EFET REPORT 2019
ANNIVERSARY EDITION

EFET European Federation of Energy Traders
SO YOU CAN RELY ON THE MARKET

20th
ANNIVERSARY
Celebrating the past
and debating the future

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of Energy Traders

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EFET mission

We promote competition, transparency and open access in the European energy sector.

We build trust in power and gas markets across Europe, so that they may underpin a sustainable and secure energy supply and enable the transition to a carbon neutral economy.

We do this by:

- Working to improve the functionality and design of European gas, electricity and associated markets for the benefit of the overall economy, society and especially end consumers.
- Developing and maintaining standard wholesale supply contracts and standardising related transaction and business processes.
- Facilitating debate amongst TSOs, regulators, policy makers, traders and others in the value chain about the future of the European energy market.

A message from the Secretary General

The year 2019 marks the twentieth anniversary of EFET.

The energy sector in Europe today looks very different from how it used to look two decades ago. Back in 1999, when EFET was founded, power and gas markets in Europe hardly existed. Participants were unclear about what the phrase 'wholesale power and gas markets' meant. There was an air of mystery surrounding the unfamiliar concept of power and gas trading. Indeed, trading was practically unknown in most countries, with the exception of the UK and Scandinavia, where networks had been opened to third party access a few years before.

We are proud of what we have achieved over twenty years. Since our establishment, EFET has been playing a prominent role in facilitating the development of open, competitive, liquid and transparent electricity and gas markets, actively contributing to the development of the EU energy market design.

Today, we celebrate our success in improving the functionality and design of European gas, electricity and associated markets for the benefit of the overall EU economy, society and especially consumers.

I would like personally to thank all our member companies for being the drivers behind our work over the last two decades, as well as the members of the EFET secretariat for their commitment to delivering the EFET Mission.

Jan van Aken
Secretary General

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Foreword

Looking back at 20 years of forward thinking

It is more than 20 years since the liberalization of the European energy sector was launched. It is also about twenty years since the concept of a "market" started to be not only imagined in the context of the supply of power and gas in Europe, but also realised. It is strange to recall that until the late 1990s the production or importation and distribution (bundled with supply) of electricity and gas were in most countries the subject of state owned or private monopolies.

In response to the massive industry changes brought about by the liberalization a small group of energy traders in early adopting companies founded EFET, the European Federation of Energy Traders. EFET immediately jumped into heated debates in Brussels and several EU Member State capitals about how to handle the unbundling of transmission operators, terms of grid access, the incidence of tariffs and the introduction of transparency.

By the year 2000 EFET was established as a key participant in the Florence and Madrid Forums and had a seat at the table in Germany for the negotiation of Verbaendevereinbarungen. The EFET standard Master Agreement for wholesale transactions in electricity was already widely used. Consultations by the European Commission prior to the introduction of the second package of Internal Energy Market legislation in 2003 saw the EFET vision for fully open, non-discriminatory and transparent markets in power and gas spanning national boundaries gain traction. The emerging second Electricity Directive, second Gas Directive and first ever EU Regulation governing cross border transactions in electricity between them witnessed the fulfilment to a large extent over the next four years of that EFET vision.

EFET became known as an enabler of energy markets. We were always the first to advocate the need for integration and harmonisation, the merit of transparency, the virtues of liquidity and competition and the consistency of a market-based approach with the imperative of sustainability.

Today, EFET has grown from an initial twelve member companies to over 100. We offer their participating management and staff a comprehensive information sharing platform, as well as a springboard to influence market design and energy policy. The work of our secretariat, alongside member company experts, allows all member companies to benefit from profound insights into the likely evolution of power, gas, emissions and related markets in Europe, which none on its own could achieve.

Ideas and opinions are constantly being exchanged, discussed and aligned between our members and other representatives of different types of market participants. In turn a synthesis of view is normally shared with bodies representing other parts of the industry and representing customers, with external experts and with policymaker, legislators and regulators.

Meantime EFET continues to provide important practical services to our member companies and the wholesale energy market as a whole, by supporting the development of a suite of standard contracts and underpinning software standards for the electronic exchange of back office

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transaction data between counterparties. A predominant proportion of today's physical bilateral transactions in wholesale power, gas, emissions and renewable energy certificates all over Europe is based on the EFET Master Agreement. This year sees the finalisation of a standard for corporate Power Purchase Agreements, a real breakthrough to help integration of renewable sources of generation in the overall electricity market.

What lies ahead of us?

Today, after 20 years of successful work, there is a number of great challenges and opportunities lying ahead of EFET, brought about by human induced changes in the climate, in European society, national politics and technological development. These changes have given rise to the strong policy vector towards decarbonisation of the EU economy, coupled with new possibilities for the industry allowing to harness decentralisation and digitalization trends – these themes will figure large in our 20th anniversary conference. Those trends are already foreshadowed in the EU Clean Energy for All package (CEP) of legislation adopted in the spring of 2019. They will reappear in debates about a set of potential new measures in the coming few years to start decarbonisation of the natural gas system and possibly progress to a coupling of the gas and power sectors, as also seized by the CEP. In this context EFET stands ready to redefine future parameters of energy trading and to help adapt the market design, ever confident that wholesale European markets in energy commodities and related products and instruments are here to stay.

Within our own EFET organization we initiated a "fit-for-future" review last year. It has resulted in decisions to amend some internal structures, embrace a few new products, and start a couple of new groups, while winding down other activities. We are also embarking on a generational transition process in the secretariat, as our longest serving senior managers approach retirement.

In this anniversary publication we take you on a journey through exciting episodes in the twenty years of history of liberalization of the European energy sector thus far, we highlight the evolution of markets and we explain how energy trading developed. Then we give you a glimpse of how EFET believes trends such as decentralisation, decarbonisation and digitalisation will impact on the operation of European wholesale markets in power, gas and emissions. We share with you some findings from a series of roundtables, which we ran across the winter 2018 - 19. We explain our confidence that well-functioning energy markets can continue to bring visibility to price drivers and expose price discrepancies. We make it clear how necessary are competition and liquidity to bring about decarbonisation and harness new technologies in the most cost-efficient manner for European society. Above all, we promise you that the European Federation of Energy Traders will be an enabler of intermediation in the energy value chain for the next twenty years too. In short, EFET will still be here ... "so you can rely on the market"!

Regina Mandic
Chair of the EFET Board

EFET Vision for a Future European Energy Market Design

Fighting climate change in an era of energy sector transformation

The energy sector is undergoing a profound transformation, with the transition towards a low-carbon economy both at European and at global level affecting energy producers, suppliers, consumers and traders alike. Europe's energy transition is characterised by three major trends, or the three Ds: decarbonisation, digitalisation and decentralisation.

While we recognise that decarbonisation of the European economy is indeed a key objective and a main driver for the transformation of the power and gas sectors, we see digitalisation and decentralisation in a slightly different light. They are not an end in themselves. Rather, they constitute important means for achieving the decarbonisation targets, to which the EU has committed, in line with the Paris Agreement. They are also facilitators of greater efficiency, new market entry, increased end user participation, enhanced security of supply and low carbon growth of the European economy.

The increasing penetration of mature renewable electricity generation sources, as well as the development of new renewable energy and storage solutions, offer stepping stones for achieving an ever more decarbonised European economy. In combination with digital innovation and decentralised assets, the continuing imperative of decarbonisation will bring new opportunities for active participation of consumers in Europe's energy markets and may entail a new role for the European natural gas system.

Yet, the changing nature of the energy supply chain, in parallel with an emerging goal of complete carbon neutrality across Europe, open a number of questions on the future of the energy sector, for example:

- Which technologies can help the EU reach its decarbonisation objectives? How can we make sure the most efficient technologies are deployed in the most cost-effective locations, irrespective of Member State borders?
- How do we ensure that the transformation of the power and gas sectors leads to an overall economic, environmental, and operational optimisation of the European energy system?

- How can we succeed in enabling the participation of consumers and communities in the energy transition, while strengthening the overall resilience and security of supply of the energy system?
- In the course of all the changes, how can the benefits of competition and liquidity in the European single markets in power and gas, especially at the wholesale level, be preserved? Can the EU ETS also be safeguarded and enhanced?

We, in EFET, believe that Europe has the means to respond to the first three of these challenges, partly thanks to the evolution in the last twenty years of open, competitive, transparent and liquid power and gas markets and the creation of the world's most important market in carbon abatement instruments.

Decarbonisation of electricity production, digitalisation and decentralisation

The growing share of renewable energy sources in Europe's power generation mix will lead to more frequent periods dominated by close to zero bids from generators with very low marginal costs of production. The intermittency of output from wind turbines and solar panels may potentially give rise to more frequent and higher price peaks. However, peak prices, so far, tend to be suppressed by excess generation capacity in most countries. Complementary to the ever-great volumes of wind and solar power output can be mechanisms and technologies such as demand-side response (DSR), electricity storage and cross-sectorial flexibility provided by power to gas (PtG) or power to X (PtX) installations (see also the section on sector coupling below). In any event, EFET will continue to make it clear that Europe needs reliable, undistorted price signals in the wholesale power market, if current owners and new investors are to have the confidence to run and maintain non-intermittent assets. The same imperative applies to any more widespread, commercially viable roll-out of demand response.

Integrated, competitive, liquid and transparent wholesale power markets at European level, furthermore, allow for the optimisation of supply and demand and the enhancement of security of supply. Crucially, these markets and the participants in them are guarantors of overall system efficiency by means of:

- Ensuring there is a price signal for dealing with the costs of intermittent generation and any ensuing grid congestion, including at the distribution level;
- Providing locational dispatch and investment signals;
- Underpinning a level-playing field for new technology developers, so that cross-subsidisation or subsidy pancaking for particular technologies may be avoided;
- Facilitating optimisation of grid infrastructure at transmission and distribution level and potential future integration of power and gas networks.

EFET is confident that the wholesale power market will thus continue to play a vital role in matching supply and demand in the most efficient way, in the process enabling strong price signals and assisting local, regional and European security of supply.

At the same time, with the rise of distributed generation, community swap arrangements and decentralised storage, well-designed, efficient and fully integrated European wholesale energy markets could be combined with new models for local flexibility. Strong links between the wholesale power market and possible local energy swap or ancillary service platforms might help better reflect the cost of energy at wholesale level and congestion costs in the consumer bill. This may in turn help trigger greater consumer participation in energy markets (e.g. through consumption reduction, storage and auto-generation) and sharpen the consumer response to price signals.

Such links between the wholesale market and local energy platforms can allow the benefits from liberalisation, which we observe at the generation and wholesale levels, to trickle down to end-users and to foster consumer empowerment.

Energy traders at the forefront of digital innovation

Back office process standardisation, as well as standardisation of IT used in such processes, makes the electronic exchange of transaction and related data feasible. It has become possible for protocols and computer language to be developed, which facilitates the sharing of transaction data between counterparties. The same standards have been applied to help in the submission of scheduling data by generators and traders to electricity and gas TSOs and in the submission of transaction details by traders and exchanges to regulators. This type of standardisation has constituted an important precondition for the advent of real market liquidity and ease of market entry. As such it has accelerated liberalisation of the power and gas sectors and aided integration and better functioning of national energy markets in Europe.

Digital innovation has featured prominently on energy traders' agenda over the last two decades. EFET has been successful in unlocking the benefits of IT standardisation by way of creating back office standards for the electronic exchange of over-the-counter (OTC) transaction data, as well as standard master OTC contracts. The IT and electronic data exchange standards introduced by EFET have allowed automated handling of transaction data in the back office. This in turn has brought capital and operational savings for market participants, thereby supporting market liquidity and competition.

With the new challenges brought about by the energy transition, market participants will continue supporting secure flows of data across countries in Europe and promote interoperability on the basis of open source standards. A clear distinction will need to be made between fundamental data transparency mandated by law, which shall be accessible to all actors in the market, and other information, which may be subject to commercial offerings. In any case, the operation of data platforms will need to remain in the contestable domain of the energy sector, and data ownership and protection rules, correspondingly, will need to be upheld.

The EU ETS at the core of further decarbonisation of the European economy

At the EU level, strengthening the EU emissions trading system (ETS) constitutes the most effective solution to incentivise carbon abatement in the energy system. A well-functioning ETS was designed to be a cornerstone of the EU energy and climate policy, as it has the capacity to provide a robust EU-wide price signal for investing in low-carbon technology and to ensure cost-efficient decarbonisation of the EU economy. Indeed, unlike 'command and control' regulation, trading harnesses market forces to deliver the cheapest ways of reducing emissions. The EU ETS is the world's biggest emissions trading market, accounting for over three-quarters of international carbon trading.

In February 2018 the EU Council officially approved the reform of the EU ETS for the trading period 2021-2030 (Phase 4), paving the way for gradual reduction of surplus allowances from the market through a Market Stability Reserve (MSR). The MSR becomes operational this year, removing 24% of market surplus each year until 2023. Initial observations suggest that the reform is contributing to the tightening of the market, as expected. So, even though a prolonged oversupply of EU allowances over recent years has led to an insignificant role for the ETS in driving new RES investments, the future, with RES-E technology costs dropping, is more promising. EFET approaches supplementary mechanisms, such as a carbon floor price or carbon tax, especially if applied to new sectors at EU level, with an open mind. In appropriate cases they could have the beneficial effect of reducing regulatory uncertainty and the cost of capital for low carbon investments.

However, in the absence of schemes equivalent to the ETS elsewhere in the world, or ideally a global carbon price signal, measures taken within Europe can distort international trade, especially in the products of energy intensive industries. Carbon leakage remains a largely unresolved barrier to the deployment of the most cost-efficient carbon abatement technologies in European heavy industry.

With this in mind, we welcome and support the work carried out at international level on Article 6 of the Paris Agreement, which provides for the use of international carbon markets for achieving the emissions reduction targets set by the Parties. An important prerequisite for ensuring the transparency and environmental integrity of international carbon markets would be the establishment of a framework for robust common accounting rules and offset mechanisms under Article 6, already a topic on the agenda of COP25 in 2019.

A changing role for gas

Europe – both collectively in the EU and as individual countries – has set ambitious climate objectives and the challenge in the coming years will be to meet these targets in the most cost-efficiently manner. Much will depend on technological innovation in areas subject to research and development and we do not yet know where these breakthroughs will appear. In the meantime, there is a strong argument to be made for keeping a wide range of technologies on the table and avoiding to close down possible pathways prematurely. Such a policy should be not only about the energy sector, i.e. transport, heat and industry must all be part of the solution.

Significant sums, historically, have been invested in gas production, infrastructure and appliances; electrification of much of this will likely be costly and complex, especially if desired in a short timeframe. In the meantime, natural gas has an important role as an enabler, not least in supporting the transition from fuels with higher carbon intensity while RES-E expands, and as an alternative in sectors where full electrification is not currently feasible. Nevertheless, decarbonisation of the natural gas sector provides additional routes to pursue climate objectives in a more diversified and secure way.

Production of biogas and biomethane effectively captures waste gases that would otherwise contribute to detrimental emissions and uses natural gas technology to uncover its value. Decarbonisation of methane (biomethane or natural gas) using technologies such as carbon capture and utilisation or storage, separation of carbon in solid form using pyrolysis, and ex post carbon extraction from waste gases in combination with either of these technologies may all prove to be economic ways to help progress towards net-zero carbon.

Using assets already invested in gas transportation and storage also opens up additional possibilities. As the penetration of renewable sources of power generation progresses towards 70% of baseload on average, there are likely to be more hours and more days when electricity producible from wind turbines and solar panels is surplus to demand. Even at lower levels of RES-E penetration, the incidence of congestion in grids can mean that electricity on a national or localised basis is surplus.

Production of hydrogen through electrolysis provides a medium to take surplus renewable generation and convert it into a form that can be used for other purposes, can be transported through existing or new gas infrastructure to other locations, and can be stored in existing gas infrastructure (either directly or by displacement) until times of higher demand, in competition with other forms of electricity storage such as batteries and pumped storage. This will result in new levels of interaction between the gas and power sectors – beyond combined cycle gas turbines and combines heat and power systems in current arrangements, where good market design will be essential to ensure that sector coupling, and sector integration properly promotes the desired outcomes.

Coupling the European power and gas sectors?

Whatever the route to achieving decarbonisation of the heating, cooling and transport sectors in Europe, EFET will insist that the energy market must play a central role in enabling efficient technologies and informing private investment. Given the advent of our European single market in energy, society could not tolerate a state-controlled or just nationally directed outcome. This requires a market framework that recognises the environmental benefit of a wide range of available technologies – not only renewable energy sources

for electricity (RES-E), but also hydrogen, carbon capture, utilisation and storage, renewable gases, capture of fugitive methane emissions, synthetic methane using extracted carbon – and allows them to reveal a price signal on a level playing field. That can help direct investment towards the most efficient and effective techniques, and enable the achievement of climate goals most economically.

Substantial investment has been made across most of Europe in gas transportation and distribution systems and in industrial and commercial gas burning equipment and domestic appliances over many decades. Continued use of this asset base, in combination with a programme of decarbonisation of the overall natural gas sector, could provide an economically efficient contribution to a reduction in carbon emissions, as coal fired and nuclear power generation plants are gradually retired. It is thought the asset base might also in the meantime help solve stresses on the electricity transmission and distribution networks. Actual and contingent congestion arise, in part, from the enforced connection of new wind and solar panel arrays, with either no cost recovery or connection charges levied at less than full cost by grid operators; and, in part, from the expanded volume of intermittent power output from the wind turbines and photovoltaic panels once installed, often with each MWh of output financially supported.

As the penetration of renewable sources of power generation progresses towards 70% of baseload on average, there are likely to be more and more hours and days when wind turbine and solar panel generation are surplus to demand, at least on a national or localised basis, given the incidence of grid congestion. Some bottlenecks at the boundaries of bidding zones can lead, for instance, to RES-E generation as well as coal or gas generation units being constrained off the network by means of re-dispatch. Thus, at such levels of penetration of RES-E it may become economic, subject to incentives or support made available, to divert the output of wind turbines and solar panels into low carbon or green gas production and storage. The economics of such diversion, including grid costs involved, will need to be compared to those of alternative destinations for surplus electricity production, such as battery storage.

We believe a market-based scheme to support the decarbonisation of the European gas system and facilitate sector coupling is feasible. Such a scheme would help avoid distortions to competition and preserve the integrity of price signals in wholesale gas and power markets. EFET is launching this autumn an expert study of the potential for the introduction of a market in a new type of instrument evidencing carbon abatement within the gas supply chain. The two main groups of questions we are putting to the consultant conducting this study are:

1. How could the EU and national governments mandate or facilitate measures to transform the natural gas sector into a contributor to the decarbonisation of the economy, rather than chiefly a source of carbon emissions?

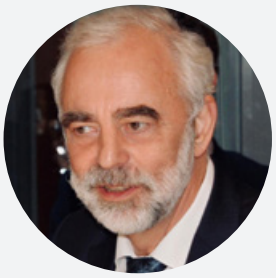
How best can such measures move beyond the mere production of biogas (dealt with in the revised renewable energy directive 2018/2001/EU), to precipitate the decarbonisation of the natural gas sector itself (e.g. through production and use of hydrogen) and help the physical gas system contribute to flexibility (whether near to real time, diurnal or seasonal) available in the electricity system (to the extent needed and valued by the market)?

2. Is it feasible to design a series of pan-European targets or quotas, which would set a timetable for decarbonisation and coupling of the gas system, in combination with a continuing roll-out of renewable power generation, and be amenable to fulfilment through the redemption of standard certificates? Could any such target/ quota and certificate scheme rely on a measure of carbon abatement as its "standard currency", and is it feasible to allocate an "exchange rate" for the relative contributions of defined projects or given technologies to the overall abatement achieved?

Commentary by

Paul van Son

Honorary President and former Chair of the EFET Board



In 1998, I was appointed CEO of the newly established gas and power trading company Entrade in the Netherlands, later Essent Trading now part of RWEST. In those days the electricity sector was supposed to open up in Europe, based on rudimentary guidelines from the European Commission and some national implementing legislation. There was an expectation that guaranteeing access to the grids for generators and larger consumers would spur competition, but there was no concept of the wholesale market, which would soon emerge. The few initiators of a power trading business model, including myself, experienced great difficulties in finding our way in a context of total ignorance of market mechanisms.

Therefore, I got together with some like-minded business managers (including Bart Pycke, still EFET Treasurer today) of a few incipient

energy trading businesses in Germany, England, the Netherlands, Belgium and Switzerland, to start an industry federation intended to shake up lethargic incumbents. I recruited Jan van Aken to organise the new group; Peter Styles was already available in Brussels, representing a founding company, to offer assistance in contacting EU institutions.

I believe the typical Dutch pragmatism Jan and I displayed were instrumental in getting EFET off the ground. The initial challenges were:

- To build trust and awareness of the pivotal role of trading for the establishment of real competition in an open market, and
- To create practical conditions, especially standardised contractual and IT solutions, for buying and selling power (and very soon gas) across the borders of Europe at a wholesale level, and for managing the commercial risks involved.

My vision from the first moment of EFET was that transacting with integrity, transparency and common sense would benefit the emergence of a European energy market. That is still my vision today; although in the meantime I place energy trading primarily in the context of avoiding life threatening eventualities, such as the detrimental impact of massive carbon emissions.

I am looking back with much pride on the great achievements of EFET. I am thinking of the effective dialogue with all relevant stakeholders, the great team of professionals, the evolution of EFET contract and IT standards, the numerous events we organised or inspired and the practical solutions we found. EFET has decisively contributed to formation of the largest geographically integrated market for gas, power and emission allowances in the world!

20 years ago, nobody could imagine the new challenges and national idiosyncrasies we are facing today. Looking 20 years ahead, I reflect on my wishes. My biggest wish is that EFET will remain a leader in uniting and strengthening the European economy and European society, and in addition become a significant enabler of a market in emission-free energy!

European Electricity Market

From national and regional monopolies to market participation

The first five years or so of the existence of EFET witnessed a transition in many European countries from state-owned or sponsored, monopolistic utilities to electricity generators and suppliers unbundled from their erstwhile transmission operation affiliates.

By the end of the last century, it had become generally accepted that market-based arrangements in the power sector improve efficiency throughout the value chain, delivering good price signals (at least in the short term), competition by virtue of third-party access to grids and superior efficiency in the dispatch of generating plants by reference to a merit order. Markets, facilitated by competition, transparency and regulatory oversight, were by then considered as best suited to allocate resources and to match the production and consumption of energy at the lowest cost for end-consumers. EFET has always believed the market can deliver even in changing economic conditions, unless there is additional regulatory intervention leading to market distortion. Creating the conditions for competition to play out between all participants ensures the efficiency of the market. Political orientations, for example regarding the fuel mix and security of supply, are needed and unavoidable, but they should guide the market rather than distort it.

Perspectives on evolving electricity market integration

While by 2003 electricity trading arrangements in the Nordic area and in Great Britain were sufficiently well-established to allow for reasonable degrees of competition and liquidity, the picture across the rest of Europe was patchy. Over the past decade and a half, technical and market design evolutions have allowed significant improvements in the market functioning and liquidity of the main continental European wholesale power market. First among those was the trilateral day-ahead market coupling between France, Belgium and the Netherlands in 2006. Day-ahead market coupling gradually extended to the rest of Europe, covering today most of Europe's bidding zones borders. This voluntary project of transmission system operators (TSOs) and power exchanges, supported by the market and only later translated

into European legislation, has allowed more efficient use of cross-border transmission capacity: 86% of transmission capacity in day-ahead was used in the "right direction" in 2017. Market coupling in intraday, pushed this time by policy makers, went live on Western European borders in June 2018, despite severe difficulties and delays in the implementation of the European Cross-Border Intraday (XBID) "continuous trading" project. Within two or three years, market coupling for both day-ahead and intraday should cover nearly all borders of EU countries.

As spot markets, including across borders, became more efficient, liquidity grew: in the Central Western European (CWE) electricity market region only, transaction volumes have multiplied by three since 2006 to reach over 450 TWh traded in day-ahead in 2017, and by seven in intraday (70 TWh traded in 2017). The growing share of intermittent renewable generation output is, of course, a primary reason for this surge in spot market volumes. But more efficient trading closer to real time and with smaller granularity products, thanks to market coupling and continuous intraday, were all significant drivers to meet the greater needs of market participants for flexibility. Further progress is expected on this front, including improvements of the Euphemia algorithm in day-ahead to cope with complex products, and earlier gate opening times in intraday.

The growth of spot markets should not overshadow the lasting predominance of forward and futures markets – over 10,000 TWh traded in 2017. The growth of these markets over the past 15 years is just as strong as that of spot markets and shows that more volatile spot markets reinforce the need to hedge positions ahead of real time. Improving the availability and firmness of cross-border hedging instruments issued by TSOs in the form of physical transmission rights or financial transmission right options will be key in the coming years to decrease the cost of hedging across borders.

While trading energy and transmission capacity has become more efficient, the debate is gradually shifting to making sure that TSOs do make available the economically optimum level of transmission capacity to the market. In the coming years, capacity calculation should be better coordinated

with the full implementation of the EU Guidelines on Capacity Allocation and Congestion Management (CACM), Forward Capacity Allocation (FCA) and Electricity Balancing (EB), and, thanks to the new provisions of the Clean Energy Package (CEP), more capacity should be made available to the market. This will also call for a rationalisation of congestion management practices by system operators: making remedial actions more transparent, ensuring that costs are properly allocated, and, in the end, ensuring that capacity allocation and congestion management are performed in a coordinated manner, so as to maximise social welfare.

With expectedly more cross-border transmission capacity allocated to the market, but also potentially greater congestion management costs, further discussions on zonal configuration are to be expected. EFET will remain open to such conversations, with a view to ensuring that effects on the market– on all segments of the wholesale market, but also on retail competition – are properly taken into account alongside network management questions in any possible new delineation of bidding zones.

Turning to the future, we see new technologies developing and new actors entering the market. We welcome them with open arms, with all the challenges and opportunities they bring to the internal electricity market. We look forward to consumers taking a more active part in trading electricity, independently or through aggregators. New technologies like electricity storage and power to gas facilities are also likely to play their role in the energy transition. For all these new technologies and market participants to develop, we will support policy-makers in making sure that the design of the market does not de jure or de facto exclude them. But the penetration of these new technologies and market participants will only materialise if and when policy-makers allow the true value of electricity to emerge – including through reforms of imbalance settlement pricing, transparency on congestion management actions, and by doing away with regulated retail tariffs.

At this juncture, it is vital to take lessons from the past: make sure that we allow nascent technologies and services to bloom without creating long-term privileges that only lead to market fragmentation; strengthen unbundling principles that maintain regulated system operators in their role of neutral facilitators, while market participants compete with different technologies and services; and reaffirm the goal of harmonised market frameworks in Europe that make Member States stronger to reach their goals of sustainability, affordability and supply security.

Germany and France: navigating two power markets in lockstep

Germany and France are traditionally perceived as drivers of European integration on many subjects, trying to align views and navigate their differences of approach. When it comes to energy though, it looks as if the Berlin-Paris axis is close to non-existent. The two countries of course have very different histories in that regard: a highly centralised electricity system in France structured around a dominant utility which still owns not only the national TSO but also the distribution system operator (DSO) that services the vast majority of customers; a decentralised, oligopolistic system in Germany managed by four different TSOs and a maze of local utilities also acting as DSOs. This translated into fundamentally different levels of market power concentration, competition at wholesale and retail level, and liquidity. While highly integrated from a market viewpoint – including via the CWE flow-based market coupling – and close in geographical and demographic size, the German wholesale electricity market remains much more dynamic than its French neighbour – as shown by their respective churn rates for 2017: over 10 in Germany compared to about 3 in France.

In both countries, politics is a significant driver of market dynamics. In Germany, a very pro-active renewables development policy with substantial financial support led to a surge in investments in renewable energy sources for electricity (RES-E) over the past 20 years. The EU decarbonisation objectives have been interpreted differently in France, where RES-E development has been much slower, while the policy makers are still betting on nuclear power generation. On both sides of the Rhine, these political choices come

with challenges: large intermittent generation volumes, combined with the gradual phase-out of both nuclear and coal-fired generation in Germany are a growing source of daily struggles both in the management of a congested grid, including unscheduled flows at the German borders and the political, mostly ideologically driven debate in faraway Berlin. In France, heavy reliance on nuclear power generation without much investment in alternative technologies fuels concerns about seasonal security of supply.

Forced to face these challenges, France and Germany seem to take two different directions, with the adoption of a decentralised market-wide capacity obligation mechanism in France, and a series of strategic reserves both for grid congestions and potential market failure in Germany. After having decided a fixed date for phasing-out lignite and coal by 2038, political decision-makers as their colleagues in France now start to focus on setting up also capacity market on a decentralised basis. Both solutions, however, are forms of capacity remuneration mechanisms, and from a market perspective, neither seems perfect. Reforms of balancing markets are highly needed to improve the price signal in both countries, but resistance from the national TSOs, and to some extent the regulators, is strong. Transparency and efficiency of capacity calculation and congestion management will also be key to properly identify costs and benefits of each market and network configuration, including at a local level. All this will be necessary to ensure that the true value of electricity emerges – be it on the energy or the congestion management markets – so that market participants can respond to the very different flexibility needs of each country, including with new and innovative technologies and services.

France and Germany will continue to pursue different policy objectives, especially when it comes to energy mixes. But trust in common principles related to market mechanisms and the European integration process will be necessary to respond to the challenges of the future without resorting to heavy subsidisation.

Southern Europe: idiosyncrasies of the market designs in Italy and Iberia

The Italian electricity market has gradually progressed over recent years towards greater integration with neighbouring markets and closer conformity to the EU Target Model for the design of the Internal Electricity Market. Landmarks to which our EFET Task Force for Italy has contributed include the implementation of CACM and FCA. The implementation has entailed the introduction of day-ahead market coupling to Italy in 2015. Progress still needs to be made on reforming the intraday market design, by giving a prominent role to continuous trading. That will be a pre-requisite, in order for Italy to join the XBID project in 2020 with the third wave. On balancing, much work is currently envisaged to implement the provisions of the EU Balancing Guideline and in opening the balancing and ancillary services market to the participation of demand and renewables. The peculiarities of the Italian market design, particularly the central dispatch system, retention of mandatory single bidding units and persistence of a single national buying price (PUN) still represent an obstacle to its full harmonization with other power markets in Europe. EFET continues to push for such harmonization.

The Iberian power market has shown gradual signs of integration in the EU single market: as a matter of fact, Spain and Portugal successfully joined the first wave of the XBID go-live in June 2019. This success, adding a cross-border continuous trading facility of an OTC nature in the intra-day timeframe, has contributed to greater efficiency of a rather isolated geographic market, historically linked by implicit regional auctions only. However, much work still needs to be undertaken to ensure that the Iberian power market design is compatible with the EU Target Model already adopted in much of the rest of Europe: the current six regional auctions must be reduced to a maximum of three in line with the ACER decision on a methodology on ID capacity pricing. Holding six undermines the centrality of the continuous trading solution. Thee portfolio bidding approach introduced by the Iberian NRAs is sub-optimal and does not allow real freedom of choice of market participants in managing their portfolio. Full implementation of the EB Guideline, particularly

regarding the decision on the imbalance settlement scheme and participation in the Trans European Replacement Reserves Exchange (TERRE), the Manually Activated Reserves Initiative (MARI) and the Platform for the International Coordination of Automated Frequency Restoration and Stable System Operation (PICASSO) projects to integrate balancing markets across Europe, remain to be completed.

The progress of integration of the Swiss power market in the EU Internal Energy Market has slowed down since 2014. EFET has been continuously supporting the inclusion of Switzerland in the IEM via talks with Swiss institutions, the EU Commission and other stakeholders. While monitoring with some frustration the status of EU-CH political negotiations, in our Task Force (TF) Switzerland we continue our efforts to impress upon Swissgrid, ElCom (the national electricity regulator) and the government in Berne the importance of approximation of Swiss electricity market rules and arrangements to those of its neighbours.

Facilitating the development of power markets in Eastern Europe

EFET TF Eastern Europe Electricity (TF EE-E) has been very successful in providing practical guidance to overcome the regulatory, policy and market barriers to electricity trading in Central-Eastern and South-Eastern Europe (CEE and SEE).

Since its foundation in 2005, EFET TF EE-E has been actively facilitating the development of wholesale electricity markets in CEE and SEE; defending the core principles of market functioning in the face of regulatory interventions and working on alleviating barriers to power trading and improving the levels of market competition in the region.

The overall tradability across developing electricity markets in the region has been substantially improved since the beginning of 2000s. This is also accentuated by the increasing number of EFET member companies in SEE/CEE. Whilst we started in 2005 with just a handful of companies in the region, EFET nowadays has members in Poland, Czech Republic, Slovakia, Hungary, Slovenia, Croatia, Serbia, Bulgaria, Romania and Greece. Recently we also expanded to Bosnia & Hercegovina and Albania.

Below are some examples that demonstrate the positive impact of the EFET work in region:

- EFET has significantly contributed to the abolishment of export fees in various CEE/SEE countries
- One of the power exchanges required members of the spot electricity markets to have a national VAT registration, refusing to accept traders that were already registered for VAT in other EU Member States. As a result, traders from other European countries could only enter the respective wholesale electricity market by setting up a fixed establishment in the country, which entailed additional costs and organisational disadvantages for EU traders compared to national traders. On the initiative of EFET, the European Commission determined that such a requirement represents a discriminatory taxation, and the country concerned has therefore abolished it.
- The planned massive increase of the regulatory fee in Romania has been prevented thanks to the timely and successful reaction of EFET and liaison with the national ministry and the European Commission.

EFET will continue supporting the development of the electricity market in CEE and SEE promoting fair market access, as well as the benefits of competition and liquidity. Working further on removing the obstacles to electricity trading in the region will remain our priority in the years to come.

Prospects for the European electricity market in coming years

EFET has consistently over the past 20 years emphasised to policymakers and policy influencers during this period the need for EU-wide, or at least region-wide, solutions in power market design, in preference to purely national approaches. There developed between 2003 and 2018, after the second Internal Electricity Market package of legislation, a clear tension between the desire to

establish a genuine EU energy market and ambitious national policies deciding on national energy mix. The targets set in 2009 for renewable energy consumption and carbon emissions reductions up to 2020 at EU level, but nationally attributed, compounded this tension.

There is some evidence that the wholesale power market can adapt to future challenges and changing market conditions while giving the right signals to investors. The recently adopted Market Stability Reserve, for instance, has restored confidence in the EU emissions trading system. EFET successfully called for the facilitation of greater granularity in electricity products – e.g. shorter time periods in the spot market, especially intraday, adapted and partly harmonised profiles in the balancing market –to allow the direct participation of 'non-traditional' participants to the market such as RES-E generators and aggregators for demand-side response.

The question remains whether the energy-only market in its current design is able to deliver investments. Making the market attractive to investors with the current price signals remains a challenge. There is overcapacity in electricity generation in most regions of Europe. The real problem is not the overcapacity as such but the concrete policies accompanying it. Politically-motivated state interventions in the form of generation capacity remuneration mechanisms – often motivated by fear of scarcity in the future – have been introduced by some governments in the absence of proven real inadequacy of capacity. National remuneration schemes by their nature are likely to fragment the market (commodity-wise and geographically) as currently designed.

Meanwhile, however, the business model whereby a traditional generator or supplier takes over or manages the output of a series of renewable generators, in order to sell their electricity in the market, has been developing for several years now. The spread of this business model should prove positive for the survival of liquidity and depth in our wholesale power markets across Europe. It may be expected to mutate gradually into a standard means of an energy business constructing its generation portfolio, so that eventually the distinctions between what are now still predominantly traditional nuclear, fossil fuel or large hydro generators on the one hand, and investors in or operators of wind turbines and solar farms on the other, become blurred. The evolution towards a broad asset portfolio business model will become more marked if diversified energy production and supply businesses span energy commodities, encompass ancillary services for TSOs and DSOs and extend to the management of demand response on behalf of consumers.

(Further EFET thoughts about the future development of wholesale energy markets are set out in the chapter later in this report dealing with our future vision.)

Guest article by

Alberto Pototschnig

Director of ACER 2009 – 2019

A reflection on 20 years of liberalisation of the European energy sector, the evolution of the internal electricity market and current challenges facing the sector

It is now more than 20 years since the process of liberalisation of the European energy sector began. The first two EU directives, intended to launch internal markets in electricity and gas, were adopted in the second half of the 1990s. They aimed at opening grids to third party access and harmonising national rules, a necessary step before cross-border markets could be developed.

Steps towards a European single market in electricity

At that time, I was serving as Director of Electricity Regulation at the Italian Regulatory Authority and I well remember the efforts for moving from a first-come-first-served allocation of cross-border capacity – when the first to come was too often the incumbent – to an allocation based on (explicit) auctions. It was almost a cultural shock. At some stage,

an Italian Administrative Court even ruled against the Regulator's decision to introduce auctions on the basis that they favour those who can pay more!

The first meeting of the Florence Forum, in February 1998, focused on transmission pricing methods and cost accounting, ancillary services, unbundling, public service obligation and environmental costs. It was a fairly intimate meeting in Sala Europa at Villa Schifanoia, part the European University Institute. Villa Schifanoia now hosts, in its Casale, the Florence School of Regulation and Sala Europa is the default venue for its meetings. It can accommodate 30-40 participants, quite a contrast with the 100+ attendees of the more recent Florence Forum meetings in the La Calza Convent, on the other side of town. The first meeting of the Gas Forum took place in Madrid the next year, but, at least in that period, the gas sector was moving more slowly.

At that first Florence Forum meeting, there was not much discussion about market integration. It was only in May 1999, at the third Florence Forum meeting, that cross-border congestion management and the concept of regional initiatives appeared in the agenda. However, we had to wait another seven years before serious regional initiatives materialised. In the meanwhile, Matti Supponen in the EU Commission convened a group of experts representing regulators, TSOs, market participants (including EFET, represented by Peter Styles) and exchanges, with a mission to consider a Europe wide electricity market design. This small band, christened the Project Coordination Group (PCR), was led by Asta Sihvonen-Punkka, at that time Director General of the Finnish Energy Market Authority. It started to develop informally an EU Electricity Target Model (ETM). What today appears obvious, in terms of a functional market design for the whole of Europe, was not so obvious when the PCR (later re-christened AHAG) started its activities and it is only thanks to its work that it seems so obvious now.

The advent of day-ahead electricity market coupling

We all now refer to "market coupling" as the method for efficient electricity market integration in the day-ahead and intra-day timeframes. However, as far as I can recall, market coupling was named as such, for the first time, only in March 2003, at a meeting between the Italian and Slovenian market operators. Until then, the use of implicit allocation between market areas was referred to as "market splitting". The latter had been in operation in NordPool for almost ten years, but it was felt that "splitting" did not exactly convey a sense of market integration.

Beyond renaming concepts, there was also the need, and the opportunity through the electricity regional initiatives, to test some of the concepts that were developed and included in the ETM. I remember, around that period, the debate about how much information on the order books needed to be shared in order efficiently to couple markets. Two different market coupling concepts were proposed: the so-called "volume-based market coupling", where only a limited set of information is shared and the coupling algorithm determines the cross-border flows, which are then used in the different bidding zones to determine the local market prices; and the so-called "price-based market coupling", where, by using the full set of order-book information, the coupling algorithm simultaneously determines cross-border flows and zonal prices. Many commentators at that time claimed that volume-based market coupling, which is less demanding in terms of data sharing, would have been sufficient to support efficient cross-border trading in the internal electricity market. However, when it was implemented, voluntarily, on the German-Danish border in October 2008, it immediately and repeatedly delivered inconsistent results, i.e. cross-border flows in the wrong direction (which is exactly what market coupling should avoid). The implementation had therefore to be suspended after just over a week. When it was resumed a year later, inconsistent results

appeared again. At that moment, it became clear to everybody that price-based coupling was the only approach able to guarantee full consistency between market prices and cross-border flows. The issue was not debated any longer and since then the market integration process has proceeded on the basis of price-based market coupling (or just "market coupling", as there are no longer competing concepts).

Apart from showing what works and what does not, which was most useful for the rule-making process, early voluntary implementation of forthcoming set of "market rules", before they were formalised later as EU law, also allowed the market integration process to proceed more rapidly. Looking again at cross-border congestion management, the relevant rules, in the Guideline on capacity allocation and congestion management, entered into force only in August 2015, i.e. beyond the 2014 target date for the completion of the internal electricity market set by the Council in 2011. However, by 2014, significant progress had already been achieved, through the regional initiative process, in promoting consistency between relative prices and the direction of the cross-border flows, which is what ensure efficient market functioning.

As the monitoring performed by the EU Agency for the Cooperation of Energy Regulators (ACER) shows, the efficiency in the utilisation of cross-border capacity significantly increased as a result of market coupling, from 61% in 2010 to 85% in 2014 (these numbers indicating the share of the available cross-border capacity used in the "economic" direction in the presence of a significant price differential). This increase in efficiency translates into tangible benefits for EU energy consumers. ACER estimates that so far market coupling has delivered annual benefits in the order of € 1 billion. If implementation had awaited the entry into force of the rules, these benefits for consumers would have only materialised much later. The extension of market coupling to the remaining 12 EU borders, where electricity still flows in the "wrong" direction during as many as 40% of the hours, could deliver additional benefits in the order €250 million per year.

The voice of market participants

As I already mentioned, stakeholders played a major role in the development of the ETM and in testing it, through voluntary implementation in the regional initiatives. Among all stakeholders, traders, and EFET as their representative association, provided a crucial contribution. The interest of traders in market opening and overall sector liberalisation is obvious and therefore it is not surprising that, especially in the initial stages, they were among the most active and vocal supporters of the process. Later on, they contributed their expertise towards improving the design of wholesale markets.

Future challenges

Going forward there are still important aspects of the IEM that require enhancement, many of them needed to meet the challenges of the transition towards a decarbonised energy system to contribute to the fight against climate change.

As we all know, the EU decarbonisation strategy is based, inter alia, on increased electrification of the economy with a greater penetration of renewable energy sources. In order to achieve this most efficiently, we need to make the energy system more flexible, and use the existing interconnections to their maximum capability, while preserving secure operation of the system. We will also have to find efficient ways of storing excess energy (produced by non-dispatchable renewable sources), and possibly, of transporting it over long distances where necessary; renewable generation is often located far away from consumption centres.

Consumers can play an important role in providing flexibility to the system through demand response. One big challenge is how to engage them, when many of them still find it difficult to switch supplier or do not notice a price incentive to adjust their pattern of consumption. Other challenges include electricity and gas sector coupling and identifying the most efficient use of the existing cross-border infrastructure. In this latter area, discrimination between intra-zonal and cross-zonal energy transactions needs to be overcome. This is not easy to achieve, as there is a legacy of capacity calculation methodologies which have tended to "push" internal power grid congestion to the borders of a zonal market configuration, which too often reflects political boundaries, rather than the topology of the electrical system. The Clean Energy Package contains provisions aiming to address these distortions. I hope that, as in the past, EFET will play an active and supporting role in the process of pointing out such market distortions and proposing measures to overcome them.

Commentary by

Christopher Jones

Former Deputy Director General in DG Energy, European Commission

The liberalisation of the EU's electricity and gas sectors was always going to be politically difficult. The very definition of the Internal Market, envisaging cross-border competition, foresees winners and losers. It creates new market entrants and new business models. National incumbents benefiting from closed markets, often state owned, rarely embraced competition; some enjoyed statutory monopolies.

So, it was not surprising that the Commission's first proposals at the beginning of the 1990s to open electricity and gas markets to EU-wide competition were controversial. It is difficult to picture today quite how controversial this change - which seems obvious now - was.

Liberalisation of parts of the European economy started at the EU level in the early 1990's, when the Commission adopted a Decision mandating open access to the market for fax machines under the competition rules; it was too politically controversial to propose a Directive with similar effect requiring the approval of the Member States. The Commission thus

chose to proceed under the competition rules, implicitly arguing that if the Member States did not agree to commence a legislative process of opening their national power and gas sectors to EU-wide competition, the very basis of the EU Treaties, they would use the competition rules to do so.

Whilst in reality it is questionable how far the Commission would have succeeded under the competition rules alone, our effort catalysed a process, slower and more cautious than many would have liked, but one that led us to the place we are today.

But in truth, we see in the evolution of the Internal Gas and Electricity Markets between 1997 and today an ineluctable progression. From the first Directives with negotiated third party access, negotiated transmission tariffs and just accounting unbundling, to the second set, mandating independent sector regulators, to the third set, bringing increasingly effective unbundling, effective, more coordinated regulation and detailed market rules, we realise that once the process of opening a sector to competition begins, the creation of a market and the guarantee of economic freedom become irreversible. EFET was at the very forefront of carving out that market at wholesale level and of promoting that freedom; convincing policy makers and industrialists alike that it was as necessary as it was inevitable.

When the Florence and Madrid Forums gained momentum in the early 2000's, the world was in a very different place. Most voices at the Forums argued in favour of only a gradual opening to competition and opening of borders; caution was essential for the protection of the interests of national companies, and therefore, it was argued, of European customers and citizens. Even national regulators, once appointed, were often careful not to be too outspoken.

Without EFET, EU energy liberalisation would not have proceeded as quickly as it did, nor as effectively. All the way along the debate, managers and professionals from trading businesses, acting as EFET delegates, were the outliers, challenging the assumptions and arguments of incumbents, that liberalisation should be delayed and unambitious. And they did this successfully by placing facts on the table, not opinions. Theirs was not quite a lone voice, but they were the most vocal, most consistent and most challenging, when pointing out, again and again, what needed to be done. Over time, they played a major role in convincing policymakers, industry and politicians that real and effective liberalisation was, quite simply, inevitable. Peter Styles, Colin Lyle and Doug Wood in particular deserve great credit for their contribution, as does EFET as a whole.

Whilst the EFET role has changed over time, the federation remains a leading advocate of EU power, gas and emissions markets, which are liquid, competitive and contestable. EU citizens have reason to be grateful for the work that EFET has done and must look for it to remain a strong and clear proponent of economic freedom.

Commentary by

Walter Boltz

Former Chair of E-Control and Member of the ACER Board of Appeal

When EFET was founded in Amsterdam in 1999 almost nobody could imagine a nearly fully liberalised energy market with multiple trades taking place until a single unit of energy is consumed, as we see it today. Trading as we know it was not happening at all in most countries back then.

Even though the first package EU internal energy market legislation, in the shape of initial Electricity and Gas Directives, was already in place, not that much was happening at wholesale level on a cross border basis, until the voluntary EU Electricity Regulatory Forum (informally known as the Florence Forum) brought a real focus to Europe-wide discussions. Within a relatively short time period after 2000 utilities started to change their organisations and restructure their businesses. Trading became more and more a known "thing" – at least for knowledgeable people.

Paul van Son (founding Chair) and Jan van Aken (Secretary General) recognised that, in a liberalising energy sector, an advocate for trading as well as traders is needed, A federation of traders might help shape regulation and markets in such a way as to enable efficient wholesale intermediation in the power and gas value chains.

After establishment of EFET, their first difficult task was to educate people, as to what electricity and gas trading means, what market roles it involves. Paul and Jan, together with the Chairs of the EFET Electricity and Gas Committees, made it their mission on behalf of the original dozen or so member companies to explain the benefits of progressing on a path to a liquid, open wholesale energy market for consumers, the economy and, in the end, society itself.

Once the initial Electricity and Gas Directives were properly implemented, another new species emerged in national energy markets – the national regulatory authorities (NRAs). One such was E-Control in Austria, where I was appointed Director in 2000. The NRAs formed the Council of European Energy Regulators (CEER), of which I became Vice President in due course. Just like CEER, EFET has proved to be a "stayer", as evidenced by the continuing key role of both organisations in the Florence and Madrid Forums.

These two new and, for some, very disturbing players on the EU energy market and policy scene, became more and more vocal over time and often, but not always, argued passionately for the same things. During these crucial early years of reform, the NRAs and EFET shared an interest in a functioning wholesale market and a good cooperation developed, often channelled through CEER on matters of EU interest, but also on national topics.

Many things have changed over the last 20 years on the energy markets, yet many of our original achievements (unbundling of TSOs, transparency of transmission and generation data, non-discriminatory grid access) still stand us in good stead. We still don´t see a perfect market, but, we are closer than we have ever been before.

Of course, EU energy policy and the businesses producing, supplying and transporting energy in Europe have become more complex. Transactions are difficult to oversee. However, trust in European power and gas markets has grown as well and, with active proponents of competition and liquidity like EFET representing wholesale participants, I am convinced we will be able to continuously develop and improve the functioning of the markets.

EFET turns twenty and is neither an infant nor a fossil, but at the very best age to contribute further to the EU energy story. Regardless what the energy transition, sector coupling, a blockchain revolution, or decentralisation will bring for the future of the EU and the global energy market, it is evident that substantiated and broad discussions involving representatives of market players are needed, in order to derive a desirable result for society and our overall economy.

European Gas Market

Achievements in European gas market development over the last 20 years

Similar to electricity, the gas sector in Europe has undergone profound changes in the last 20 years. Vertically-integrated undertakings have been unbundled and replaced by competitive suppliers operating in liquid wholesale markets, at least in the principal markets that account for more than 80% of EU gas consumption, and separate gas transmission system operators (TSOs) respectively. However, unlike electricity, gas businesses also face difficulties over increased import dependency, supply security concerns linked to geopolitical risk, and challenges related to transportation of gas over multiple borders. Not all national and regional markets enjoy production capability, suitability for gas storage or the possibility of siting liquified natural gas (LNG) importation facilities locally. Yet, in the face of such challenges, liquid wholesale markets have developed, and the advent of those markets has fundamentally changed the structure for buying and selling gas and managing risks around it.

In particular, the emergence of reliable wholesale price indices facilitated the replacement of long-term, oil-price indexed contracts with gas price indexation. That, in turn, made it easier to buy and sell gas over much shorter timescales, in smaller volumes, and with greater ease of fine-tuning volume commitments in response to demand and price volatility. New risk management instruments for producers, suppliers and consumers emerged.

The removal of contractual congestion at many borders led to price convergence across major markets in NW Europe and correlation with prices in some connected markets. This helped to reveal better signals for optimising the use of existing infrastructure and building more transportation, storage or LNG capacity. The industry is now at a turning point where historical long-term contracts are running out or have been terminated, and the effects on capacity booking, infrastructure financing, and hub pricing are not yet clear.

The EFET Gas Committee was formed in the wake of the "first" Gas Directive 98/30/EC, as it was in the process of being implemented in EU Member States. Early work involved in-depth analysis of the obligations introduced by the Directive. Member companies brought with them experience from the developing gas market in Great Britain. Some trading was developing in Belgium, with the newly opened Interconnector UK (IUK) pipeline, and in the Netherlands and Germany. EFET provided ongoing feedback to EU-wide and national authorities on barriers traders and originators were still facing, whether through poor implementation of the Directive or because of issues that had not yet been addressed. Unbundling, access to capacity and flexibility, and unnecessarily onerous terms and tariffs were the key topics of the day, to enable competitive supplies to be brought to eligible consumers.

In the 2000's, EFET was well-placed to engage in the elaboration of the second and third Gas Directives (2003/55/EC and 2009/73/EC), which were the EU responses to the many issues raised from the experience of trying to create liquidity in wholesale markets and competition in supply. At

this time, many gas hubs were being established in neighbouring jurisdictions with widely differing legal and operating characteristics. In response, EFET established a Gas Hub Development Group (GHDG) to promote common a hub design. A common design paved the way for standard contracts, enabling counterparts to manage operations and systems more efficiently and to trade according to the underlying dynamics of the hub and not artificial differences in design. The GHDG went on to develop guides for virtual trading points and a best practice guide to establish a new hub, based on experience of what had and had not been successful in more mature hubs. An EFET benchmarking study is still an annual exercise, which is welcomed by stakeholders measuring progress in nascent markets.

More recently, the Gas Committee has engaged in the development and implementation of EU legislation and network codes through its work groups on capacity allocation and congestion management, tariff methodologies, balancing, and security of supply, including LNG and storage. These groups interact with national and regional task forces to ensure that local conditions can be considered while forming European rules, and to help promote common interpretation and implementation across different regions, bringing experience from more mature markets into those which are still developing. This flexible structure has also allowed us to form ad hoc working groups to deal with contemporary topics such as Quo Vadis and the Future Role of Gas.

Commentary by Colin Lyle

Former Chair of the EFET Gas Committee and Honorary EFET Member

Liberalisation of the networked energy sector (covering power and gas) in Great Britain progressed rapidly during the 1990s and delivered undeniable benefits to consumers, particularly in the gas market. Great efforts had been made to ensure that new entrants enjoyed unimpeded access to supplies, infrastructure and final customers. Producers, wholesale suppliers, large consumers and others began to optimise their portfolios and manage price risk through access to the emerging traded market. Four years after the first gas transactions at the National Balancing Point (NBP), the NBP traded gas volume exceeded the total physical gas flows transported through the whole of Great Britain. Four years later the traded volumes and churn factor at the NBP demonstrated sufficient liquidity for long-term gas purchase deals to use the traded gas price as a reference instead of oil-based indexation.

Despite progress driven by EU internal energy market directives, energy market conditions in much of continental Europe in the late nineties were not encouraging for new entrants, particularly in the gas sector. The formation of the European Federation of Energy Traders in the spring of 1999 was the start of real progress, to share understanding of the need for a transparent and liquid energy market throughout Europe.

When I was appointed Chairman of the EFET Gas Committee in 2002, the continental gas market remained solidly based on national or regional monopolies. Each area displayed its

own characteristics and posed particular barriers to entry. EFET brought together people who understood the local situations and could find solutions aligned with EFET principles, centred on an insistence on unbundling of TSOs, non-discriminatory terms of grid access and transparency. The EFET Gas committee shared experiences about market development, which helped companies and regulators embrace new market-driven approaches. A competitive gas market needed competitors, and it was in everyone's interest to work together to establish the right conditions for a well-functioning pan-European gas market.

As early as 2004 there was strong price correlation between the traded German power price and the UK gas price adjusted for the traded EU CO2 emissions price. Fundamentals change, and there are new challenges ahead as the interaction between power and gas intensifies. Europe will continue to need imported natural gas, through international transit pipelines and in the form of LNG from other continents Both routes present political, logistical and economic challenges. At the same time, climate change action could force the gas industry to focus more on 'niche' markets (e.g. power-to-gas, transport of CO2/H2/other gases, LNG as transport fuel, methane gathering from agriculture/waste,). The danger is that reduced volumes and market fragmentation will destroy liquidity, resulting in a loss in European economic welfare. We cannot know exactly what changes lie ahead, but whenever feasible, the adoption of market-based solutions will provide the best way forward. EFET will be needed more than ever to speak on behalf of Europe's gas traders and lead the way for other energy market participants.

The next stage for development of the gas market

In addition to the monitoring and promotion of good implementation of legislation, a new topic has emerged. EU ambitions to decarbonise the European energy markets by 2050 have created a changing role for gas. Topics under current discussion in the industry include how gas in the short to medium term can facilitate faster development of intermittent renewable electricity supply by providing backup and increased energy security. Improved sector coupling can help to bring forms of supply (and demand) flexibility in gas to support increased demands for flexibility in electricity markets, especially using gas storage and transportation capabilities for winter supplies, seasonal and longer term flexibility, and long-distance high-volume transportation, where equivalent technologies in power are less developed and more costly.

The decarbonisation agenda is also being extended to gas with the development of renewable biogas, the production of hydrogen using renewable electricity, and the decarbonisation of methane with carbon capture and utilisation or storage.

A working group has been established under the Gas Committee to investigate how green gas certificates and guarantees of origin for renewable and low carbon gases can be developed. It draws on the experience of EFET in in the power market, but adapted to the specificities of the gas market. The work includes looking at how traded markets might be affected by increasing absorption of hydrogen into a methane system, and how decarbonisation of gas can contribute to environmental objectives, while making use of existing transportation and storage assets.

The growth of wholesale traded gas markets in North Western Europe

From its inception until 2017, the National Balancing Point, commonly referred to as NBP, was the leader in liquidity among European gas hubs and formed the basis for the virtual trading point as a model for gas markets in Europe. More recently, TTF has overtaken it in terms of liquidity, but the two remain the most significant sources of

European gas prices, to the extent that they have been widely used beyond their reference areas – as underpinning cash-out prices in other systems, as references in markets with insufficient liquidity on their own account, and internationally, for LNG contracts.

More hubs have emerged to allow the introduction of market-based balancing and to achieve price discovery that is relevant for national markets. EFET continues to promote convergence of hub design and of the European network codes that govern access terms for delivering gas into and out of the hubs. In this way, terms for trading can be more uniform and parties trade the underlying dynamics of the gas market, rather than hub terms.

Germany, in particular, has seen some of the biggest changes, partly down to its very different market structure. Remedies arising from market consolidation and competition enforcement – including gas release programmes and enabling consumers to buy competitive gas from new suppliers – allowed EFET Deutschland to promote new customer-oriented ways of buying gas. The establishment of a new regulatory agency with powers over energy brought new momentum. The creation of virtual trading points spanning multiple transportation systems, and the resolution of problems brought by merging trading points for high and low-calorie gas would not have been so successful without the involvement of EFET. New challenges around the merger of the remaining trading hubs, the impact on usable transportation capacity, and tariff recovery, including the costs of grid conversion, remain at the forefront of EFET activity in this market.

Increased interaction with electricity affects market design and dynamics. In addition, the increased availability and spot trading of LNG cargoes has introduced a new dynamic where Europe is seen as having the potential to act as global balancer of gas markets. LNG has also impacted supply security considerations and increased supply competition through greater diversity of supplies and delivery routes.

The skills of trading companies to develop innovative services, products and risk management techniques, to bring price discovery, and to uncover and reveal value from efficiency gains during times of rapid change, remains critical to the success of European and global gas markets.

Southern Europe: market design in Iberia and Italy

The Italian wholesale gas market has improved remarkably in recent years, thanks to growing connectivity and the establishment of the Punto di Scambio Virtuale (PSV) virtual trading point. In the last five years, EFET has been continually engaged in discussions with the National Regulatory Authority (NRA) ARERA, the Government, the TSO Snam Rete Gas and the Italian power exchange (GME) over how the market can continue to be improved, participating in workshops and responding regularly to consultations.

The implementation of the European Network Codes has been a key factor in increasing tradability at the PSV. EFET provided guidance in the implementation of the Balancing Network Code (BAL NC). The guidance covered improving access to flexibility through the design of storage auctions, shifting balancing responsibility from the network operator to market participants, and enhancing control over nominations of gas into the system, especially storage withdrawals, but also better information on offtakes to be balanced. The introduction of the Network Code on Tariffs (TAR NC) has also provided opportunities to improve tariff methodologies to help promote trading, such as the transfer of variable charges (CVs) from the entry to the exit points following ARERA decision n. 114/2019, where EFET was heavily involved.

Authorities have been open to EFET concerns over the suggested "liquidity corridor" to align PSV prices with the Title Transfer Facility (TTF)[1], which would have introduced market distortions and was subsequently withdrawn. EFET has been able to evaluate other initiatives, including the possible merger of Italian and Austrian balancing markets, from the viewpoint of the wholesale market, to help ensure that the development of wholesale trading in Italy remains positive. This has been reflected in continued progress of the PSV in the EFET gas hub benchmarking reports.

This time, we have seen a growth in Italian market participants referencing PSV as an index used in transactions, where previously TTF was requested. EFET continues to contribute views on the National Energy and Climate Plan for the period 2021 to 2030 that will be submitted to the European Commission by the end of 2019.

In Spain, after a long period of relative inactivity on the part of the authorities, EFET encouragement to promote the wholesale market was rewarded with a series of reforms, which have helped trading to catch up with some other markets in Western Europe. Significant input from EFET to the official roadmap for a gas market allowed the national regulatory authority to take account of the demands of experienced and active national and international participants when implementing EU Network Codes. In particular, the introduction of the BAL NC, establishing a market-based balancing framework, has been instrumental in creating greater price transparency.

We have also participated in discussions around the formation of an Iberian hub, which aim to integrate the Portuguese market with the Spanish one, or alternatively, connected the two markets through implicit allocations. Progress here has considerably slowed down. The correct and full implementation of EU Network Codes, particularly the TAR NC, remains a matter of concern and an area of great focus in the coming period.

The Spanish Government remains concerned with ensuring enough reserves, particularly in the winter season ('Winter Plan'), and EFET remains vigilant in order to deliver supply security without disturbing the free functioning of the market. In this context, we keep promoting market-based measures in response to adequacy and security of supply concerns.

EFET has most recently been active in debates about the role of LNG in the Spanish gas market and improvements in access to LNG importation terminals. There remain important detailed concerns over the operation of the latest proposals, which EFET has brought to the attention of the authorities and has offered to help address, such as the risk of congestion if parties wish to export LNG from terminals that differ from where the cargoes were originally landed.

Commentary by Ilaria Conti

Head of Gas at the Florence School of Regulation and Founder of EFET Task Force Italy

I worked for EFET from 2005 until 2013. I started as Communication Officer. We were only four people in the Secretariat in total and I was alone in Brussels most of the time! Then after a year or so I became involved in EFET activities on markets, regulation and policy. I acted for many years as Secretary to the Gas Committee, our task forces dealing with the Iberian energy market and other groups. In 2009 I founded and led alongside Andrea Siri the EFET Task Force Italy, covering both power and gas markets, which is still today a very active and important EFET group.

Until around 2007-2008 (prior to the EU Third Package of energy market, renewable energy, energy efficiency and climate change legislation, energy market design was still a subject for only a few experts. A big challenge for someone working in communication consisted in making energy trading issues understandable to an audience beyond traders

themselves. The world of wholesale energy transactions was certainly not understood by the average EU citizen and sometimes not even by decision-makers in Brussels. The biggest challenge consisted in conceiving simple and effective messages (emanating from the work programmes of various EFET working groups or the Board), while delivering high-quality final content at the same time.

When I joined EFET in 2005, an EU single market for power and (even more remotely) gas (extending throughout 25 countries) sounded more like science fiction than reality. There was a big fragmentation in in power market design across national boundaries, entailing different market structures and trading arrangements in each country. On the gas side we had to face access obstacles posed by vertical and horizontal integration in the industry. The Third Energy Package with its promise of Network Codes was still a distant prospect; the ACER and the ENTSOs did not exist. It was a completely different scenario compared to what we have today.

The vision we were constantly working for in EFET was that of the creation of open energy markets, with multiple competitors irrespective of national borders and equal opportunities for all market participants. One of the main issues in gas at that time was the limited level of competition in several national markets. In the EFET Gas Committee and national subgroups we fought hard to dismantle pre-existing barriers to entry and obstacles to cross-border trading. Albeit some of these challenges remain nowadays, and a truly single EU energy market does not yet exist, great progress was achieved and several "impossible missions" became "missions accomplished".

In the course of the last 10 years, major events (such as the 2008-2009 financial crisis, the Fukushima nuclear disaster and the two Russia-Ukraine crises) and accelerating trends (especially decarbonisation) have helped radically change perspectives in Europe, so the overall vision for the EU energy market has also had to change.

Looking back at the achievements of EFET, the most significant for me is, of course, the arrival of EFET in Italy!

The fact that EFET still exists and maintained its reputation as an innovative, progressive, reliable partner in energy discussions in Europe over 20 years is another great achievement in itself. I think EFET greatly contributed to explain why traded wholesale energy markets are indispensable for the realisation of EU economic and environmental goals and why traders are consequently a healthy and useful presence in the energy sector.

The role of traders and energy trading is sometimes questioned, in a world which seems to be increasingly polarised between energy supply and energy consumption. The fundamentals of the energy value chain are evolving, in response to the new EU targets of sector coupling and sector integration. The biggest challenge for traders will consist in finding new opportunities, new markets and a new role in this evolving context, and for EFET the challenge will consist in staying ahead of the changes and averting possible threats to the integrity of wholesale markets as price finding mechanisms. But the record of past successes for EFET is so solid and now so long, that I'd be very disappointed if this challenge will not be met!

[1] *The Title Transfer Facility, more commonly known as TTF, is a virtual trading point for natural gas in the Netherlands. [We said we would eliminate footnotes.]*

Challenges for the emerging gas market in Eastern Europe

The emerging gas markets in Eastern Europe were facing a challenge of limited access to different sources of gas and little flexibility of the under-developed gas infrastructure. The situation has changed substantially over the years with the construction and improvement of interconnection points (IPs), the opening of the first LNG terminals, and the expansion and reinforcement of gas networks, giving access to new gas supply routes. These positive developments laid the foundation for a gradual transition towards market-based measures.

Despite these positive developments, many governments in the region remain sceptical about the market's ability to attract gas in the event of supply scarcity, often resorting to measures preventing the commodity from leaving the national transmission system. This, along with measures supporting the interests of the former incumbent, resulted in barriers that hinder the development of liquidity and damage cooperation between neighbouring states.

EFET remains the main proponent of market-based measures in Central and South-Eastern Europe, promoting measures enabling gradual development of liquidity and protesting against attempts of re-monopolization of the gas sector. Our annual Gas Hub Development study has become the benchmark for the region, often referred to as a source of information on market development progress and the remaining barriers that need to be tackled. EFET will continue promoting market-based solutions, providing evidence that the internal gas market in Europe is the best guarantee of security of supply.


$10,701
$40,271
$14,810
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$15,115
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$5,693
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$27,397
$25,499
$34,592
$38,892
$49,315
$19,281
$20,223
$26,726
$47,702
$44,60
$28,351
$15,61
$37,627
$8,276
$32,897
$29,63
$25,371
$6,585
$27,82
$30,382
$21,176
$35,21
$46,211
$20,274
$16,00
$38,453
$5,136
$32,51
$46,042
$37,875
$37,188
$38,375

Commentary by

Jörg Spicker

Former Chair of the EFET Deutschland Board and former Member of the EFET Board

I first heard about EFET when still working for the big German gas incumbent Ruhrgas. I had been sent by them to the United States to learn first-hand about trading - their focus was on avoiding it as long as possible (and they did). When I came back to Europe in the mid-90s, the fast-growing American gas and power company Enron was already active in many countries. Within Ruhrgas, our regulatory colleagues circulated (with a certain sense of “awe”) a paper by Peter Styles about market opening in Europe. A little later, EFET was founded in 1999, to the dismay of Ruhrgas. Later that same year, I left Ruhrgas to join another American company, Aquila, to build up their German business. I immediately got in contact with EFET to see how we could combine forces. My first encounter with EFET was a Gas Committee meeting in early 2000. It was almost a blow: they had moved the meeting forward without me knowing, and I was late. That became sort of a motto for my later work in EFET: I did not ever want to be late again with anything.

Trying to establish gas trading in Germany was extremely difficult and cumbersome, especially as there was no regulator for power and gas. We established a German Task Force Gas in February 2000, starting with four EFET member companies active in Germany. The established associations didn’t allow us to participate in the political discussions, and we weren’t even invited to meetings, because EFET was not registered as an association in Germany. For formal reasons, the Ministry of Economics could not address correspondence to an informal task force. Even worse: invitations to official hearings and similar events could only be sent to associations registered in Germany; the German bureaucracy did not permit participation by a European association. Allegedly the then Economics Minister Müller had also expressed himself in this direction. EFET had to participate in the discussions under the umbrella of the association of large electricity “prosumers” (the German Association of Industrial Energy Consumers (VIK)), and their positions were often miles away from traders’ concerns. One year later we established a formal body to represent interested EFET member companies in Germany. What an irony: EFET Deutschland, as a sister association of EFET, owes its foundation to the attitude of the Federal Minister for Economic Affairs and Energy.

There was limited progress in power trading, and no progress in gas trading, as of mid-2001.

I remember how, on the morning of the first meeting of EFET German Task Force Gas, a flipchart showed the main weaknesses of the existing legislation and some key points we wanted to achieve. Even then, key phrases such as "we prefer regulated network access", "cost-based tariffs", "tradable capacities", "use it or lose it" were to be found on that flipchart – yet it would take EFET years to witness implementation of these concepts in an emerging German gas market. Today, much of it has been achieved. But times have changed: nobody talked about the consequences of renewable energy generation for trading back then, about emissions trading, sector coupling or market abuse. We now have a fourth package of EU energy legislation (called the “Clean Energy

Package"), which finally tries to complete the Internal Energy Market - as the previous packages promised to – as well as anticipate a transition to a decarbonised energy supply.

Looking back on the achievements of EFET, it was a masterpiece to become a voice heard by many, if not all stakeholders, at least with interest, but often with admiration or even fear. EFET was able to pinpoint the problems, but also to come up with solutions, while respecting the overall efficiency and integrity of markets. It evolved from a "guerrilla" approach to a respected player - this is its major achievement.

Working for a TSO now for six years, "on the other side" of the table, if you will, I more clearly and urgently see the need to take into account security of supply as a general consideration in all things "market." While TSOs strive to maximise the allocation of transmission capacity available to traders, the stability of the European electricity system has become a major concern. It will need the combined efforts of all stakeholders to make the Internal Energy Market a lasting success.

Market Supervision

Why does EFET do work on the supervision of energy markets by regulators?

Our Market Supervision Committee deals with regulatory developments, which aim to strengthen market integrity and transparency and to reduce systemic risk. Those have largely been the result of efforts to address the causes of the financial and economic crises of the late 2000s and to tackle harmful speculation in agricultural commodities, which eventually grew into overall lack of trust and a perceived need for closer supervision of commodity markets more generally.

Measures related to the strengthening of market integrity include provisions prohibiting market abuse – including market manipulation and insider trading – in electricity, gas, emission allowances and related derivatives markets. Those aiming to enhance market transparency encompass publication requirements for fundamental data and inside information, and data reporting regimes, accompanied by market monitoring mechanisms for regulators and trading venues. Lastly, those focusing on improving systemic stability cover risk mitigation requirements and thresholds for mandatory central clearing and collateralisation of over-the-counter (OTC) derivatives; closer supervision of financial instruments trading and the venues where those instruments are traded; as well as licensing and related capital adequacy requirements for those trading in financial instruments, unless they could benefit from one of the available exemptions.

Measures we have worked on

The Regulation on Wholesale Energy Market Integrity and Transparency (REMIT) and the related to it Implementing Regulation set out a market integrity and transparency regime tailored to electricity and gas markets. While work continues on improving data quality under the data reporting provisions and on elaborating aspects of the market abuse prohibitions, the regime has already been implemented in full and has been in force for some time (e.g. the prohibitions on market abuse have been in force since 2011). This means that a review of its functioning may be in sight. More recently, a growing caseload has signalled that regulators have started to make good use of the collected data and have stepped up their market monitoring efforts.

Similarly, the financial crisis precipitated the review of the European market abuse regime under the Market Abuse Directive, which was replaced by the Market Abuse Regulation (MAR) and an accompanying it Directive setting minimum standards for criminal sanctions (CS MAD). The former directive was strengthened by a regulation to ensure greater harmonisation of the prohibitions on market manipulation and insider trading in financial markets across the EU. Importantly for energy firms, MAR and CS MAD cover those wholesale energy products which are financial instruments, as well as emission allowances and derivatives thereof, and MAR imposes disclosure requirements for inside information on emission allowance market participants.

Furthermore, the European Market Infrastructure Regulation (EMIR) was adopted as a direct EU

response to the commitments made by G20 at their Pittsburgh Summit in 2009 to tackle the systemic risk and lack of transparency in OTC derivatives markets. The various provisions of the Regulation adopted in 2012, which include data reporting requirements for OTC and exchange-traded derivatives, minimum risk mitigation requirements for non-cleared OTC derivatives, and mandatory clearing and collateralisation requirements for OTC derivatives above certain thresholds in the case of non-financial counterparties (those are mandatory for all financial counterparties, although the review process mentioned below has created a new category of 'small financial counterparties'), have had a phased-in entry into force. While revised technical standards on data reporting entered into force in November 2017, a fully-fledged review has been under way since May 2017. A compromise text adopted by the co-legislators enters into force in Q2 2019.

Perhaps the most dramatic change compared to the pre-crisis financial markets regime, from the perspective of energy firms, was the replacement of the qualitative exemption for commodity traders embedded in the Markets in Financial Instruments Directive (MiFID) with a new quantitative exemption for firms whose trading in commodity derivatives, emission allowances and derivatives thereof is only ancillary to their main business. In effect, this means that commodity firms whose trading in the relevant asset classes (power, gas, emission allowances, etc.) is beyond certain thresholds compared to their main business, or whose market size in those asset classes exceeds the set levels, could find themselves within the scope of the recast MiFID II and the accompanying it Regulation (MiFIR) and thus, in need of an investment firm license.

Besides the organisational restructuring related to setting up an investment firm, the status of a financial firm brings those entities within the scope of other regulatory regimes and extends their obligations under others. Notably, financial firms are subject to the full scope of EMIR requirements and to the European capital adequacy regime. The latter constitutes a particular concern. The regime has been developed primarily for credit institutions and investment firms, which bear limited resemblance to energy trading firms, and could impose burdensome own capital requirements, and reporting and governance obligations. The regime under the Capital Requirements Regulation (CRR) and the fourth iteration of the Capital Requirements Directive CRD IV) is now under review, with new Investment Firms Regulation and Directive being discussed by the co-legislators. The final text is still pending, but some helpful amendments recognising the distinct nature and business model of commodity firms have been introduced.

With a view to confronting speculation in commodity derivatives markets, MiFID II also includes a position limits regime, which sets limits on the positions that could be held in commodity derivatives traded on trading venues. It is accompanied by a related position reporting regime. A transaction reporting regime overlapping with EMIR is also in place. MiFID II has now been in force for several years and some regulators have already started consultation processes with a view to reviewing and potentially improving its functioning.

In the context of the complete overhaul of the European frameworks for the regulation of financial and energy markets of the past decade and the extension of financial market regulation to commodity derivatives and emission allowances trading, our goal has been twofold: first, to ensure a robust regime for the integrity and transparency of wholesale electricity and gas markets under REMIT; and second, to minimise the negative impact of extending the financial market regulatory framework – designed with investment firms and credit institutions in mind – to energy firms and energy trading, where the participants are often asset-based (as opposed to credit institutions, which hold mostly liquid capital) and where trading in derivative products has an essential risk-mitigation function related to the physical business of the firm.

We engage with policy-makers and regulators through bilateral meetings, regular submissions to consultation processes, voicing our concerns at public hearings and roundtables, and participating in expert group meetings and industry forums. Our main counterparts are the agency of European financial regulators – European Securities and Markets Authority; the Directorate-General for Financial Stability, Financial Services and Capital

Markets Union (DG FISMA) of the European Commission; the Agency for the Cooperation of Energy Regulators (ACER); and the agency of European prudential supervisors – European Banking Authority. We are also often in contact with national financial and energy regulators, and prudential supervision authorities.

We have formed successful continuous and ad hoc alliances with various industry associations. Eurelectric, Eurogas, Energy UK, German Association of Energy and Water Industries (BDEW), and International Association of Oil & Gas Producers are our regular partners within the framework of the Joint Energy Associations Group, which is stirred by EFET. We are also members of the Commodity Derivatives Working Group, together with the International Swaps and Derivatives Association and the Futures Industry Association. Europex is also a frequent partner.

Achievements and next steps

Ensuring the development of an appropriate ancillary activity exemption framework under MiFID II has been a priority for the MSC, as financial regulators' proposals threatened to damage the liquidity of energy markets in Europe and bring into the scope of financial regulation a number of energy firms for which the trading in financial instruments is primarily a risk-reducing tool and thus, only secondary to their main physical business. We forged alliances with a number of industry associations across Europe and issued a series of joint statements raising awareness of the potential risks and implications of a poorly designed exemption framework. We succeeded in bringing the issue high on the agenda of DG FISMA and in ensuring that the new regime is well-calibrated.

As already mentioned, the ancillary activity regime is of importance not only in relation to MiFID II, but also because it could bring a firm into the scope of other regulatory frameworks, such as the European capital adequacy regime. In the past, we have played a key role in ensuring an exemption for commodity firms, which is, however, due to expire and is not foreseen to be retained in the future framework. In the context of the ongoing review, which will see CRR and CRD IV being replaced by a new Investment Firms Directive and Regulation, we have successfully brought to the attention of the Commission the need for a differentiated treatment of commodity firms. We are now engaging with the European Council and Parliament to ensure that the new rules treat commodity firms in a manner proportionate to the risks that they may pose and in consideration of their characteristics.

Over the years, we have also contributed to shaping the regime for the supervision of OTC derivatives under the European Market Infrastructure Regulation (EMIR) and related technical standards and non-binding guidelines. In particular, we have succeeded in excluding risk reducing transactions from the calculation of one's position against the clearing thresholds for non-financial counterparties (NFCs), i.e. the so-called "hedging exemption." Lack of recognition of the different role and risk profile of hedging transactions would have had an unduly punitive effect on firms legitimately trying to reduce the risk related to their physical activities. Furthermore, in the context of the recent EMIR review, we have worked hard for the removal of unnecessary burdens on non-financial counterparties and for the simplification of reporting requirements.

We have also succeeded in resolving a number of challenges related to the entry into force of the data reporting regime under REMIT, thanks to our good relation and active co-operation with ACER. Data reporting under REMIT requires the reporting of transaction data and orders to trade to the central data repository of ACER – ARIS, through a Registered Reporting Mechanism (RRM). It differs from the reporting process under EMIR, which requires the reporting of transaction data related to OTC and exchange-traded derivatives to a Trade Repository (TR) of one's choice. The data reporting process under EMIR came about first. It was marred with inefficiencies, as TRs were using their own proprietary standards for data reporting, which made data reconciliation difficult and led to considerable data quality issues as a consequence. Moreover, TRs suffered from insufficient competition and poor quality of service, and the opportunities for portability of data between TRs were limited. Our MSC members made a considerable effort to improve this process by calling for improved standards of operation for TRs. Importantly, we also help to avoid

similar inefficiencies in the implementation of the data reporting framework under REMIT through our close cooperation with regulators, RRMs and organised market places.

The reporting of transaction data and data on orders to trade to regulators is to be distinguished from the mandatory disclosure of inside information on disclosure platforms. It is also to be differentiated from requirements for the publication of fundamental data under the Transparency Regulation for electricity and the Gas Regulation for gas, which are part of the Third Energy Package. Finally, it also differs from the requirement to report fundamental data to ACER.

We have also engaged with the Agency and organised market places to ensure consistent interpretation of the rules prohibiting market manipulation and insider trading in wholesale energy markets. A shared understanding of what constitutes market manipulation is essential, first to strengthen market integrity and second, to avoid penalising unduly legitimate market practices.

More recently, we have helped members to navigate through Brexit uncertainty by carrying out detailed analyses of the regulatory implications and engaging with regulators both in the EU27 Member States and in the UK to seek clarifications and ensure a smooth transition. In addition, we have cooperated with energy exchanges, brokers and clearing banks to find pragmatic solutions in a timely manner.

We have also made sure to stay up-to-speed with innovative developments in the energy sector, such as applications based on distributed ledger technology. The MSC, through its EnerTech Working Group, which is managed jointly together with the Legal Committee, has engaged with regulators to highlight the importance of treating digitalisation in the energy sector separately from similar developments in the financial sector to avoid the potential unhelpful extension of financial regulation to digital applications in the energy sector. We have engaged with project developers to enhance our understanding of the challenges and opportunities related to energy sector digitalisation and have started analysing the potential regulatory implications.

In the future, we will continue to ensure that EFET members can benefit from a coherent regulatory framework for the supervision, integrity and transparency of physical power and gas markets and related derivative and emission allowances markets that does not impose undue burdens on non-financial energy firms. We will continue to forge helpful alliances with likeminded industry representatives and will work towards strengthening our cooperation with regulators and policy-makers.

Contractual Standardisation and Legal Support Services

The EFET standard master contract for physically settled power, gas and emissions transactions

In the course of twenty years of our existence, the EFET Legal Committee team has evolved from a small Task Force to one of the Principal Committees of EFET. Today, we look back at two decades of effective and very successful standardisation work and reflect on the new opportunities brought about by the changing needs of market participants in view of sector transformation.

Since its inception the Legal Committee has developed and issued an extensive library of EFET standard master contracts aimed at facilitating OTC transactions in energy as a commodity and in energy-related instruments. The EFET General Agreement for electricity and natural gas has become the predominant market standard for physically settled wholesale energy transactions in continental Europe. It is used not just for spot transactions, but also for forward deals, which contain a physical delivery option, though often cash-settled in reality. Various supplemental Annexes deal with power, specific gas hubs, carbon emission allowances, credit treatment etc.

EFET master agreements have been translated into several languages and have been instrumental in increasing liquidity in wholesale power and gas markets in Europe. Apart from that, the EFET master agreements have been and remain highly important for facilitating a level playing field for big and small, old and new trading counterparties across diverse product and geographic markets. In most cases the take-up of our standard contractual wording long pre-dated the establishment of a power or gas exchange in a given country or region.

We have achieved a lot over the last two decades, but perhaps our biggest achievement has been creating mutual trust by transparent decision-making processes and effective management led by the Secretariat at the EFET Board level. This has allowed us to grow over twenty years from a team of just seven lawyers representing member companies to an average of 50 or more active participants attending our quarterly meetings in 2019. Moreover, our legal team has proven

that effective and transparent decision-making remains possible even if the group expands in its size, cultural diversity, and diversity of membership.

Taking up new legal and contractual challenges

Over the years, the scope of our contractual and legislative work has expanded. Whereas in the beginning, our focus was primarily on drafting standard contracts for physically settled bi-lateral power and gas transactions, today, our group constitutes a centre of legal expertise within EFET organisation. Lawyers from our member companies have broadened our scope of work to cover subjects as diverse as, KYC ("know your customer") procedures; standards for the management of credit risk and collateral; and the impact of Brexit in national markets within the EU27 for UK based traders and their counterparties. Along the way we helped our member companies navigate the treacherous waters of the 2007-2009 VAT carousel fraud crisis related to carbon emission allowances. We also helped them to find a way through compliance with US and EU sanctions against Russia and Iran. EFET elaborated generic sanctions related terminology, which allowed trading counterparties to agree on standard contractual provisions to apply when either of them would be impacted by the enforcement of sanctions.
Perhaps three streams of EFET work under the aegis of our Legal Committee, taking place alongside the routine standardisation of wholesale market contract provisions, stand out in recent years:

- Efforts to have close-out netting adopted in most European jurisdictions;
- The publication of a first standard corporate power purchase agreement;
- Blockchain and FinTech.

Close-out netting

Netting is a standard process within the financial sector for the close-out of financial instruments, especially important to help control financial exposure in the event of the insolvency of one counterparty to a contract (however unlikely). EFET member companies are very pleased to see its extension to physically settled energy products in several European jurisdictions. When enabled by national legislation, netting reduces counterparty risk and gives companies the "breathing space" needed to trade high value products. In commodity markets, where traders are used to transacting both in physical contracts and in financial derivatives, the availability of credit exposure netting gives them the confidence to deal with a wider variety of counterparties, knowing their commercial interests are better protected in insolvency scenarios.

A regressive ruling of the German Supreme Court in November 2012 had placed serious doubt on the enforceability of close-out netting in insolvency scenarios in Europe's most important power and gas market. EFET launched a major campaign which led to a significant insolvency law reform in Germany subsequently. Thanks to our efforts, close-out netting was expressly protected by an Act coming into force in 2013.

Based on the successful advocacy work of EFET, member company delegates approached other national governments and initiated changes in some of their insolvency laws too. EFET inspired arguments soon led to statutory recognition of close-out netting concepts for physical commodity trades in Italy, Denmark and Slovenia. We still await the outcome of similar reform initiatives in Eastern Europe.

Corporate purchases of renewable power production

In 2017 the EFET legal team have embarked on a new venture, driving the first standardisation effort for a European Corporate Power Purchase Agreement (CPPA). The CPPA project entailed a lot of co-ordination with representatives of renewable energy producers, notably Solar Europe and Wind Europe as well as regional and national renewable energy organisations. After much hard work the EFET CPPA has been published in early June 2019 and will become the first cross-country standard CPPA available in Europe.

The EFET Legal Committee is indeed well placed to provide and maintain this new standard CPPA for the industry and we look forward to supporting the uptake of the EFET standard CPPA across the continent. We are confident it will prove to be an instrument able to help bring down transaction costs and facilitate negotiation of the complex obligations and liabilities often involved in the offtake of renewable power generation.

Innovation in the energy trading back office: blockchain and fintech

Blockchain and other types of distributed ledger technologies (DLT) require new solutions for the legal management of trading relations in the future. Already in 2014, EFET launched the Electronic Document Ratification System, an automated online alternative to the system of bilaterally exchanged letters for counterparties who want to replace outdated contractual terms with up-to-date documentation.

Blockchain raises a number of legal issues relating to data protection, contractual liability for malfunctioning and the question whether a blockchain transaction is able to evidence the legal transfer of title in a trading context. These issues require detailed and complex analysis, as there are no laws providing for blockchain to date. With this in mind, in 2017 our Legal Committee and our Market Supervision Committee have established a joint FinTech Working Group to focus on the contractual and data protection questions pertaining to the use of DLT. The objective of this group is to identify potential benefits and challenges related to the use of DLT for energy trading.

Outlook for the future

By offering contractual standards and legal support services, EFET helps our member companies develop legal risk management solutions for their OTC trading activity. We owe our success in this field to many factors, including speed and flexibility demonstrated by the EFET legal team in

developing and adapting documentation to meet the evolving needs of Europe's wholesale markets in power, gas and emission allowances. EFET retains a strong confidence in the over-the-counter, physical delivery portions of these markets. In turn, it is the continuing importance of the large volumes and good liquidity, which characterise them, which drives traders' need for our standard contractual solutions.

IT and Business Process Standardisation in Energy Trading

Since 1999 IT and business process standardisation has been one of the core activities of EFET. We started with this activity to meet a major challenge from the very start of liberalization of the power and gas sectors in Europe. This challenge was to be found not in the front office (trading desks) of participants in the new wholesale market, rather in the back office, where a fast growing number of transactions have to be confirmed and matched. In the late nineties, before any energy exchanges existed in most of Europe (the English Pool, Nordpool and OMEL in Spain being exceptions), bilateral deals were regularly confirmed by telephone and an exchange of faxes. Traders' filing systems became quickly clogged, as daily and hourly transactions multiplied with the advent of more competition and more liquidity.

But traders' back office systems, particularly their IT hardware and software, were not sufficiently compatible to communicate with one another by purely electronic means. The incompatibility was tackled head-on in 1999, with encouragement from Jan van Aken and Paul van Son, by Hugh Brunswick and a small team he assembled. They took on the job of producing data exchange standards which would overcome the back office blockage. They succeeded by early in this millennium, and the service they provided to EFET member companies and other became known as EFETnet (since spun off from EFET and renamed Equias.)

Once a standard is ready it looks logical and simple, but to get there can be quite an effort. Technical standardisation can be very political. From the start EFET was promoting the preferred European approach of "open" standards, whereas American and Asian service providers often prefer proprietary solutions. The latter require the user to purchase a license from the software owner or developer and can slow down widespread adoption

of a solution. In the case of the first EFET deal confirmation protocol the source software and the accompanying computer language were made available to all who wanted the service. EFETnet and one or two competitors acted as service providers but did not own any proprietary rights.

Introducing the EFET data exchange standard

We developed the EFET data exchange standard behind the deal confirmation protocol in a productive partnership between Hugh Brunswick and Michael Merz, founder of Ponton, a software consultant. Our open standard helped trading businesses to move from fax and paper record based systems to electronic solutions. Unique was also the very good cooperation with the IT experts from the electricity transmission system operators (TSOs) (in the shape of the ETSO TF14, which included EFET delegates) and later with the gas TSOs. Their collaboration was essential to ensure that nominations and scheduling of transactions worked smoothly. Fantastic results were accomplished rapidly by this small group of European IT engineers in the energy sector, mainly out of sight from EU and national authorities, and even their own top corporate management. Away from the politics of completion the European single energy market, the engineers just focused on finding solutions.

One of the many beneficial spin-offs from the standardisation effort was the setting up of transaction identification codes known as Energy Identification Codes (EIC). EFET played a crucial role in introducing this coding system in the electricity industry. Upon advice from EFET, the original name of the ETSO Identification Code was changed to Energy Identification Code. Later, EFET and ETSO together also managed to persuade the whole gas industry to use the EIC system. This achievement is one of a number of examples illustrating the ability of EFET to bridge the very different worlds of electricity and gas in the early days of liberalisation.

In the wake of the advent of greater transparency throughout the energy value chain in Europe, national governments and the EU Commission began to call for new legislation to guarantee the integrity of the wholesale power and gas markets and allow monitoring of those markets. In their view this would necessitate regulatory reporting of all wholesale commodity transactions. The need for such reporting was echoed by financial regulators, once the consequences of the 2008-9 financial crisis became clear. Reporting of all derivative transactions to financial regulators would be required under a Directive which became known as EMIR. To cover the physical side of the energy market, policymakers proposed the EU Regulation which became known as REMIT. The role of monitoring and receiving transaction reports was allocated to national regulatory authorities (NRAs) and the newly established European Agency for the Cooperation of Energy Regulators (ACER).

Among NRAs E-Control, under the leadership of Walter Boltz, was the first to realise that the reporting of transactions would require unique codes. EFET and EFETnet cooperated closely with E-Control to convince the Commission, ACER staff and NRAs that it would be inefficient to set up a completely new IT infrastructure for tracking wholesale energy transactions. Still today, not many people realise that the ACER codes used for exchange of transaction data are just a version of the identifiers used within the original EFET data exchange standard.

Creating a "common language" for the industry

Another spin-off from our IT standardisation work has been the development of an enabling computer language. Once our member companies started building their own in-house software to harness the power of the EFET standard, some became nervous about the risk that EFET or EFETnet might in future charge money for using elements of the data exchange protocols. So in EFET we decided to give away the mark-up language elements to a separate (non-profit) foundation. The foundation's mandate is to guarantee absolutely the neutrality and openness of the standard language, which we renamed "CpML" (Commodity Product Mark-up Language), to reflect the name given to a similar language used in the financial services sector: "FpML".

The success of CpML reached even the USA. EFET was invited to join the Depository Trust and Clearing Corporation in participating in a tender launched by the International Swaps and Derivatives Association to provide services for financial and energy transaction repositories, using the CpML standard worldwide. In the end EFET stepped back from involvement in a US enterprise of this sort. However, on advice of EFET, a foundation called the Global Trade Repositories for Commodities was set up in Amsterdam, which in turn owns holding companies established in New York and the Netherlands.

From 2009 onward, the implementation of European market supervision legislation kept IT and back office staff in our member companies busy for several years. In the same period the economic downturn led to lay-offs and even the withdrawal of some companies from parts of the energy market. As a result, there was little appetite or time for new standardisation projects.

New projects streamlining back office processes in energy trading

By 2018, however, the IT systems designed for compliance with market supervision regulation had become mature. Slowly but surely IT and back office managers could make time available again for new projects designed to streamline back office processes in energy trading.

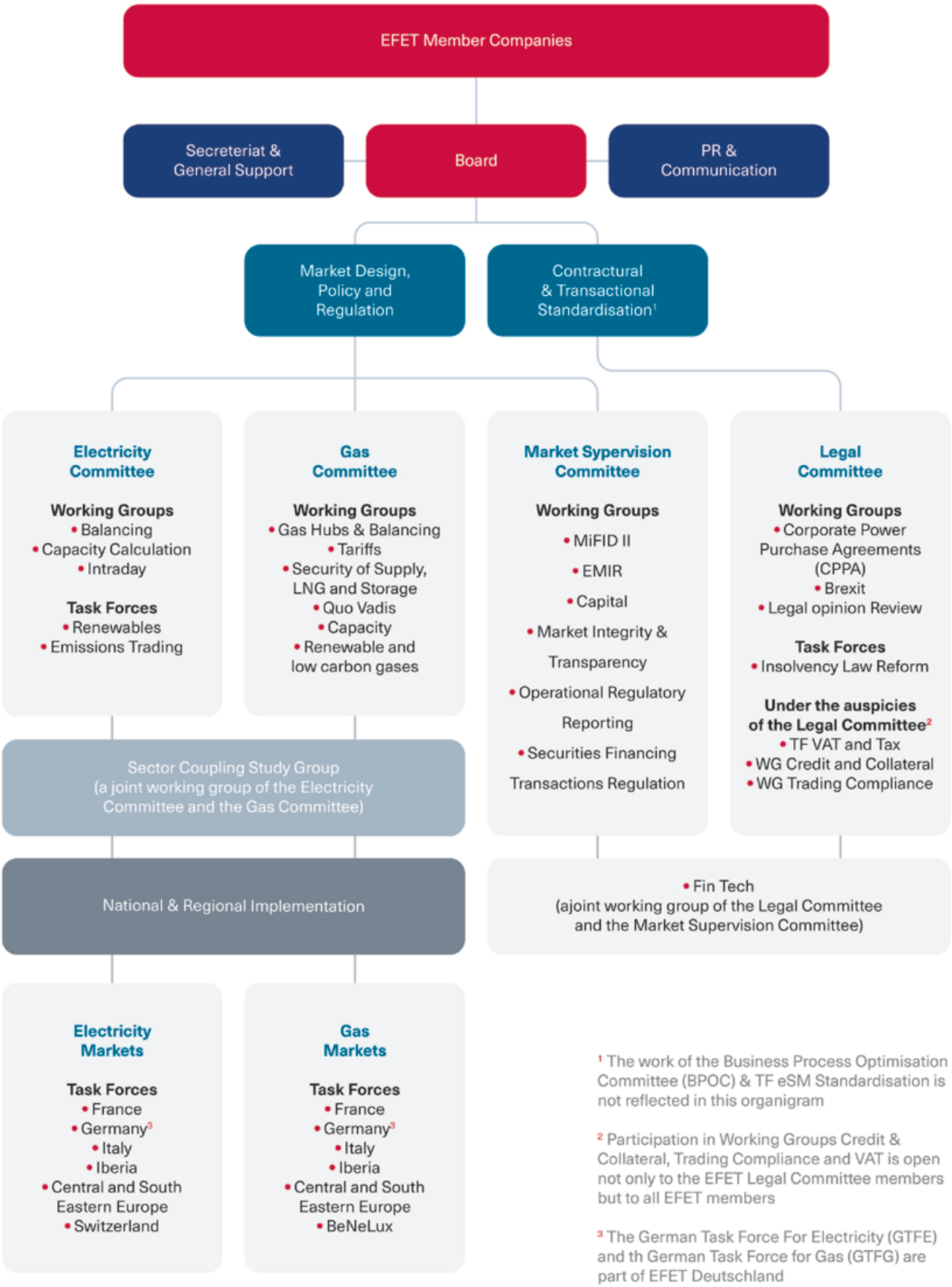
A deal settlement standardisation project, which had been stopped in 2009, was revived with the guiding hand of Gavin Ferguson, appointed to head a small EFET Operations Committee. In March 2019 the first part of a new electronic standard (eSM) was approved, which will help counterparties net their financial exposure when settling their payment obligations one to another, pursuant to a combination of transactions over varying timeframes. Once the CpML elements were finalized, part one of the eSM standard was released at the beginning of May 2019, with more parts to follow.

In coming years there will still be a need for new IT standards and business process harmonization. The challenge will remain to let people in different companies and organisations work together with a common, mutually beneficial purpose. We see not only IT and back office staff but sometimes also legal, accounting, compliance, regulatory and risk professionals involved in the elaboration of the resulting standards. Finding the right balance of power between the various specialists and professionals will be one of the challenges.

Complex IT engineering has not always been sufficiently appreciated in the fast-pace world of energy trading. The prompt opening of power and gas markets became possible partly thanks to the digitalisation of exchanges of transaction data. Back office processing could be faster and simpler. In the future, new IT developments will facilitate the current energy transition. In the context of

decarbonisation of the European economy and resulting systemic changes in the energy sector, knowledge within EFET about IT standardisation will stand us in good stead. This knowledge can in turn accrue to the benefit of both the wider energy industry and all energy consumers.

Organigram[1,4]



[1] The work of the Business Process Optimisation Committee (BPOC) & TF eSM Standardisation is not reflected in this organigram

[2] Participation in Working Groups Credit & Collateral, Trading Compliance and VAT is open not only to the EFET Legal Committee members but to all EFET members

[3] The German Task Force For Electricity (GTFE) and th German Task Force for Gas (GTFG) are part of EFET Deutschland

[4] The EIC issuing body is not mentioned in this organigram

Member Companies


a2a
Trading

Air Liquide
creative oxygen

ALPHERG

ALPIQ

AGT
ENERGY

axpo

aet
azienda
elettrica ticinese

bayerngas
Energiepartnerschaft mit Zukunft

BKW

BNP PARIBAS

bp

centrica


CHENIERE

citi

citiworks

CKW.

ConocoPhillips

CURRENTA
Leistung für Chemie und Industrie

dc
Danske
Commodities

ΔΕΠΑ
PUBLIC GAS CORPORATION S.A

DTEK

DXT
COMMODITIES

e·on

e2m

EDF

EDISON

edp

eft
ideas with energy

EGO
TRADE

electrade
breathing energy

ElectroRoute

EnBW

encevo

endesa


Enea

Eneco

enel

enercity
positive energie

ENERGIE AG

ENERGIE
ALLIANZ
AUSTRIA

Energya VM
Villar Mir Group

ENGIE
Global Markets

eni

EP Commodities

EPC

ENC

equinor

ERG
EVOLVING ENERGIES

ESB

europe energy

EVONIK
POWER TO CREATE

EWE

ExxonMobil

ezpada

Fortum

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galp

gas
union

GasTerra

Gasum

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MARKETING & TRADING

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innogy


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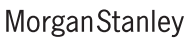
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Design:
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Production:
Printshapes

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