own, together with larger utilities owned by the Cantons, the largest power plants (both hydro and nuclear plants). They also own directly or indirectly a substantial part of the distribution network.

Regulatory authorities

Energy policy is formulated by the Swiss Federal Office for Energy ("SFOE"), which is part of the Federal Department of the Environment, Transport, Energy and Communications ("DETEC").

Three articles in the Swiss Federal Constitution deal with energy matters. Particularly relevant is Article 89, which requires that both the Confederation and the Cantons provide a satisfactory, broadly diversified, secure, economic and environmentally friendly energy supply. The Federal Constitution determines the general principles of use of domestic and renewable energies, and it empowers the Confederation to legislate in many fields, including in particular on nuclear energy, hydro power generation and on the transmission and delivery of electricity. In other fields, the 26 Cantons that make up the Confederation have legislative responsibility. The result of this allocation is a rather fragmented legal framework in energy matters.

Legal framework

The following acts and ordinances provide the key legislation on a Federal level:

- Federal Act on Energy of 30 September 2016 (Energiegesetz);
- Ordinance on Energy of 1 November 2017 (Energieverordnung);
- Ordinance on the Promotion of Electricity Generation from Renewable Energies of 1 November 2017 (Energieförderungsverordnung);
- Ordinance on the Energy Efficiency requirements of mass-produced systems, vehicles and appliances of 1 November 2017 (Energieeffizienzverordnung);
- Federal Act on the Reduction of CO₂ of 23 December 2011 (CO₂-Gesetz);
- Federal Act on Electricity of 24 June 1902 (Elektrizitätsgesetz);
- Federal Act on Electricity Supply of 23 March 2007 (Stromversorgungsgesetz);
- Ordinance on Electricity Supply of 14 March 2008 (Stromversorgungsverordnung);
- Ordinance on Low Voltage Utilities of 30 March 1994 (Schwachstromverordnung);
- Ordinance on High Voltage Electricity Utilities of 30 March 1994 (Starkstromverordnung);
- Federal Act on Nuclear Energy of 21 March 2003 (Kernenergiegesetz);
- Ordinance on Nuclear Energy of 10 December 2004 (Kernenergieverordnung);
- Federal Act on Utilisation of Water Power of 22 December 1916 (Wasserrechtsgesetz);
In 2011, subsequent to the reactor disaster of Fukushima, the Swiss Federal Council and Swiss Parliament ("Parliament") decided to withdraw from nuclear energy production. As this decision required amendments to the Swiss energy strategy (which, until then, relied to a significant extent on nuclear power), the Federal Council developed the Energy Strategy 2050. A first step towards the implementation of the goals of this strategy is the implementation of the new Energy Act ("EA"), which entered into force on 1 January 2018, along with changes in various other Federal Acts and a number of implementing ordinances. The EA aims to increase energy efficiency and to promote renewable energy sources ("RES"). Since 1 January 2018, no authorisation may be granted for the construction of new nuclear plants or for material changes to existing nuclear plants.

In order to align the Federal Electricity Supply Act ("ESA") with the Energy Strategy 2050, in February 2014 SFOE began revising the ESA. To date, the ESA, which entered into force in 2008, has had a significant impact on the structure of the electricity market. In particular, it mandated the establishment of a regulatory entity responsible for monitoring compliance with and enforcement of the ESA, the Swiss Electricity Commission ("ECom"), which is also responsible for supervising Swissgrid, the national TSO. Further, the ESA obligated the owners of the high voltage transmission grid to transfer ownership in the network infrastructure to Swissgrid by 1 January 2013. In addition, it provided for the liberalisation of the Swiss electricity market in stages, beginning with the liberalisation for large end customers (over 100 MWh per year).

On 17 October 2018, the Federal Council opened the consultation for the proposed revision of the ESA. This partial revision of the ESA is intended to bring further changes to the structure of the electricity market with the aim of safeguarding long-term security of supply, strengthening the position of renewable energies in the market and improving economic efficiency. An important proposed change is the full liberalisation of the Swiss electricity market in order that every customer, including also small end customers consuming less than 100 MWh per year, can freely choose their electricity supplier. The amendments will also seek to balance regulatory shortcomings in the existing law and reform provisions regarding the polluter pays principle, and the efficiency and transparency of network regulation. The public consultation period ended on 31 January 2019 and the Federal Council is currently considering the feedback received during the consultation.

### Implementation of EU electricity directives

Negotiations between Switzerland and the European Union ("EU") for a bilateral agreement in the electricity sector have been ongoing since 2007. This bilateral agreement aims, among other things, to secure Switzerland's participation in the European electricity market and therefore to regulate cross-border electricity trading. In order to include the latest legal developments in the EU, the Federal Council expanded the negotiation mandate in 2010. By means of this expanded mandate the incorporation of the Renewable Energy Directive into the negotiations is facilitated. Switzerland would also be able to position itself in this area. To date, the negotiations could not be finalised.

### A.2 Third party access regime

The ESA stipulates the principle of regulated third party access to the Swiss transmission and distribution grids, as well as the unbundling of production, transmission and distribution activities. Undertakings (including generators, traders or eligible consumers) wishing to connect to the transmission grid in Switzerland must enter into network access agreements (Netznutzungsvertrage) with Swissgrid. Each network access agreement must be allocated to a specific balancing group (established by balancing agreements) within a balancing zone. Balancing agreements between the entity responsible for a balancing zone and generators, importers, traders or suppliers of electricity set out the terms and conditions on which the entry and exit of electricity at the entry and exit points will be managed in order to maintain a stable network.

The market for end consumers with an annual consumption of more than 100 MWh per year was liberalised a few years ago. These large end customers are granted free choice of their supplier of electricity. To enable competition, large network operators must grant non-discriminatory access to their network and transmit electricity supplied by third party suppliers. Although local distribution networks have, to date, a limited monopoly right in respect of end consumers consuming less than 100 MWh per year, the pending revision of the ESA aims to fully liberalise the market. With these intended policy changes, small end customers would also be able to freely choose whether they wish to procure electricity from the local utility or from a third party supplier.

### A.3 Market design

The structure of the electricity market is determined by the ESA. While Swissgrid acts as the sole national TSO and has the monopoly right to operate the Swiss transmission network, there are numerous companies in the market responsible for its distribution and supply of electricity.

Several authorities oversee compliance with regulation in the electricity market. The most important regulatory authorities are SFOE, which is responsible for monitoring and enforcing compliance with the EA, and ECom, which has been established as an authority to monitor and enforce compliance with the ESA. ECom monitors the development of the electricity market in order to ensure the safe and affordable supply of electricity in Switzerland, whereby it also has responsibility for overseeing the status and maintenance of the transmission network operated by Swissgrid. Another regulatory authority is the Federal Inspectorate for Heavy Current Installations ("EST"), which is the authority for electrical installations, and secures that these are constructed and maintained in a safe manner.

### A.4 Tariff regulation

The remuneration for use of the transmission network is set by Swissgrid and has to be cost-based (taking into account the cost of constructing, operating and maintaining the transmission network), cover the usage of the network and the provision of services. The fee consists of a working tariff per kWh, a power tariff per MW and a fixed base tariff per exit point. Swissgrid can also charge for ancillary services.
ElCom has the authority to rule on disputes relating to remuneration for network use as well as to review Swissgrid’s transmission tariffs ex officio. Since transmission tariffs were introduced in Switzerland, ElCom has often used its power to review tariffs ex officio in order to significantly reduce the tariffs originally published by Swissgrid. These orders have been regularly challenged by affected parties, including Swissgrid, before the Federal Administrative Court.

The fees of the distribution system, however, are cost-based and cover the cost of the usage of the network and the provision of ancillary services, whereby they have to reflect the actual cost caused by the relevant end customer. ElCom also has the authority to rule on disputes relating to charges for network use.

A.5 Market entry

The market entry for new entrants has to be analysed based on the different market levels of generation, transmission and distribution of electricity.

The process for obtaining an approval to construct and operate a generation facility and the terms imposed on such approval may differ according to the type of such facility and the Canton in which an authorisation is requested. Typically, the process begins with a request to the competent authority, which will analyse the project and assess, among other things, the impact on nature and the environment, safety considerations, the affected local community and other specific private interests. To obtain an approval, a public consultation is usually required, whereby the right to file complaints is given to the local authorities as well as to private persons if their interests are at stake. The decision of the competent authority is also subject to court review.

The construction of transmission lines in Switzerland requires the acquisition of a federal sectoral plan and a federal planning authorisation, which is only granted if the former is established. The request to include a project in the sectoral plan is initiated by the project owner (in most cases Swissgrid) and filed to SFOE. Following review of such request, SFOE defines in coordination with other authorities, a specific planning corridor, which is included in the sectoral plan. The decisions on the sectoral plan are taken by the Swiss Federal Council and cannot be appealed. Following approval of a sectoral plan, the project owner can elaborate a specific project and request a planning authorisation from ESTI. In this process, the project is closely examined in order to verify that it complies with applicable safety requirements, environmental and spatial planning law. Private persons and local municipalities that are affected by the project can file objections to protect their interests. Following examination of the request, ESTI will attempt to resolve objections and then grant the planning authorisation. If the objections cannot be resolved or if other federal authorities reject the project, ESTI will forward the project documentation to SFOE, which will then carry out the negotiations and render a decision. Appeals against the granting of a planning authorisation can be filed to the Swiss Federal Administrative Court. The entire process for obtaining an authorisation to construct transmission lines in Switzerland can take more than ten years.

The process to obtain an authorisation to construct a distribution facility may differ according to the type of such facility. The construction of a high-voltage facility requires a planning authorisation by ESTI (but no sectoral plan authorised by the Federal Council). The procedure is the same as for obtaining a planning authorisation to construct a transmission line, but the process will usually not exceed two years (unless appeals have to be resolved, which may delay the process).

A.6 Public service obligations, smart metering and electric vehicles

Public service obligations

Local utilities are obligated to supply energy to local consumers who have not exercised their right to procure electricity from another supplier. They have to do so at reasonable tariffs, which are fixed on an annual basis. The currently contemplated revision of the ESA proposes that local utilities will have to offer an electricity product consisting exclusively of Swiss generated electricity, of which a minimum percentage to be determined by the Swiss Federal Council will have to be generated by renewable energy.

Smart metering

Since the beginning of 2018, the Ordinance on Electricity Supply requires the use of smart meters and sets out specific requirements that such smart meters must meet. By the end of 2027, 80% of all meters must be smart meters.

Electric vehicles

Electric vehicles ("EVs") are considered to play an important role in reducing CO₂ emissions. Accordingly, electric mobility is supported by a number of measures, such as tax reductions and goals for the reduction of the average CO₂ emissions per kilometre ("km") (to not exceed 95 grams CO₂ per km in 2020). Further, the SFOE and the Swiss Federal Roads Office have initiated a ‘roadmap electric mobility 2022’, which aims to further support EVs by implementing a number of measures in collaboration with industry players, such as the further development of a dense quick-charging network. The goal of the roadmap is for EVs to make up 15% of all new vehicles by 2022. While the implementation of the roadmap is covered by the overall federal strategy to reduce CO₂ emissions, many of its specific measures are intended to be implemented on a voluntary basis by the industry players participating in the roadmap.

A.7 Cross-border interconnectors

The Swiss transmission network is interconnected with the networks of Austria, France, Germany and Italy. Imports from Austria, France and Germany usually exceed exports to these countries. For Italy, it is the opposite. The Swiss transmission network is therefore used for transit of electricity to Italy. While Swissgrid has a monopoly on the Swiss transmission network, certain cross-border transmission lines (ie merchant lines) are exempted from this monopoly. As such, merchant lines may be owned by other market players, and are exempted from the capacity management under the control of Swissgrid.

The ESA requires that capacity shortage in the cross-border network is to be managed by allocating network capacities in a market-oriented allocation procedure. Capacities are therefore typically auctioned, and capacity is usually allocated by yearly, monthly and daily auctions, which are mostly performed through the Allocation Office JAO S.A. In addition to these yearly, monthly and daily auctions, intraday capacity auctions are performed.
B. Oil and gas
B.1 Industry structure

Oil

Nature of the market

Switzerland does not produce oil. The oil market is fully liberalised, and there is no state involvement. The vast majority of oil sources are imported either by tanker (by road, water, rail) or by pipeline. Around 60% of the oil imported into Switzerland comes from North and West African countries.

Key market players

The oil trade is dominated by private companies. Apart from multinational oil companies dedicated in particular to the wholesale trade, there are numerous small and medium-size enterprises that distribute oil to end customers.

Regulatory authorities

The oil market is fully liberalised and there is no regulatory authority that would play a relevant role in regulating the oil market. The SFOE plays a role in authorising the construction of pipelines (see below).

Legal framework

Legislation on pipeline installations for oil transportation is regulated by the Federal Act on Pipelines for the Transport of Liquid or Gaseous Fuels (“Federal Act on Pipelines”; Rohrleitungsgesetz), the Federal Ordinance on Pipelines for the Transport of Liquid or Gaseous Fuels (“Federal Ordinance on Pipelines”; Rohrleitungsvorschriften für Rohrleitungsanlagen). These companies are mostly government-owned. The major companies are Erdgas Ostschweiz AG (ie EGO), Erdgas Zentralschweiz AG (ie EGZ), Gasverbund Mittelland AG (“GV/M”), and Gaznat S.A. Together, these companies have formed Swissgas AG (“Swissgas”) for the procurement and the supply of natural gas. Swissgas also operates four high-pressure pipelines that feed from the transit gas pipeline to the various regions. The section of the Netherlands-Italy pipeline on Swiss territory, which runs from the German/Swiss border at Wallbach (east of Basle) to the Swiss/Italian border at Griespass (Canton of Valais), is operated by Transitgas AG, which is owned by Swissgas (51%), FluxSwiss SA (46%) and Uniper Global Commodities SE (3%).

Gas

Nature of the market

Apart from limited quantities of biogas, Switzerland does not produce gas. The vast majority of gas sources are imported either by tanker (by road, water, rail) or by pipeline. Switzerland currently imports gas mainly from Germany, the Netherlands, France and Italy.

With respect to the gas market, the liberalisation process has been slow. As each area is usually supplied by the local distributor of natural gas, there is a de facto natural monopoly in the sector.

The Federal Act on Pipelines contains a legal basis for partial liberalisation of the market and for transit operations: Article 13 of the Federal Act on Pipelines obliges operators of high-pressure pipelines to carry out transit operations for third parties under certain conditions, namely that transport is technically possible and economically reasonable and that an adequate fee is paid.

At international level, there is brisk trading. Transit transports are carried out on the Transitgas system from the German/Swiss border at Wallbach to the Swiss/Italian border at Griespass. Since Transitgas implemented the Reverse Flow Project in 2017, gas can also be transported from Italy towards Germany and France. This capability has increased the security of gas supply not only for Switzerland but also for all Western Europe.

For the rest of the high-pressure network, ie for the regional high-pressure network, the companies in the gas industry attempted to partially liberalise the gas sector by entering into a private associations’ agreement (Verbandvereinbarung) in 2012. The purpose of this agreement, which is an instrument of private regulation, is to allow and coordinate third party access to the network. It is divided into three sub-agreements, which govern the general conditions of access to the regional high pressure network, the methodology to remunerate the use of such network, and the way in which access to the network is coordinated. This agreement has been treated favourably by the Federal authorities. While Article 13 of the Federal Act on Pipelines was not detailed as to the modalities of third party access, the branch agreement clearly defines the models to be adopted.

Key market players

There are approximately 100 gas suppliers, which greatly differ in size. Regional or local companies own the pipeline system. These companies are mostly government-owned. The major companies are Erdgas Ostschweiz AG (ie EGO), Erdgas Zentralschweiz AG (ie EGZ), Gasverbund Mittelland AG (“GV/M”), and Gaznat S.A. Together, these companies have formed Swissgas AG (“Swissgas”) for the procurement and the supply of natural gas. Swissgas also operates four high-pressure pipelines that feed from the transit gas pipeline to the various regions. The section of the Netherlands-Italy pipeline on Swiss territory, which runs from the German/Swiss border at Wallbach (east of Basle) to the Swiss/Italian border at Griespass (Canton of Valais), is operated by Transitgas AG, which is owned by Swissgas (51%), FluxSwiss SA (46%) and Uniper Global Commodities SE (3%).

Regulatory authorities

The associations’ agreement does not match the European market regulation in this sector as it does not foresee the creation of a regulator, and third party access to the network is granted only to large industrial customers. Despite this, the Swiss gas market is treated as fundamentally compatible with the European market. The gas consumed in Switzerland is supplied by EU Member States, and under Article 13 section 1 of the Federal Act on Pipelines, foreign companies can directly supply gas to Swiss consumers connected to the regional high pressure network. The Federal Department for Energy acts as a judicial authority for disputes relating to third party access to a high-pressure network.

To further promote the liberalisation of the gas market, a Gas Supply Act (Gesetz über die Versorgung mit Gas) is expected to be proposed by the Swiss Federal Council in 2019.
Legal framework

Legislation on pipeline installations for gas transportation is regulated by the Federal Act on Pipelines (Rohrleitungsgesetz), the Federal Ordinance on Pipelines (Rohrleitungsvorschriften) and the Ordinance concerning Safety Standards for Pipelines (Verordnung über Sicherheitsvorschriften für Rohrleitungsanlagen).

For more details on the legal framework see above. Oil, legal framework.

Implementation of EU gas directives

Given that Switzerland is not an EU Member State, EU gas directives are not implemented in Switzerland.

B.2 Third party access regime to gas transportation networks

The operators of major pipelines, as defined by Article 13 of the Federal Act on Pipelines, are contractually obliged to carry out third party access operations for third parties, subject to this being practically and economically reasonable, in return for payment of an adequate fee.

Federal law stipulates that SFOE is competent to make rulings in relation to disputes regarding third party transportation obligations and the conditions associated with such obligations, in particular the price applying to oil and gas pipelines. Apart from that, the price formation is up to the supply companies. Given that the supply companies for natural gas are owned or controlled by the relevant Canton or municipality, the price formation is indirectly subject to the relevant territorial authority’s approval.

B.3 LNG terminals and gas storage facilities

There are no LNG terminals in Switzerland. The regional gas companies Gaznat (in western Switzerland) and the regional gas company GVM (in the northwest of the country) have their own storage capacities amounting to 5% of the annual gas consumption in Switzerland in the form of a natural gas storage facility located in France. An agreement between Switzerland and France enables the two companies to make use of these capacities in an emergency on the same terms as French gas companies.

B.4 Tariff regulation

There is no federal regulation regarding the price of gas; the price is set by local suppliers in accordance with the provisions of local law. Typically, the tariffs for gas contain several components, usually containing a base tariff, a working price per kWh and an output price per kW. The tariffs can vary considerably depending on the supply area and have been subject to regular price monitoring investigations for many years.

To create transparency of the gas prices charged by companies to consumers and to allow a cross-comparison of the various tariffs, the tariffs of the Swiss gas supply companies were systematically collected for the first time in 2011. The gas prices covered by this price monitoring can be found on the gas price comparison website specially set up by the Confederation for this purpose.

Oil prices are also not regulated; the oil market is fully liberalised, and there is no state involvement in the pricing.

B.5 Market entry

There are considerable barriers to entering the natural gas market as state-controlled companies own the pipelines and no land is made available by the state for the construction of new pipelines. However, the conditions on the heating market are highly competitive and large customers have the option of choosing their supplier.

There are no legal barriers to market entry in the oil market, which is fully liberalised.

B.6 Public service obligations and smart metering

Public service obligations

There is no federal regulation regarding public service obligations of gas suppliers.

Smart metering

There is no federal regulation regarding requiring gas suppliers to implement smart metering technology. Some local utilities use smart meters to measure gas consumption on a voluntary basis.

B.7 Cross-border interconnectors

Switzerland does not produce natural gas or oil, therefore it procures both natural gas and oil either by tanker (by road, water, rail) or by pipeline abroad. There are no specific access regime rules relating to cross-border pipelines other than the limited provisions that also apply to domestic pipelines (see section B.2).

C. Energy trading

C.1 Electricity trading

Cross-border electricity trading is of major significance to the country both economically and in terms of security of supply. Alpiq and other major companies (see sections A.1 and B.1) remain important players in the European trading market. However, as there is no power exchange in Switzerland, Swiss electricity companies are active on foreign exchanges, such as the Leipzig-based European Energy Exchange (i.e. EEX). They trade in both physical electricity and financial standard products.

Electricity for physical delivery is traded in the spot market using day-ahead and intraday transactions. Futures and forwards are also traded either for physical delivery or for financial settlement.

C.2 Gas trading

As with electricity trading, there is no gas exchange in Switzerland. Swiss companies are therefore active on foreign exchanges like PEGAS, the central gas trading platform operated by Powernext.

D. Climate change and sustainability

D.1 Climate change initiatives

The central climate change initiatives in Switzerland have been the development of the Energy Strategy 2050 by the Swiss Federal Council and the Swiss climate policy. The key goals of these initiatives are to increase energy efficiency and energy from renewable sources and to reduce carbon dioxide ("CO₂") emissions.
The Federal Act on the Reduction of CO₂ Emissions ("CO₂ Act") forms the central pillar of the Swiss climate policy. Its objective is to reduce the CO₂ emissions arising primarily from the combustion of fossil fuels for heating and transportation purposes. The CO₂ Act stipulates that, by 2020, the CO₂ emissions are to be reduced by 20% compared to 1990 levels; this goal is to be achieved by various measures. By 2020, the average CO₂ emission of imported passenger cars, for instance, must not exceed 95 grams per km. If such targets are not met, sanctions of up to CHF152 per gram of CO₂ emission over the maximum amount may be charged to the importer for each vehicle put into circulation. Other key measures to reduce greenhouse gas ("GHG") are the CO₂ levy, which is raised on the creation, extraction and import of carbon-based fuels, and emission trading. The CO₂ Act incentivises energy related refurbishment of buildings.

D.2 Emission trading
Switzerland maintains an emission trading system that is based on the cap-and-trade principle. First, an absolute quantity of emission allowances (ie the cap) is determined based on historical emissions data. Then, emission allowances are allocated free of charge to each participant in the emissions trading system, based on a benchmark system. These emission allowances are tradable (trade) and they can either be surrendered to the Confederation to cover emissions or, if the participant emits less GHG than it would be allowed based on the emission allowance, sold to other participants in the emission trading system. If the participant exceeds its allowance, it must procure emission allowances from another participant. Whether or not a company must or may participate in the emission trading system depends on its activities. For instance, companies burning large amounts of fossil fuels, refineries, and producers of steel or aluminium are required to participate. Companies that participate in the emission trading system are exempted from the tax on CO₂ emissions.

To record emission allowances, emission reduction certificates from Switzerland and from companies that take part in the emissions trading, the Swiss Emissions Trading Registry ("EHR") was established. The EHR is an online accounting system that ensures that the transactions are recorded accurately. In order to link the Swiss and the EU emission trading systems, Switzerland maintains an emissions trading system that is based on the cap-and-trade principle. First, an absolute quantity of emission allowances (ie the cap) is determined based on historical emissions data. Then, emission allowances are allocated free of charge to each participant in the emissions trading system, based on a benchmark system. These emission allowances are tradable (trade) and they can either be surrendered to the Confederation to cover emissions or, if the participant emits less GHG than it would be allowed based on the emission allowance, sold to other participants in the emission trading system. If the participant exceeds its allowance, it must procure emission allowances from another participant. Whether or not a company must or may participate in the emission trading system depends on its activities. For instance, companies burning large amounts of fossil fuels, refineries, and producers of steel or aluminium are required to participate. Companies that participate in the emission trading system are exempted from the tax on CO₂ emissions.

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E. Nuclear energy
Under Article 90 of the Federal Constitution, the Confederation alone is responsible for legislation in the field of nuclear energy. It has therefore enacted the Nuclear Energy Act (Kernenergiegesetz) and the Nuclear Energy Ordinance (Kernenergieverordnung), containing comprehensive regulations regarding the construction and operation of nuclear power plants.

Nuclear energy covers approximately 40% of Swiss energy consumption. There are currently five nuclear power plants in operation in Switzerland (Gösgen, Mühleberg, Leibstadt, Beznau I and II) which were built between 1969 and 1984.

Following the Fukushima reactor accident, the Swiss Federal Council decided in 2011 to suspend the pending procedures for handling applications for new nuclear power plants and to gradually phase out nuclear power production. Against this background, on 28 September 2012, the Swiss Federal Council presented a first package of measures aimed at a new strategy, referred to as the Energy Strategy 2050. This strategy provides for the decommissioning of Switzerland’s five nuclear power plants when they reach the end of life. With a technical and economic life of 50 (Beznau and Mühleberg) to 60 years (Gösgen and Leibstadt), the Swiss nuclear power plants will no longer be operational by 2020, and 2040 to 2045, respectively. Since 1 January 2018, no authorisation may be granted for the construction of new nuclear plants or for material changes to existing nuclear plants.

The decommissioning of a nuclear power plant requires that the nuclear power plant operators prepare a decommissioning project and submit it to SFOE. As the authority in charge of the procedure, SFOE then conducts the decommissioning procedure with the involvement of the federal and cantonal authorities, whereby persons affected by the decommissioning may raise an objection against the decommissioning project. SFOE then prepares a decommissioning order for DETEC in which decommissioning is ordered.

The first nuclear power plant that will be decommissioned is the plant of Mühleberg. On 20 June 2018, DETEC accepted the request of BKW, the owner of the nuclear power plant, to decommission the plant and ordered its decommissioning. Therefore, at the end of 2019 a nuclear power plant will be taken off the grid for the first time in Switzerland. The dismantling of the nuclear power plant is expected to take 15 years.
Endnotes

1. See http://gasprese.preisueberwacher.ch.