

POLICY PAPER 2015

**ADVOCACY FOR
AN INTEGRATED
AND COMPETITIVE
ELECTRICITY MARKET
IN EUROPE**

**POWER FOR
TODAY.
POWER FOR
TOMORROW.**

**TEN
CONSIDERATIONS
BY EPEX SPOT**

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EXECUTIVE SUMMARY

Recent interventions in national energy markets have set the scene for a major turning point in the European energy policy. At the same time, State and Government leaders have agreed on the new EU climate and energy framework for 2030, during the European Council of October 2014.

In the coming months, decision makers and stakeholders of the energy sector will face important political choices. They should stand firm behind a European and market-based energy policy.

EPEX SPOT, the European Power Exchange, is one of the pacemakers driving forward Europe's electricity markets. We operate power spot markets for Germany, France, Austria and Switzerland. Together, these countries account for over a third of Europe's electricity consumption.

We are deeply committed towards the goals of the Internal Energy Market and the Energy Union. Accordingly, this paper outlines current policy challenges in chapter one, discusses considerations for an efficient energy policy in chapter two and explores the role of the European Power Exchange as one of the pillars of the electricity value chain in chapter three. We invite European decision makers to take these considerations into account while fostering an integrated and competitive European electricity market.

1. EUROPEAN ENERGY POLICY

We expressly advocate for a **market-based** and truly European energy policy to enable a secure, competitive and sustainable electricity system.

2. EUROPEAN COOPERATION

We underline the importance of an **efficient cooperation** between Member States, European Institutions and industry stakeholders in order to appropriately address the increasingly pressing challenges in the energy sector. This includes Transmission System Operators, Power Exchanges and Regulatory Authorities, amongst others.

3. INTERNAL ENERGY MARKET

We strongly support the **swift completion** of the single European market for electricity, the best instrument to strengthen Europe's security of supply, i.a. with the integration of relevant Third countries such as Switzerland.

4. EUROPEAN TARGET MODELS FOR ELECTRICITY

We endorse a robust European Target Model for Day-Ahead and Intraday **trade across borders**. It should preserve the required flexibility to adapt to markets needs over time.

5. REGULATORY OVERSIGHT

We stress the importance of a reliable regulatory oversight for Power Exchanges at European level, respecting the principles of **cooperation and competition**.

TEN CONSIDERATIONS BY EPEX SPOT

6. FLEXIBILITY AND SECURITY OF SUPPLY

We underline the importance of ensuring security of supply **via market mechanisms**, including flexibility instruments. In this context, we point out that renewable energy promotion schemes should guarantee a non-distortive integration into European wholesale markets.

7. ENERGY PRICE FORMATION

We insist on invigorating the role of wholesale markets for the sake of European **competitiveness**. Transparent and competitive electricity prices have to be restored by limiting interventions such as price regulation or disproportionate public charges.

8. CAPACITY REMUNERATION MECHANISMS

We advise to tap the full potential of **Energy Only Markets**. In Member States with mature markets, this is the preferred solution. In Member States where this proves inapplicable or insufficient, capacity mechanisms shall comply with the goals of the Internal Energy Market.

9. LIQUIDITY OF BIDDING ZONES

We urge to safeguard the Internal Energy Market by protecting liquid and **well-functioning price zones**. No-regret measures should be prioritized to resolve congestion issues.

10. MARKET TRANSPARENCY & INTEGRITY

We advise to actively promote market transparency and integrity by effectively implementing **REMIT** and continuing the fight against value-added tax fraud in a close cooperation between Power Exchanges and regulators.

I. STATUS QUO – OUTLINE OF CURRENT POLICY CHALLENGES

A. OPENING REMARKS

Looking back at the transformation of the electricity sector over the past decades, the long and winding road towards a pan-European integrated energy market appears to be a journey rife with challenges.

In the late nineties, the liberalization of electricity markets laid an essential cornerstone for the European integration. The creation of energy exchanges and development of energy trading are among the most visible results of this process.

Ten years later, the Lisbon Treaty and adoption of the Third Energy Package ratified for the first time a clear commitment towards an Internal Energy Market. One of the declared objectives of the European Commission is to complete “the internal market [...] by 2014 so as to allow gas and electricity to flow freely”.

However, the Fukushima incident caused a profound break in the energy policy of several Member States. In an effort to shift back to a European perspective, the Commission thus recently adopted the “Energy roadmap 2050” and the “2030 policy framework for climate and energy” as a basis for a competitive, secure and sustainable energy system. Nevertheless, the current European energy policy continues to face several challenges.

EPEX SPOT is deeply committed to the goals of the European energy policy and plays a decisive role in driving forward European electricity markets. The present chapter aims at delivering food for thought on some of the remaining policy conundrums and resulting market distortions.

B. POLICY CONUNDRUMS

EUROPEAN MARKETS KEEP LOSING GROUND TO NATIONAL POLICIES – ARE WE GOING BACKWARDS?

Ever since the establishment of the European Coal and Steel Community – Europe’s first Energy Union – the tension between market-based integration mechanisms and national regulatory regimes on Member State level has been perceptible.

Over sixty years later, the objective of a European Energy Market has certainly become more tangible. Power Exchanges, in close cooperation with Transmission System Operators and national regulators, are largely contributing towards this goal, by connecting electricity markets across Europe on the basis of Market Coupling. The European Commission and the Agency for the Cooperation of Energy Regulators (ACER) support these initiatives and are currently transcribing them into European law.

Yet, the absence of a true common European energy policy endangers those achievements and overshadows the ambition of a market-based Internal Energy Market. In the recent past, a disquieting temptation to re-regulate large parts of the energy sector has surfaced in Europe. At the same time, several national measures such as renewable support schemes, capacity remuneration mechanisms or heterogeneous cross-border allocation and nomination rules, remain uncoordinated and sometimes even diverge.

This discrepancy between European goals and unilateral national energy policies certainly has alarming consequences: fallacious illusions of “energy autarchy”, rising distrust between Member States and the compartmentalization into national markets are in blatant contradiction with the idea of a Single European Market.

This development urged the European Commission to issue European Environmental and Energy Aid Guidelines in April 2014 with the aim to “*help Member States to design state aid measures that contribute to reaching their 2020 climate targets and provide sustainable and secure energy, while ensuring that those measures are cost-effective for society and do not cause distortions of competition or a fragmentation of the Single Market*”.

The Florence Forum of May 2014 summarizes the current challenge as follows: “*[...] EU energy policy is currently at a critical turning point where important political choices have to be made which will determine whether energy policy will have a national or more European focus and whether it will be driven by markets or regulatory interventions in future [...]*”.

DIVERGENT NATIONAL ENERGY TRANSITIONS – A POSSIBLE STRAIN ON EUROPE’S WHOLESALE MARKETS?

Over recent years, renewable energy sources have known a dynamic expansion throughout Europe, mainly fueled by incentivizing national support schemes with a life span of up to twenty years. As Europe is moving to a low-carbon electricity system, renewable energy sources will play a key

role within the energy policy. At the same time, Europe strives for a competitive and secure Internal Energy Market.

The challenge consists in a seamless integration of renewable energy sources into a competitive and secure Internal Energy Market. Especially, potential long term market distortions induced by inefficient national support schemes should be avoided: weakening of established wholesale power prices, erosion of base-peak spreads, amplification of negative price occurrences, etc.

Flexible and interconnected short term electricity markets are a key element to support Energy Transitions in Europe. They facilitate the efficient integration of large shares of renewable energy sources, while simultaneously supporting the completion of the single European market for electricity.

EXCESSIVE PUBLIC INTERVENTIONS – A BURDEN FOR EUROPEAN HOUSEHOLDS, INDUSTRIES AND WHOLESALE MARKETS

Two recent reports by the European Commission and Euroelectric point out that electricity prices increasingly burden households and industries, potentially deteriorating Europe’s competitiveness. The reports also observe that public charges make up the largest part of consumer bills and drive the increase of electricity prices.

Fifteen years after the liberalization of the European electricity market, we witness a paradoxical situation: in most European countries, electricity prices remain regulated.

And even in the few countries with deregulated prices, public charges asphyxiate the market-based wholesale price, which represents less than a quarter of consumer prices. For over ten years now, the spread between wholesale and retail price has been increasing.

As a consequence, electricity bills keep increasing despite declining wholesale prices. The real price of electricity is obscured, disempowering European consumers. Again, inefficient regulatory interventions on national level undermine the achievements of competitive, interconnected European wholesale markets.

NATIONAL CAPACITY REMUNERATION MECHANISMS – A PATCHWORK PUTTING AT RISK THE INTERNAL ENERGY MARKET?

In the face of diverse challenges such as increasing peak demand or intermittency, Member States must continue to ensure security of supply as well as adequacy of generation capacity at all times.

Meanwhile, unfavorable market conditions are said to push existing generation plants at the edge of profitability and impede investments in new generation capacities. Indeed, declining demand in the aftermath of the economic crisis, high gas prices, low coal and emissions indexations

as well as increasing renewable feed-in tend to push conventional generation plants out of the market.

For a long time, no harmonized methodology existed to assess these challenges on a European scale. Thus, EU Member States as well as Switzerland addressed them from a purely national based angle.

Even at present, a European-wide one-size-fits-all approach is unlikely to be found. Instead, several Member States are currently implementing so-called capacity remuneration mechanisms, which provide payments according to installed capacity rather than to generated electricity. Implementing a heterogeneous patchwork of national capacity remuneration mechanisms however risks resulting in a flawed market design.

To avoid possibly negative outcomes, the challenge to be met is to design compatible national capacity remuneration mechanisms which support the achievements of the Internal Energy Market.

DEBATE ON PRICE ZONES – AT THE CROSSROADS BETWEEN GRID TOPOLOGY AND WHOLESALE MARKET LIQUIDITY

As a consequence of the rapid expansion of renewable generation, some Transmission System Operators (TSOs) affirm facing increasing challenges primarily related to unpredictable physical flows on the grid (so-called loop flows). Occasionally, these loop flows seem to generate critical grid situations, also in neighboring countries. TSOs consequently resort to palliative actions to relieve the grid.

Subsequently, discussions on a potential re-definition of European bidding zones emerged. To address this complex issue on a European level, a pilot review process of bidding zones has been launched in 2012 as part of the early implementation of the Guideline on Capacity Allocation and Congestion Management.

Electricity grids and markets depend on each other's well-functioning. And while it is true that the price signal of electricity markets must reflect the physical reality of the grid to the best extent possible, it is also true that the market cannot resolve all physical issues.

At this stage, it is important to avoid misguided interventions in the configuration of bidding zones which might have far-reaching consequences for well-functioning European electricity markets, such as decreasing levels of market liquidity and competition, concentration of market power, increasing regulatory risks regarding long term contracts as well as deteriorated investment conditions.

The challenge lies in correctly assessing the trade-off between an accurate representation of grid constraints for efficient congestion management, and the preservation of liquid and well-functioning wholesale markets for the benefit of a competitive Internal Energy Market.

“COOPETITION” – THE DIFFICULTY TO RECONCILE COMPETITION AND COOPERATION IN THE CONTEXT OF EUROPEAN INTEGRATION

Power Exchanges are neutral entities, providing a service to the market. Their first and main purpose is the calculation and publication of a fair and reliable price, offering orientation for the rest of the market.

On the one hand, Power Exchanges are expected to compete in order to provide the best service in the most cost-efficient manner and, most importantly, in order to constantly innovate. In terms of competition, a single Power Exchange for the whole of Europe is therefore neither realistic nor desirable, while 28 national Power Exchanges are not efficient in the long run.

On the other hand, Power Exchanges and Transmission System Operators (TSOs) are required to closely collaborate within the framework of Market Coupling. It necessitates heavy conceptual and operational cooperation in order to favor system harmonization and simplification. This approach entails reduced competition between Power Exchanges, due to the tight integration of *monopolistic functions* such as capacity calculation and allocation by TSOs, and *competitive functions* such as order matching and price calculation by Power Exchanges.

To summarize, it takes the cooperation of a handful of regional Power Exchanges to hedge the risk and share the responsibility of Market Coupling. At the same time, Power Exchanges need to be independent, competitive and flexible in order to provide the market with innovative and cost-efficient solutions.

Thus, the challenge lies in the judicious consolidation of Power Exchanges in Europe, and in the development of a reliable framework which clearly unbundles regulatory and competitive functions, while at the same time promoting cooperation between Power Exchanges on a level playing field.

II. TEN CONSIDERATIONS FOR AN EFFICIENT ENERGY POLICY

The election of the European Parliament, as well as the appointment of the Juncker Commission and European Council President Donald Tusk, set the tone of European policy-making for the coming years.

In the field of energy policy, a new political impulse is needed to revive ongoing transformation processes. As exposed previously, current lack of coordination on topics including governance, national support schemes, generation adequacy, bidding zones or price regulation reduces the efficiency of interconnected wholesale markets and puts at risk today's most concrete implementation of the Internal Energy Market (IEM). And a well-functioning IEM is the first prerequisite of any Energy Union: more as a simple dimension, the IEM is a fundamental pillar of the still to be conceived Energy Union.

Europe's decision makers will have to strive for further cooperation in order to define a reliable European and market-based energy policy. In the present chapter, EPEX SPOT outlines several considerations and invites European decision makers to take them into account while fostering an integrated and competitive European electricity market.

As a general principle, EPEX SPOT favors energy policy instruments which pursue one specific objective (rather than several goals at once), which are technology neutral, non-discriminatory, market-based as well as euro-compatible, and which guarantee efficiency, transparency and security.

1. EUROPEAN ENERGY POLICY



We expressly advocate for a market-based and truly European energy policy to enable a secure, competitive and sustainable electricity system

Recommended course of action:

- Stand firm behind a European and market-based approach.
- Provide the market with a flexible framework which enables it to deliver competitive, cost-efficient and robust solutions to current challenges.
- Ensure consistency of European energy policy to avoid to the best extent possible market distortions and regulatory uncertainties.
- Guarantee that policy instruments introduced by Member States provide for market-based and non-discriminatory access to other European countries.

2. EUROPEAN COOPERATION



We underline the importance of an efficient cooperation between Member States, European Institutions and industry stakeholders in order to appropriately address the increasingly pressing challenges in the energy sector. This includes Transmission System Operators, Power Exchanges and Regulatory Authorities, amongst others

Recommended course of action:

- Raise awareness that cooperation between all stakeholders is important to build the European integrated market.
- Enhance cooperation of European stakeholders and Member States in order to avoid undermining European achievements on a national level.
- Support ACER's role in the alignment of decisions of National Regulatory Authorities with regard to market integration design and market oversight.
- Give guidance on tasks repartition to monitor the European energy market in an efficient manner.

3. INTERNAL ENERGY MARKET



We strongly support the **swift completion** of the single European market for electricity, the best instrument to strengthen Europe's security of supply, i.a. with the integration of relevant Third countries, such as Switzerland

Recommended course of action:

- Complete rapidly the pan-European Internal Energy Market. It is the best instrument to enable a secure, competitive and sustainable energy supply.
- Endorse open, liquid and interconnected electricity markets which guarantee a cost-efficient electricity supply and facilitate balancing of supply and consumption.
- Commit to the successful implementation of regional Market Coupling projects, including Switzerland, in order not to lose millions of euros of welfare gains for European consumers.
- Encourage cooperation in order to develop a single Intraday solution for Europe – while acknowledging the complexity and constraints of the project.

4. EUROPEAN TARGET MODELS FOR ELECTRICITY



We endorse a robust European Target Model for Day-Ahead and Intraday **trade across borders**. It should preserve the required flexibility to adapt to markets needs over time

Recommended course of action:

- Support the rapid implementation of the electricity Target Model, as a fundamental step towards an integrated wholesale electricity market.
- Accompany the electricity Target Model by an appropriate governance architecture at European level, applicable on Market Coupling activities, which will be crucial to ensure an efficient day-to-day operation of such complex mechanisms.
- Exercise care in the implementation of the Target Model in order to protect innovation and the flexibility to adapt to customer's needs.
- Shape regulation which removes any barriers hampering market operators in their ability to develop, maintain and enhance services which best suit the markets complex specificities.
- From this point of view, limit regulatory action in the sense of as much as necessary, as little as possible.

5. REGULATORY OVERSIGHT



We stress the importance of a reliable regulatory oversight for Power Exchanges at European level, respecting the principles of **cooperation and competition**

Recommended course of action:

- Strive for a clear regulatory oversight which reconciles competitive and innovative forces of independent Power Exchanges with a collaborative approach required for the integration of Europe's power markets.
- Guarantee that this oversight ensures a clear unbundling between regulated and competitive market functions.
- Recognize that Power Exchanges should continue to be free to compete on a level playing field as an essential element to be put alongside with appropriate regulatory supervision.
- Endorse competition between Power Exchanges, as it already exists in some markets, seeing that this prevents unnecessary monopolistic behaviors, drives innovation and naturally incentivizes cost-efficient and market-oriented business conducts, at the benefit of Europe's competitiveness.

6. FLEXIBILITY AND SECURITY OF SUPPLY

24/7

We underline the importance of ensuring security of supply **via market mechanisms**, including flexibility instruments. In this context, we point out that renewable energy promotion schemes should guarantee a non-distortive integration into European wholesale markets

Recommended course of action:

- Support flexible and properly designed spot markets, which contribute to security of supply. EPEX SPOT's intraday markets illustrate this fact on a daily basis.
- Strengthen the coupled Day-Ahead and Intraday markets. So far, they have proven to constitute a reliable instrument to support the integration of renewable energy sources into European wholesale markets.
- Endorse the development of flexibility on wholesale markets. EPEX SPOT for instance continues to further integrate its cross-border Intraday markets and to develop innovative flexibility products and services.
- Make renewable promotion schemes consistent with the Commission's guidelines. This includes an increased market participation of renewable energies and incentives for efficient production decisions.
- Further develop direct marketing schemes to achieve this objective.
- Examine a competitive determination of funding for renewable energies, such as in the form of call for tenders.

7. ENERGY PRICE FORMATION



We insist on invigorating the role of wholesale markets for the sake of European competitiveness. Transparent and competitive electricity prices have to be restored by limiting interventions such as price regulation or disproportionate public charges.

Recommended course of action:

- Take under consideration that expecting cheap energy is wishful thinking in times of a profound transformation of the electricity system. However, fair electricity prices can only be reached by a large and transparent confrontation of offer and demand.
- Therefore, support the role of Power Exchanges, such as EPEX SPOT. We provide non-discriminatory access to liquid and secured markets. We promote a free and European-wide encounter of electricity supply and consumption. And we broadcast a representative reference price.
- Develop Demand Side Management solutions, as both producers and consumers should react on prices. Amongst others, the achievement of a well-functioning market depends on the successful integration of the demand side into the price formation mechanism.
- Let electricity prices be determined by the European market, not by national regulation.
- Hence strengthen the Energy Only Market in order to re-establish the role of wholesale prices and to guarantee efficient electricity prices for a competitive Europe.
- Display strong political will to take into account the real price of electricity. This demands a continued effort to establish open and competitive markets, to implement the Internal Energy Market – with the integration of relevant Third countries – and to limit public intervention to what's really necessary.

8. CAPACITY REMUNERATION MECHANISMS



We advise to tap the full potential of Energy Only Markets. In Member States with mature markets, this is the preferred solution. In Member States where this proves inapplicable or insufficient, capacity mechanisms shall comply with the goals of the Internal Energy Market

Recommended course of action:

- Each European Union Member State has to consider carefully whether capacity remuneration mechanisms are needed or not.
- We first and foremost recommend to tap the full potential of Energy Only Markets, in order to swiftly finalize the Internal Energy Market.
- In Member States with mature energy markets, this is the preferred solution to address the flexibility challenge and ensure security of supply.
- Market-based reference price signals shall be the basis of decision making for market participants.
- In Member States where this proves inapplicable or insufficient to counter acute challenges to the security of supply, complementary capacity mechanisms shall support the completion of the Energy Only Market.
- We strongly advocate that such capacity mechanisms shall comply with the overall goal of an integrated European Internal Market for electricity, i.e. be market-based, non-discriminatory and coordinated across borders.

9. LIQUIDITY OF BIDDING ZONES



We urge to safeguard the Internal Energy Market by protecting liquid and **well-functioning price zones**. No-regret measures should be prioritized to resolve congestion issues

Recommended course of action:

- Favor well-functioning wholesale markets in order to provide reliable price signals. Bidding zones should thus carefully balance the trade-off between market liquidity and grid constraints.
- Strengthen the Internal Energy Market by means of further market integration mechanisms, rather than fragmentation of price zones.
- Acknowledge complex physical challenges such as grid congestion and loop flows, and prioritize proven and robust measures: development of redispatch & counter-trading, improved cooperation between European TSOs, implementation of Flow-Based capacity calculation, adjustments of renewable dispatch and grid expansion.
- Consider bidding zone split-up only as last resort measure. Its efficiency to alleviate physical congestions and loop flows has not been conclusively confirmed, while concrete examples in Europe illustrate that its far-reaching consequences risk to hamper well-functioning wholesale markets.
- While recognizing that the gap between the physical and commercial layers of the market should be narrowed, take into account that this should not occur at the expense of market liquidity and competition.

10. MARKET TRANSPARENCY & INTEGRITY



We advise to actively promote market transparency and integrity by effectively implementing **REMIT** and continuing the fight against value-added tax fraud in a close cooperation between Power Exchanges and regulators

Recommended course of action:

- Support the transparency of price formation and market information to create confidence in the market. EPEX SPOT's Market Surveillance Office for example is an independent exchange body which continuously monitors the markets and acts as a central point of contact with all the regulatory authorities.
- Acknowledge integrity as a key element to achieve a coherent price based model and to offer a fair and orderly European market, including Switzerland.
- Endorse REMIT, as it provides Market Participants with rules to follow on European Energy markets. REMIT defines a clear role for entities professionally arranging transactions regarding the detection of insider trading and market manipulation on the market they are responsible for.
- Raise awareness of the fact that VAT fraud currently is a major risk for the European energy market and puts at stake the integrity, competition and reputation of the market. It leads to price distortion as big transactions are performed with no economic justification and can be considered as market manipulation.
- Promote the coherence between market design and market integrity. Changing regulation at EU or national level should not create market misuse and should be analyzed thoroughly.

III. EPEX SPOT – THE EUROPEAN POWER EXCHANGE

A. OUR ROOTS

THE INHERITANCE OF MARKET LIBERALIZATION

Electricity is an essential good in our society. Not only it supports us with light and warmth; it also is the basic element of our industrial value chain.

End of last century, the first liberalization directives laid the foundation for a truly European energy policy. Several decisive treaties, packages and roadmaps followed in the subsequent two decades, reasserting the political will to integrate Europe's energy markets. Through energy market liberalization, we moved from centralized monopoly situations to decentralized competitive decision-making.

While not explicitly mentioned in any of the European policy documents, it was during this time that Power Exchanges emerged. As one of the most positive and visible outcome of the liberalization, these new entities fulfill the natural need to trade electricity on organized markets.

THIRD PILLAR OF THE ELECTRICITY VALUE CHAIN

Electricity can be traded from several years in advance until shortly before it is actually generated and consumed. Especially short term (or spot) markets are a cornerstone of the power system, since electricity generation and consumption needs to be physically balanced every second of the day.

Power Exchanges organize such spot markets. Gradually, they have come to play a pivotal role in the energy landscape. Today, they are the third pillar of the electricity value chain, besides generation and transmission.

LOCAL ROOTS AND EUROPEAN REACH

EPEX SPOT was created in 2008 through the merger of the power spot activities of the German and French energy exchanges.

The Paris-based exchange organizes physical power spot markets at the heart of Europe, including Germany, France, Austria and Switzerland. Through its offices in Bern, Leipzig and Vienna, EPEX SPOT secures a strong local presence in each of its core markets.

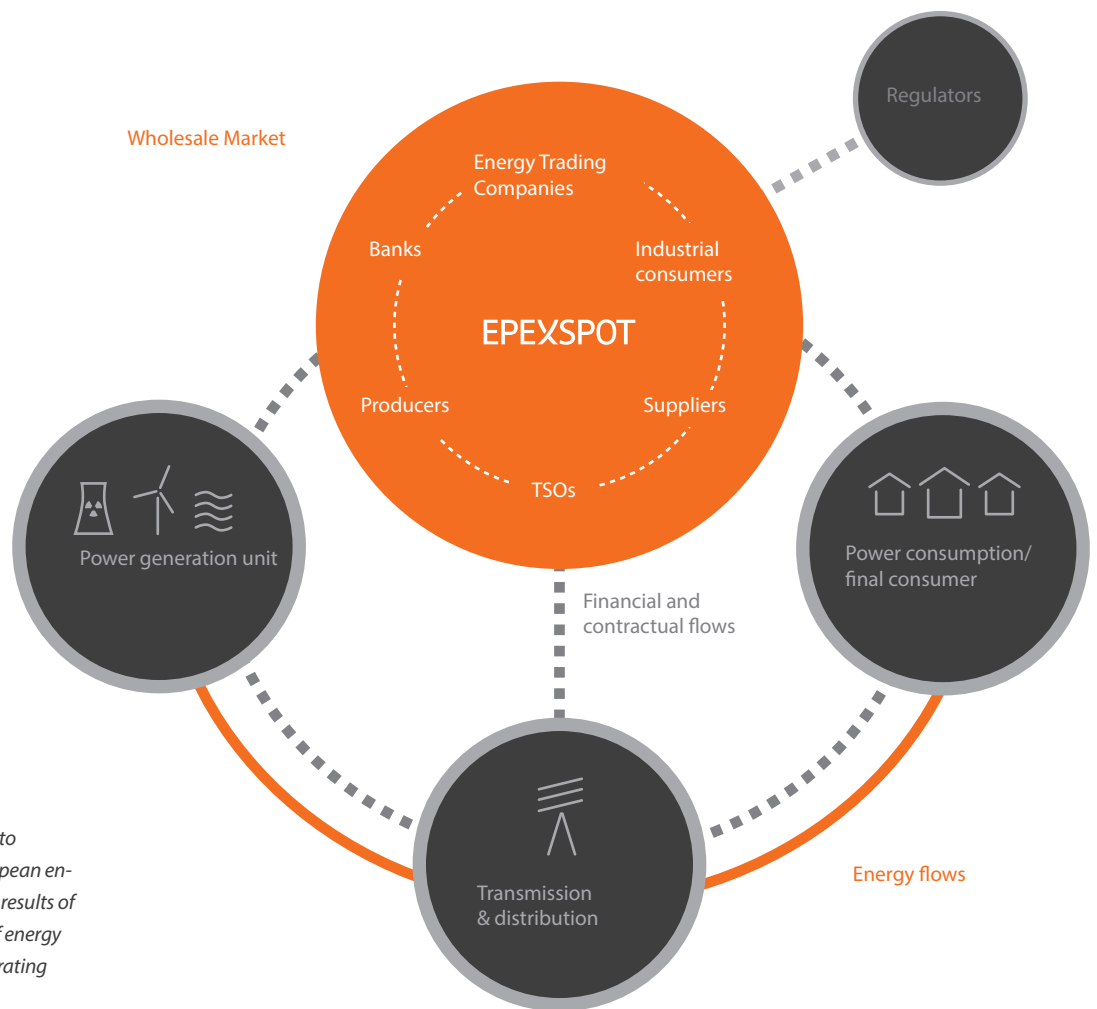
B. OUR MISSION

ORGANIZING WHOLESALE ELECTRICITY MARKETS

The main economic function of the European Power Exchange is to organize the confrontation of supply and demand in a non-discriminatory, anonymous, transparent and secured manner on the European wholesale market.

Every day, EPEX SPOT organizes a broad and free debate to transparently determine power prices. Energy professionals such as generators, Transmission System Operators (TSOs), suppliers, traders and industrials securely trade standardized products on our markets, one day before delivery (Day-Ahead auction) or within the day of delivery (continuous Intraday market).

The development and adaptation of our products, as well as the support of our members in an ever evolving environment are an integral part of our everyday business.



European-wide security of supply, competition and harmonized prices have been the goals the European Union wants to achieve through liberalizing the European energy markets. One of the most visible results of this liberalization is the emergence of energy trading and of Power Exchanges operating electricity markets.

BROADCASTING REFERENCE PRICES FOR EUROPE

Before the creation of power exchanges there was no transparent price for electricity on the wholesale market. The emergence of prices is hence the foremost achievement. By promoting a transnational and transparent debate on power prices, EPEX SPOT contributes to the emergence of a reference price signal for the European market, including Switzerland. In so doing, it creates a level playing field for all market participants and facilitates access to energy professionals that would otherwise not be able to trade.

Every day, EPEX SPOT broadcasts short term power spot prices which are indispensable for the efficient functioning of the market. Production and consumption of electricity, as well as investment decisions in new generation facilities, are guided by these reference prices.

EPEX SPOT's price signal allows for an economically optimal utilization of power plants across Europe. According to the so-called "Merit Order", solely generation plants with the most competitive marginal costs cover the demand of European consumers.

In addition, EPEX SPOT's short term markets facilitate TSOs safe and secure operation of the electricity grid. By efficiently using available grid infrastructures, the power exchange contributes to security supply.

SERVICING OTHER POWER EXCHANGES

EPEX SPOT is a company with customer service at its core. Servicing other Power Exchanges therefore is part of EPEX SPOT's business model – as is the case of the Hungarian Power Exchange HUPX. In addition, EPEX SPOT has been chosen as the provider for price coupling services between the Czech Republic, Hungary, Slovakia and Romania.

The markets of EPEX SPOT cover four countries: Germany, France, Austria and Switzerland. Moreover, EPEX SPOT provides market operation services to the Hungarian Power Exchange HUPX and provides coupling services to the Slovakian Power Exchange OKTE, the Romanian Power Exchange OPCOM and HUPX.

EPEX SPOT MARKETS

- Germany
- France
- Austria
- Switzerland

SERVICING OTHERS EXCHANGES

- Market Operation for Hungarian Power Exchange HUPX
- Market Coupling for Slovakian OKTE, Romanian OPCOM and HUPX



C. OUR VISION

PROGRESSING TOWARDS THE ENERGY UNION

EPEX SPOT and its markets are located at the heart of Europe. This is why we are naturally driving forward the market-based integration of the European power market.

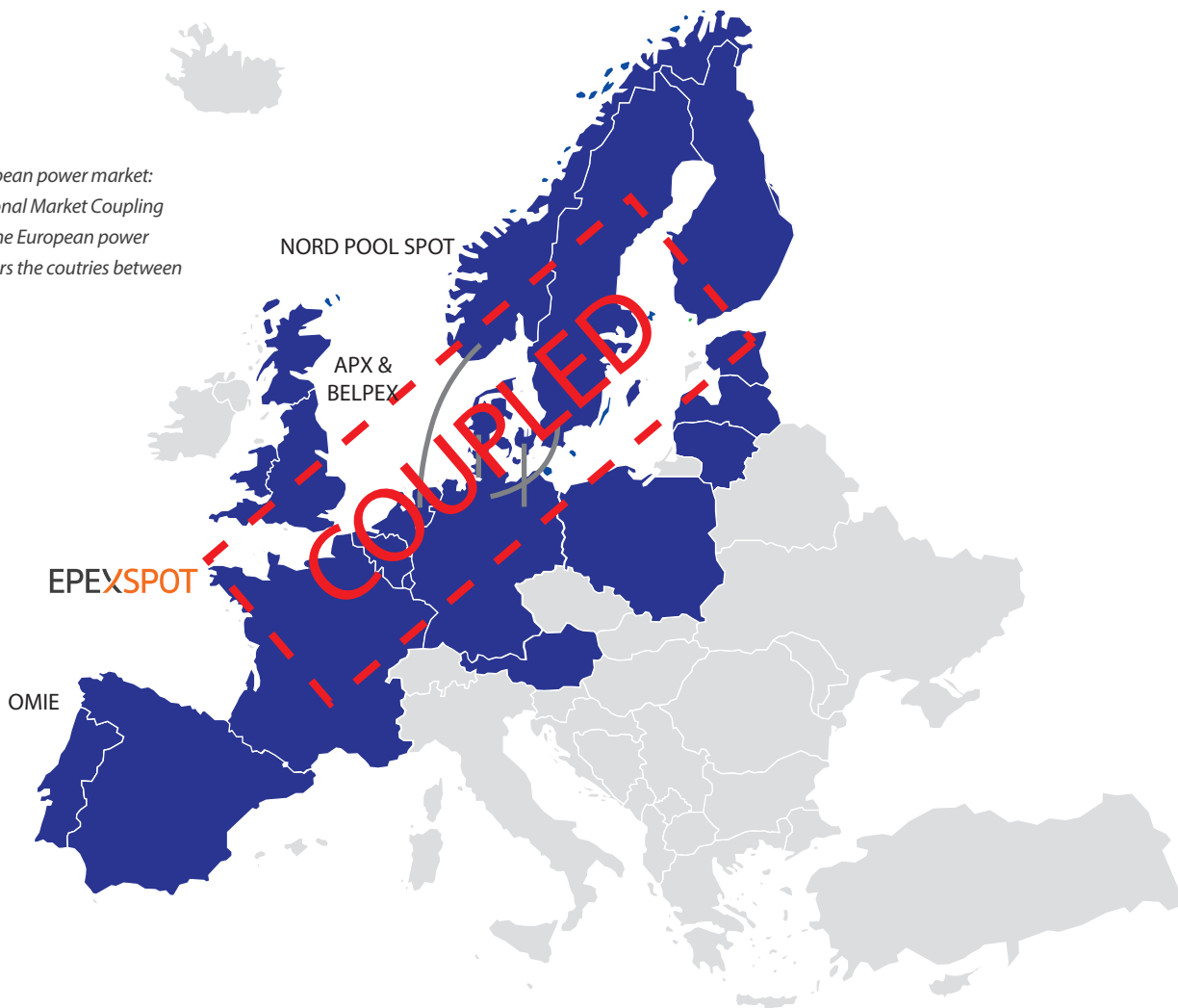
A long time ago, national markets have ceased being “electrical islands”. In fact, they are the central cornerstones of an increasingly integrated European power market. Today, energy independence has been replaced by energy interdependence.

Indeed, European power markets are increasingly interconnected – both on a physical level via transnational grids as well as on an economical level via coupled electricity markets.

Market Coupling is a flagship for this European integration process, and a major step towards the Energy Union. By optimizing the use of cross-border transmission capacities in a market-based and non-discriminatory manner, Market Coupling highly improves competitiveness and social welfare. While being a somewhat silent revolution, the coupling of Europe’s Day-Ahead markets benefits millions of European citizens. And EPEX SPOT is involved in virtually all Market Coupling projects, considering the 19 interconnectors at its markets borders.

Started as a private initiative of Power Exchanges in close cooperation with TSOs, Market Coupling allows to fully exploit the existing grid infrastructure while making sure electricity generally flows in the most economically sound direction.

Towards the pan-European power market: the current Multi-Regional Market Coupling encompasses 75% of the European power consumption and covers the countries between Portugal and Finland.



In 2006, long before the Third Energy Package entered into force, Power Exchanges already coupled the French, Belgian and Dutch markets. Market Coupling has been extended to Central Western Europe in 2010 (CWE), including Germany and Austria.

Since February 2014, 15 countries are part of the North-West European Price Coupling (NWE), based on the Price Coupling of Regions (PCR) solution. And in May 2014, this territory has once again been extended to the Iberian Peninsula, including Spain and Portugal (SWE). Today, electricity is bought and sold from the Algarve to the North Cape, covering 75% of the continent's power consumption.

Meanwhile, other regional market coupling projects are ongoing, such as the Italian Borders Working Table (IBWT) and Central Eastern Europe (CEE). They aim at connecting countries around Italy and in Eastern Europe, respectively.

EPEX SPOT and Swissgrid have also prepared the Market Coupling of Switzerland with its neighboring countries. Switzerland is already widely integrated into the IEM: via its geographical position as more than 10% of the EU's elec-

tricity consumption run through it; via the explicit auctions on the Swiss Day Ahead Market; via the Intraday Market enabling cross-border trading with neighboring countries. This altogether substantiates the role of Switzerland as a European core market. For the time being, the cost of non-coupling the Swiss borders go beyond 100 million euros per year, according to the latest ACER market monitoring report. This last step in integrating Switzerland remains to be taken. Technically, we would be ready.

FLEXIBLE INTRADAY MARKETS AS KEY TO ENERGY SECURITY AND COMPETITIVENESS

With the fast development of variable generation sources, Europe's electricity markets display an increased need for flexibility. As a response, EPEX SPOT introduced an innovative market design for continuous Intraday markets in 2010, fully exploiting the potential of implicit capacity allocation while remaining open to explicit solutions. This so-called FITS, or Flexible Intraday Trading Scheme, is one-of-a-kind in Europe.

It offers great flexibility to market participants and allows them to trade around the clock until up to 45 minutes before delivery in Germany, France, Austria and Switzerland (depending on the markets, cross-border trades are possible up to 60 or 75 minutes before delivery). In this way, market participants can reduce their balancing needs by reacting close to real time to various hazards, such as an unplanned failure of a generation unit, a forecast error or ramping constraints.

This success story is reflected in the dynamic evolution of trading volumes on the intraday markets, which increased tenfold to over 20TWh in the last five years.

Moreover, in 2011 EPEX SPOT introduced as first European exchange a so-called 15-minute-product on the German Intraday market, which was quickly followed by the Swiss market in 2013.

The 15-minute-product is a valuable tool for balance responsible parties, as it allows handling generation ramps (e.g. for photovoltaic sources) or forecast deviations with a highly increased accuracy. It largely facilitates the market integration of renewable energy sources.

In addition to continuous trading of 15-minute products, EPEX SPOT has introduced a 15-minute Call Auction for the German Intraday market in December 2014. Every day at 3pm, all 96 quarter hours of the following day can be traded in a dedicated auction. This provides balancing responsible parties enhanced possibilities to fine tune generation ramps, customer portfolios and compensation of forecast deviations.

Beyond its domestic markets in Germany, France, Austria and Switzerland, EPEX SPOT is committed to the development of a single Intraday solution for Europe – in collaboration with other exchanges, system vendors, TSOs and regulators.

TOWARDS EXCELLENT CUSTOMER SERVICE AND HIGH RELIABILITY

A growing, innovative and flexible European spot market necessitates excellent customer service and highly reliable trading systems. Our members make the market, our systems support them by striving for high reliability.

EPEX SPOT's business is customer driven, and we are dedicated to meet our market participants' needs. In 2014, over 220 members from all over Europe traded more than 380 terawatt hours (TWh) on EPEX SPOT's Day-Ahead and Intraday markets.

We steadily improve existing products and services to our customers. Moreover, we have the ambition to innovate and expand to new markets.

EPEX SPOT strives to maintain a high level of reliability and safety despite facing significant complexity, strong criticality of processes and exigent operational timing constraints.

This requires our company to constantly improve communication, develop straight-through processing, enhance the internal organization, industrialize routines, reinforce IT infrastructure and elaborate sophisticated risk management instruments.

Providing excellent services as well as a high level of reliability to our customers and European consumers are the keys to our success.

EPEXSPOT

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