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# The wholesale market for electricity

THE EVOLUTION OF PRICES AND POLICIES IN TICINO,  
SWITZERLAND, AND THE EUROPEAN UNION

Alessandra Motz  
Rico Maggi

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For further information:

**Osservatorio Finanze Pubbliche ed Energia**

c/o Istituto di Ricerche Economiche  
Via Maderno 24, CP 4361  
CH – 6904 Lugano  
E-mail: [ofpe\\_energia@usi.ch](mailto:ofpe_energia@usi.ch)  
Tel: +41 58 666 41 67

## Executive summary

- This report presents an analysis of the dynamics of wholesale electricity markets in the years 2010-2017 in Switzerland and in the neighbouring countries, namely Germany, France, Austria, and Italy. Aim of the report is providing a critical insight into electricity prices and their drivers, with a focus on the role of Swiss and European energy policies. The trends expected for 2018 are described in light of the evolution of market fundamentals, sectorial policies and regulation. Finally, the report discusses the impact of the main trends on the electricity companies active in Canton Ticino.
- Wholesale electricity prices experienced a long decline between 2010 and the first half of 2016, sliding from the 60-90 CHF/MWh observed in 2010 to the 30-50 CHF/MWh registered in 2016, also as a consequence of the appreciation of the Swiss currency started in 2015. In the second half of 2016 a slow recovery started, and prices reached 35-56 CHF/MWh during 2017. A good degree of convergence was observed in the Swiss, German and French market areas in the whole period, whereas the Italian market only converged toward the continental European values in the years 2016 and 2017, with average price differentials falling from above 20 CHF/MWh to 10-15 CHF/MWh.
- The trends observed in wholesale electricity prices are driven by several factors:
  - A stagnating electricity demand,
  - The steep growth in productions from new renewable energy sources and the subsequent decrease in contestable demand for the traditional generation plants,
  - A drop in oil prices from over 100 USD/bbl in 2014 to less than 60 USD/bbl in 2015, with a mild pickup starting only in 2017, and a slow decline of coal prices, that only recovered at the end of 2016,
  - Finally, the generally low level of natural gas prices, induced by the gas surplus in the US, the European infrastructural and regulatory moves favouring the development of an internal natural gas market, and the structural change in the pricing mechanisms for this commodity in Europe.
- The energy policies set up in Switzerland and in the European Union have been an important driver of wholesale electricity market trends in the years 2010-2017:
  - The European Union commitment to reduce greenhouse gas emissions entailed in the “Europe 2020” and “Europe 2030” packages has been giving a strong boost to new renewable-based productions, whose contributions rose from 6.0% of overall electricity demand in the EU in 2010 to 14.8% in 2015. Switzerland has historically been relying on a low-carbon generation fleet; the Confederation will however follow the European trend in the next few years, given its decision to decommission its nuclear reactors, and in compliance with the pledge signed in 2015 at the COP21 conference for the fight against climate change,
  - On the other hand, the European Union policies aimed at creating an internal energy market have favoured a more efficient use of transmission infrastructures by introducing coordinated allocation procedures for forward transmission capacity rights, regulations and algorithms for the joint allocation of spot electricity products and spot transmission capacity rights (the so-called market coupling), and finally a regulatory framework for fostering the integration of national balancing systems and hence a more efficient management of electricity flows in the real time. Switzerland has also benefitted from these measures, that have allowed an optimization of international electricity flows, an easier hedging of price risks and differentials, and an increased cooperation across countries in the sizing and management of flexible reserves. However, some inefficiencies still remain in the form of “wrong-way flows”, i.e. electricity flows at the Swiss borders running in the wrong direction given electricity price differentials. These inefficiencies could be avoided if Switzerland were allowed to participate in the day-ahead

market coupling: this step requires a formal agreement between the Confederation and the European Union.

- The outlook for 2018 suggests a slightly rosier picture for the Swiss electricity market and the electricity companies of Ticino:
  - The main technical stakeholder estimate a good degree of security for the European electricity and natural gas supplies. The tensions observed on the French market as a consequence of the safety risks at several obsolete nuclear reactors are pushing electricity prices upwards in the last two months, but an actual interruption of electricity supply is estimated to be unlikely;
  - Despite the structural change observed in the European electricity market with the boom in renewable-based productions, the recovery in oil, coal, and to a lesser extent gas prices is hoisting electricity forward prices up to 53-75 CHF/MWh in the coming Winter and 45-60 CHF/MWh in Summer 2018, well above the levels observed in 2015 and 2016. Swiss electricity companies active in hydroelectric generation should benefit from this increase in prices, as well as from the price premium up to 10 CHF/MWh introduced by the Confederation from the beginning of 2018. This measure has been developed within the framework of the Energy Strategy 2050 with the aim of backing national hydroelectric plants if wholesale prices are too low to cover production costs. Several EU member states have introduced similar capacity payment mechanisms in recent years, usually in order to support gas- or coal-fired plants;
  - Finally, a closer look at the downstream segment suggests that the main technical challenges for electricity companies active in distribution grids management and electricity supply to end customers in Ticino and in Switzerland will lie in ensuring an efficient exploitation of both the new renewable-based distributed generation facilities, and the smart technologies that will enable demand response. The growing importance of ICTs and the increasingly pivotal role of end consumers have been recognized in the package “Clean Energy for All Europeans”, a set of legislative proposals that the European Commission issued at the end of 2016. The new market design put forward in these proposals revolves around a complete liberalization of the electricity sector on the one hand, and a stronger involvement of distribution grid operators on the other hand. Electricity consumers should receive information on their consumptions and have access to reliable price comparison tools, whereas distributors should become increasingly active in providing flexibility to the transmission grids and contributing to the update of the electricity market design. The integration of the Swiss market with the European one may offer important advantages in terms of affordability, sustainability, and security of electricity supplies. As a radical divergence in regulation might hinder the integration process, a coordinated approach aimed at avoiding the introduction of drastically different rules for the retail segment is recommended, in order to ensure that Swiss companies and consumers are able to reap all the advantages of the new electricity market.