



## ACTIVITY REPORT 2016

**The Union of the Electricity Industry–EURELECTRIC** is the sector association representing the interests of the European electricity industry at pan-European level. We represent the power sector in over 30 European countries, speaking for more than 3,500 companies in power generation, distribution and supply. We also have affiliates and associates across the world.

In line with its mission, EURELECTRIC seeks to contribute to the competitiveness of the electricity industry, to provide effective representation for the industry in public affairs, and to promote the role of electricity both in the advancement of society and in helping provide solutions to the challenges of sustainable development.

For further information on EURELECTRIC activities, visit our website: [www.eurelectric.org](http://www.eurelectric.org)

**EURELECTRIC pursues in all its activities the application of the following sustainable development values:**

**ECONOMIC DEVELOPMENT**

- Growth, added-value, efficiency

**ENVIRONMENTAL LEADERSHIP**

- Commitment, innovation, pro-activeness

**SOCIAL RESPONSIBILITY**

- Transparency, ethics, accountability



[www.eurelectric.org/activity-report-2016/](http://www.eurelectric.org/activity-report-2016/)

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# 2016 AT A GLANCE

## January

EURELECTRIC publishes a benchmarking report calling for regulation, which protects customers and allows retailers to cover their costs. The report contributes to the development of CEER's Guidelines of Good Practice on Removing Barriers to Entry in Energy Retail Markets.



EURELECTRIC organises a workshop, which explores the achievement of a Renewables target for 2030 while ensuring consistency with other elements of the Energy Union.

## February

EURELECTRIC welcomes the European Commission's Energy Security Package proposals on Gas, as well as the Strategy on Heating & Cooling. It reiterates the need for competitive, liquid and well-functioning gas markets and the key role of electricity in decarbonising heating and cooling.



EURELECTRIC, together with EUROGAS and BEUC, sign a joint statement on improved comparability of energy offers,

dismissing a standard template. This act proves that consumer associations and suppliers can converge to help customers navigate the market more easily.

## March

EURELECTRIC presents its vision about the role of distribution system operators. EURELECTRIC considers a variety of potential responsibilities to be undertaken by DSOs and highlights their indispensable role in enabling a successful energy transition.

European Parliament's ITRE Committee organises a public hearing on "New Energy Market Design". EURELECTRIC is invited to present its overarching recommendations on how European electricity markets should evolve so that they meet the needs of citizens, industry and the environment.

EURELECTRIC organises a conference on access to electricity, as part of its pledge to contribute with the United Nations and the European Commission to universal energy access by 2030.

## April



EURELECTRIC takes an active part in discussions on market design. It issues recommendations on how to make the market fit for the low-carbon transition and organises a high-level conference "Electricity market design: fit for consumers and decarbonisation".

The European stakeholder "Platform of Electro-Mobility" dedicated to the sustainable electrification of transport is launched. EURELECTRIC is amongst its 15 founding members. As a first task, the Platform presents the European Commission with key recommendations in view of its transport decarbonisation communication.



EURELECTRIC publishes a report on myths and realities of EU electricity markets. The publication contributes to the debate on the real issues preventing retail electricity markets from functioning properly to the benefit of consumers.

## May

EURELECTRIC welcomes the entry into force of the Network Code on Requirements for Generators (RfG), one of the main drivers for creating harmonised solutions and products necessary for an efficient pan-European (and global) market in generator technology.

## June



EURELECTRIC's flagship annual event "E-lectricity: The power sector goes digital" takes place in Vilnius,

Lithuania. High calibre delegates recognise the role of digitisation and innovation in delivering the European and global decarbonisation objectives at least cost to consumers.

The European Commission organises an ad-hoc session of the Florence Forum devoted to the future of retail electricity markets and DSO issues. On this occasion, the Commission presents its position on the new DSO entity that it intends to set up. EURELECTRIC supports the general principles of the Commission's proposal, conditional upon further clarification.



EURELECTRIC continues to voice its support for electrification as part of its ongoing Presidential

Priorities and organises an event on its benefits, specifically in heating and cooling and how it can contribute to Europe's climate change targets.

As part of the Smart Grids Task Force Expert Group 3, the European Commission organises a workshop on conditions for successful implementation of incentives for innovation for distribution and transmission system operators. This workshop comes in time for the market design regulation, which according to the European Commission, should include key principles to promote incentives of innovation of smart grids.

Within the European Social Dialogue framework, EURELECTRIC co-signs a landmark agreement with European Federation of Public Service Unions and IndustriAll Europe to provide minimum quality standards for in the European electricity sector.

## July



The European Parliament and Council reach a preliminary agreement on a new National Emission Ceilings (NEC) Directive. The Institutions reached agreement on emission limits that would be strict enough to reduce premature deaths

from air pollution by around 50% by 2030 and agreed indicative commitments for 2025.

EURELECTRIC welcomes the European Commission's decision to review the methodology for the calculation of a Primary Energy Factor (PEF). This revision takes place in the context of the legislative proposals on the 2030 Climate and Energy Framework. The European power industry has repeatedly called for an in depth analysis and an improved approach to this important policy instrument.

The European Commission publishes the legislative proposal to revise the Effort Sharing Decision (ESD) and its Strategy on Low Emission Mobility. EURELECTRIC welcomes the documents as they aim to keep the EU on track towards the decarbonisation of the European economy.

## August

EURELECTRIC welcomes the entry into force of the Network Code on High Voltage Direct Current Connections (HVDC) and the Demand Connection Code (DCC). The HVDC provisions set out rules relating to the connection of new high-voltage direct current systems to national electricity networks, while DCC sets out rules to the connection of new demand facilities to national electricity networks.

## September



EURELECTRIC, together with CEDEC, EDSO for Smart Grids and GEODE, representing electricity distribution system operators, and ENTSO-E, representing the transmission system operators, team up to share their views on how to manage data and

information exchanges between system operators. The resulting effort is a joint report and a focused event on TSO-DSO data management.



Electric utility leaders from across the globe meet in Sintra, Portugal. They reaffirmed their commitment to a

low-carbon economy, acknowledging common challenges and opportunities on the way forward. A joint declaration, covering a range of topical issues, was issued following the event.

## October

Network code on Emergency and Restoration (ER) and Forward Capacity Allocation (FCA) are adopted. ER sets out harmonised rules on how to deal with emergency situations and to restore the system as quickly as possible, while the FCA establishes a framework for the calculation and allocation of interconnection capacity, and for cross-border trading, in forward markets.



EURELECTRIC launches a campaign promoting the benefits of electricity in achieving the EU's decarbonisation objectives for the transport and the heating and cooling sectors. Two toolkits – on Decarbonising Transport and on Heating and Cooling – put forward a number of recommendations and policy actions in view of upcoming legislation.

In the context of regular exchanges and dialogue with the CIS Electric Power Council, EURELECTRIC participates in a high-level energy forum in Baku, Azerbaijan. Delegates present the challenges and prospects for regional electricity cooperation and projects with neighbouring countries aimed at developing interconnections, infrastructure and synergies.



At a high-level EURELECTRIC conference to discuss strategic options that lie ahead in achieving the Energy Union, EURELECTRIC

publishes key policy recommendations in a report entitled "Winter Package Solutions".

The document offers insights on Energy Union governance, the review of the Renewables Directive, the new deal for electricity consumers, ensuring an active role for DSOs, as well as aspects relating to wholesale market integration, security of supply and network tariffs.

## November



EURELECTRIC joins forces with CEDEC, EDSO for Smart Grids, and GEODE and reaffirms, in a high-level event, the importance of the new DSO role in the energy transition and in the new energy market design.

The United Nations Climate Change Conference (COP22) takes place in Marrakech, Morocco. EURELECTRIC participates in the event and submits a statement focussing on the importance of implementing the Paris Agreement.

EURELECTRIC publishes a study, which explores the viability and effectiveness of options to strengthen the EU ETS, and makes specific recommendations for concrete measures to strengthen the ETS in the current reform.



EURELECTRIC Board appoints Kristian Ruby as next Secretary General of EURELECTRIC, effective 1 January 2017. Kristian Ruby succeeds Hans ten Berge, who served a total of 10 years at the helm of the industry association.

## December


The European Commission issues its "Clean Energy Package", the so-called "Winter Package" of legislative proposals. EURELECTRIC welcomes the Package, which aims at better engaging consumers in the energy transition, but stresses the need for a coherent and integrated approach across the entire value chain in order to achieve the 2030 climate and energy targets in a cost-efficient way.



EURELECTRIC releases its annual Power Statistics Publication for 2015 "The European Power Sector in transition".

Data confirms a trend towards an increasingly decarbonised power mix with an increase in renewable generation, alongside a rise of electricity's share across Europe's overall energy demand.

# COMMUNICATION HIGHLIGHTS



## TWITTER

4202 FOLLOWERS in 2016,  
**+1358** since 2015  
 1311 TWEETS in 2016,  
**+694** since 2015



## LINKED IN

1823 FOLLOWERS in 2016,  
**+710** since 2015




## EURELECTRIC WEBSITE

104946  
 Website VISITS in 2016,  
**+1283** since 2015




## YOUTUBE

19 VIDEOS in 2016,  
**-3** since 2015  
 4776 VIDEO VIEWS in 2016,  
**+2428** since 2015




## EURELECTRIC IN THE PRESS

Cited more than **103** times in English language media  
 46 articles in 2016, **+36** since 2015  
 12 interviews in 2016, **+6** since 2015  
**27** press releases  
**177** daily news





## PUBLICATIONS

**25** public consultations,  
**21** policy papers,  
**13** joint papers,  
**9** reports

## EVENTS

**12** public events  
 totalling **2,000**  
 registered participants



## MESSAGE FROM THE SECRETARY-GENERAL

As the European Commission prepared its ambitious legislative initiative for the end of 2016, EURELECTRIC was busy with its own proactive actions on important energy-related files such as the market design initiative, review of the Renewables Directive, a new deal for energy consumers, and the EU-ETS review, to name just a few.

In 2016, EURELECTRIC developed a forward-looking framework defining what characterises a well-functioning market and common criteria for market assessments. We carved our vision for a new market design while keeping in mind the importance of cost-efficiency and affordability for European customers. I am convinced that further market integration, a regional approach to security of supply and removing existing market distortions will contribute to achieving this goal. A secure, competitive and decarbonised energy system is possible and EURELECTRIC is currently deliberating the transition of Europe's energy markets up until 2050.

EURELECTRIC has also taken a leading role in promoting customer empowerment and efficient retail markets, which respond to energy consumer's interests. Consumers, retail markets and distribution networks are closely inter-linked and this year we looked further into how distribution networks will have to adapt to facilitate such markets. Subject to regulatory terms, DSOs will be the independent and neutral operators of new, local market arrangements designed to ensure that the evolution is efficient and effective in terms of market enablement and customer empowerment.

Despite these efforts, there are still many challenges ahead. We need coherent and integrated policy instruments to ensure that electricity companies can invest to put the sector on track for Europe's transition towards a low-carbon energy system. The energy policy should be underpinned by the following basic principles: a continued commitment to the completion of the Internal Energy Market; a stronger Emissions Trading Scheme (ETS) which can drive investment in low-carbon generation; a level playing field for full competition between all available low-carbon technologies, supported by a strong EU innovation strategy; and the recognition that electrification is fundamental to long-term growth and to the transition to the low-carbon economy. Innovative technologies, combined with advances in digital solutions, create opportunities for progress, not only in the power sector, but also in the transport, buildings and other industrial sectors.

As my term draws to an end, I would like to look back on the things that we accomplished together over these past ten years. First and foremost, we achieved consensus to decarbonise the electricity sector and to do it in the most cost-effective manner. The electric utilities commonly acknowledge that decarbonisation of the electric power sector is essential to guarantee the long-term sustainability of the global economy and are committed to leading this transition. This is something of which we can all be proud.

Together, we survived a major economic crisis, which changed the game and called the business model of utilities into question. We have also been a witness and participated in different ways to a social media and digital revolution. Even so, the industry is striving through this transitional period. Utilities are adapting to the changing environment and making unprecedented shifts to their investments to be able to survive and grow. Amidst these troubled times, I am proud that EURELECTRIC remains a reliable partner to the customer, industry and the European institutions.

However, our work is not finished. We still don't have a Pan European market in place. Although developments in regional markets have been a firm step in the right direction, we still have a long way to a fully-fledged pan-European market. Moreover, growing share of taxes and policy support costs in customers' bills are still holding back customers from actively participating in the market and the electricity industry from becoming the most competitive energy supplier industry.

I wish to thank each and every one of you for the support that you have given me the past 10 years. I am delighted that we have achieved so much and our accomplishments are a true reflection of a team effort. It has been my honour and privilege to serve in this role. I am confident that you will give the same level of support to my successor, Kristian Ruby, as he assumes the position of Secretary-General of EURELECTRIC as of January 2017.

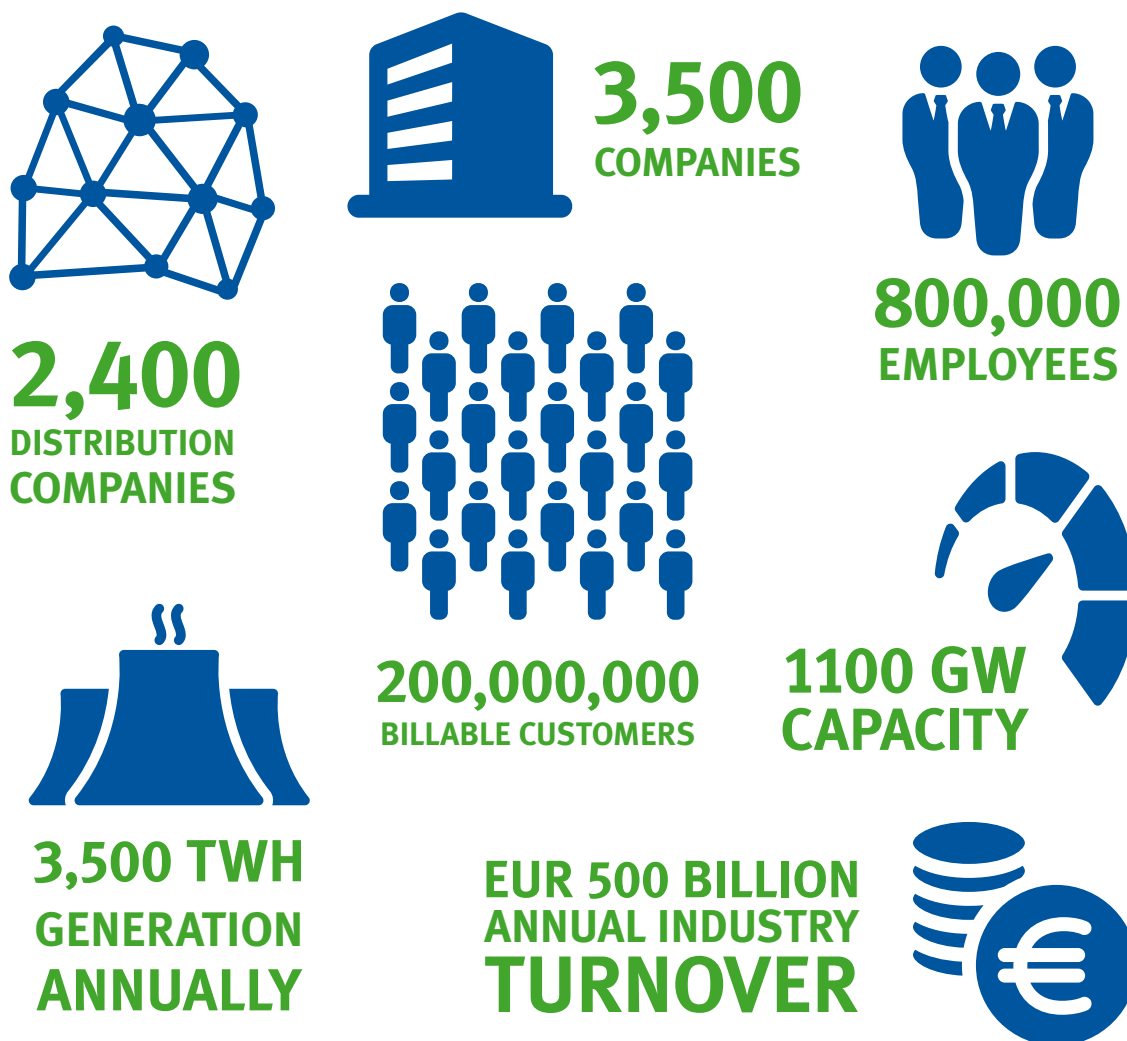


  
Hans ten Berge

# SECTOR PERFORMANCE\*

NET GENERATION BY FUEL TYPE (TERAWATT-HOURS)		
FUEL TYPE	2014	2015
TOTAL NET PRODUCTION	3727,07	3687,29
FOSSIL FUEL FIRED	1554,57	1527,52
NUCLEAR	952,11	909,24
RENEWABLES	1142,78	1172,42
HYDRO	606,03	575,03
WIND	264,03	306,88
SOLAR	97,60	108,76

\*Data excludes Denmark, Belarus, Slovenia, Slovakia, Estonia in 2015





## INTERVIEW WITH EURELECTRIC PRESIDENT ANTÓNIO MEXIA

*In 2015, at the start of your Presidency, you laid out your vision for EURELECTRIC for the next two years. Looking back, where do you think significant progress has been made?*

EURELECTRIC performed remarkably well in addressing the priorities that we laid out in 2015. Given the international momentum for decarbonisation created at the COP21 in Paris at the end of 2015, we were active in making concrete proposals for Europe to strengthen its carbon market and in showing low-carbon electricity's leading role in pursuing Europe's ambitious climate agenda.

We published our views on how electricity markets should be reformed in order to efficiently integrate the increasing amount of renewables that are needed for decarbonisation and to design capacity markets as structural components of market design that competitively secure supply.

In the downstream, EURELECTRIC continued to provide balanced views between retail and DSO agents in order to find the best solutions for our customers. Avoiding silo-based views in the downstream has produced tangible results in EURELECTRIC's lobbying activities, a fact that is widely recognised by the European institutions.

Finally, I am proud of the proposals that we have made to create effective European governance frameworks for our sector in order to ensure that Europe's policy targets are met.



*You mentioned that the price of electricity is the most recurring topic that is referred to whenever our sector is mentioned and that the value of electricity is rarely addressed. Where do you think we are today on this issue? Has Europe made any progress since last year?*

Everyone is starting to grasp the fact that a key part of the solution for Europe's decarbonisation challenge is the fuel switch from fossil fuels to electricity in sectors such as heating & cooling and transport. With the European power sector fully committed to decarbonise by 2050, electricity is on track to become the energy carrier of the future.

However, the pace at which the economy turns to our sector and recognises it as the key enabler of decarbonisation has been slow. Our efforts have focused on raising this awareness. For example, we published a toolkit for decarbonising transport where we showed that the electrification of this sector reduces emissions, lowers fuel costs and oil dependence, increases energy efficiency and improves air quality. Likewise, we have also shown the benefits of the electrification of the heating and cooling sector in a separate toolkit.

*Finally, what are your hopes and ambitions for the remainder of your term as EURELECTRIC President?*

Throughout 2016, EURELECTRIC has been successful in delivering on the specific priorities that we defined for my two-year presidency: electrification, market design, decarbonisation, retail customers, distribution system operators and Energy Union governance. At year-end, the European Commission published a comprehensive legislative package that touches upon all of these priorities.

I am now confident that because we have done our solid preparatory work on all of these topics, we are in a privileged position to influence the public discussion around the European Commission's proposals. There are areas where the Commission has similar views to ours such as the balanced responsibilities between retail and DSOs activities. However, we still need to work on showing that there are structural elements of market design, such as capacity markets, that need to be implemented as an answer to the changing paradigm of our sector.

My fundamental hope is that we can clearly show that electricity is a large part of the solution for Europe's energy and climate challenges. But for that, we need both a sustainable market design and a stable regulatory framework that provide the necessary investment signals that our sector needs.



## INTERVIEW WITH MIGUEL ARIAS CAÑETE – EUROPEAN COMMISSIONER FOR CLIMATE ACTION AND ENERGY

*With the ratification of the Paris Agreement, the European Union is now working towards the implementation of its 2030 Climate and Energy Framework. With a number of key legislative proposals foreseen by year-end, what do you see as the most important challenges the EU faces and which urgently need to be “fixed”?*

The Paris Agreement is a historic landmark in the global fight against climate change. After ratification in November last year, we all must now put full focus on implementation.

The good news is that we are not starting from scratch in Europe. The 2030 Framework for Energy and Climate agreed by the European Council already in October 2014 serves as the basis for our commitments under the Paris Agreement. It is based on the three 2030 targets for greenhouse gas reductions, renewable energy and energy efficiency.

With the package of initiatives “Clean Energy for All Europeans” and the earlier proposals on the EU ETS and Effort Sharing, the Commission has tabled the main legislation necessary to meet the three 2030 targets. It is crucial that the Council and the Parliament reach agreement on these initiatives quickly.

These pieces of legislation include fair and equitable contributions from all Member States to all three targets; flexibility to Member States to adapt to national specificities and preferences, and solidarity among them; strengthened cost-efficiency and less distortive policies and measures to meet our common objectives; and sufficient incentives to mobilise the necessary investments.

In particular, the “Clean Energy for All Europeans” package will transform our energy system dramatically. This includes an ambitious energy efficiency target of 30% by 2030; a set of measures to not only achieve a renewable energy target of at least 27%, but also to become world’s leader in this sector and help our industry to remain at the forefront of innovation and technology development. Last but not least, the package means putting consumers at the centre of our energy system and thereby turning them into the real drivers of the energy transition.

In addition, the EU has to work together with all its international partners to turn the Paris Agreement into a reality. This is obviously essential to mitigate climate change, but also to ensure that EU companies can take full benefit of opportunities in third countries, and thereby create jobs and growth in Europe. According to the International Energy Agency, the full implementation of the climate plans will lead to investments of USD 13,5 trillion in energy efficiency and low-carbon technologies from 2015 to 2030 – an annual average of USD 840 billion. We must work further to ensure that this translates to real business opportunities for the EU.

***How do you see the role of the electricity sector in achieving a decarbonised European economy? What do you believe are the key reforms necessary to ensure that the EU achieves cost-effective decarbonisation?***

All sectors will have to contribute to ensure effectiveness and efficiency of the EU's decarbonisation efforts. The electricity sector is already leading and will have to continue to lead the transformation of the energy system and the progress to a low-carbon economy. Key enablers of continued progress are further cost reduction of clean energy technologies – notably renewables and Energy Efficiency – and a strengthened EU ETS.

At the same time, specific measures to facilitate the development of renewable energy in the electricity sector are needed on the basis of the proposed new Market Design initiative, the recast of the Renewable energy Directive and the national integrated energy and climate plans set up under the Energy Union Governance. A focus on renewable energy is not only needed to reduce emissions; together with our efforts to reduce energy losses in the system and progress towards energy efficiency objectives, this will also reduce our dependence on energy imports and make sure that the transition to a low-carbon economy leads to growth and jobs in the EU.

***Wholesale and retail market design are clearly at the top of the European Commission's energy policy agenda. What is your vision for a modern, interconnected and increasingly digital European energy market and what does the EU still need to do to achieve that?***

Well-functioning and better integrated energy markets are prerequisites for an affordable and effective attainment of the three overarching objectives of security, sustainability and competitiveness.

Over the past years, electricity wholesale prices have generally been decreasing. However, consumer prices continue to increase. We need to make the markets work better, to strengthen the links between wholesale and retail markets, and ensure that we deliver real benefits to the consumers.

To achieve this, it is essential that electricity markets send the right signals for investment in adequate and flexible generation and interconnection capacity. Better integrated short-term markets must be the core of an efficient electricity market design. There is already a broad consensus throughout the energy sector that wholesale market prices should better reflect scarcity when demand is high and generation scarce. Another key issue is more cooperation between Transmission System Operators in various Member States.

A fair deal for consumers also depends on better energy services, enabled by better use of digital and advanced technologies, such as smart meters and decentralised renewables production. At the same time, we have to reduce energy poverty. These are some of the issues addressed by our Market Design Initiative. It is now of upmost importance to quickly reach inter-institutional agreement on our proposals.

***Governance of the EU is currently high on the EU agenda. How can we ensure a holistic, coordinated and cooperative approach to the Energy Union's objectives as a whole?***

An effective Governance of the Energy Union can only be ensured through a combination of coherent legislative and non-legislative measures at various levels of society. Our proposal for a Regulation on the Energy Union Governance sets the legislative foundation for this, which will be complemented by non-legislative measures and actions.

The proposal ensures integration of policy areas through comprehensive integrated national energy and climate plans and progress reports; it ensures transparency, predictability and investment certainty through long-term and stable national plans and regularly assessing progress; flexibility and solidarity between Member States by a bottom-up approach with essential regulation at Union level; and simplification and reduction of administrative burden stemming from streamlined planning, reporting and monitoring requirements. It will also be of fundamental importance to meet the EU's 2030 targets for energy and climate through the right mix of objectives, policies and measures at EU and national level. The proposed Governance Regulation provides an unprecedented opportunity to take a decisive step towards a common vision and a coherent approach at EU and national level to ensure secure, affordable and sustainable energy to all consumers.



# EURELECTRIC ANNUAL CONVENTION AND CONFERENCE

**More than 400 delegates gathered in Vilnius from 6-7 June to discuss “E-lectricity: the power sector goes digital”, the theme of the 2016 EURELECTRIC Annual Convention and Conference. Hosted by the National Lithuanian Energy Association (Nacionaline Lietuvos Energetikos Asociacija – NLEA), member of our industry association, the event focused on the new “e-lectricity landscape” and the economic, regulatory, environmental and societal factors, which is giving rise to a complex and digitised, low carbon electricity system.**

Main conference themes focused on decarbonisation in an interconnected and digital world; attracting and empowering customers in smart new ways; enhancing the value of the intelligent grid; and smarter power markets in the digital age. Discussions over the two-day period emphasised the role of digitisation and innovation in delivering the European and global decarbonisation objectives at least cost to consumers.

Opening the event, EURELECTRIC President António Mexia, CEO of EDP highlighted the importance of electrification for the EU decarbonisation agenda, drawing attention at the same time to the massive investments needed – some Eur 1.94 tr must materialise by 2035, with more than half of this in renewables. These would require a holistic market design and a stable regulatory framework.

*“Switching to electric cars, buses and vans would cut Europe’s transport emissions roughly in half and could be done without any additional capacity. In the building sector, responsible for 40% of the EU’s energy consumption and 35% of its CO2 emissions, above 70 million heat pumps could be installed by 2020 and contribute to almost 20% of the EU’s efficiency target.”*

**António Mexia, President of EURELECTRIC and CEO of EDP**



Prime Minister of the Republic of Lithuania, Algirdas Butkevicius identified the digitisation of the energy sector, the EU climate and environmental objectives and the changing public expectations regarding the quality of services as the main challenges, which the European power sector will need to find answers to.

*“Lithuania is increasingly moving from being an energy island to becoming an integral member of the European energy market. Our country has been a real success story: the interconnection between the Nordic and Baltic countries has resulted in more trade between partners, which has resulted in change of flows and competitive prices.”*

**Algirdas Butkevicius, Prime Minister of the Republic of Lithuania**



Dalius Misiunas, CEO of Lietuvos Energija and President of the Lithuanian electricity association NLEA, also anticipated increased competition and integration as a result of digitisation and stated his conviction that regional integration must happen sooner.



*“The energy industry is no longer reliant solely on technical engineers. It now depends equally on its digital competence. Attracting digital talent is therefore a key success factor for utilities. Maybe one day we will be in a position to say that our business is a data business – and this is something we should be excited about.”*

**Dalius Misiunas, CEO of Lietuvos Energija and President of the Lithuanian Energy Association NLEA**

High-level keynote speakers in the four focused sessions looked at the implications of technology developments, of customers’ shifting preferences and of the European Commission’s political push towards a digital single market for utilities and the downstream business in general. Delegates agreed that smart transition requires a coordinated all-encompassing system approach that includes TSOs, DSOs, retailers and generators as part of the whole solution. Moreover, digitisation can help integrate electricity markets at the European level with the parallel development of local generation resources.

*“With increased development of storage, digitised solutions and energy efficiency management services, there is a strong emission reduction potential. These developments will also require us to rethink the way we charge our customers.”*

**Jean-Bernard Lévy, Vice-President of EURELECTRIC and CEO of EDF**



The traditional CEO panel debate looked at how a European governance framework can be developed despite the existence of different national systems and ambitions. Panellists agreed that a well-functioning single market needs infrastructure, market platforms and common rules. In case these obstacles are not surpassed, it will be difficult to discuss about a common market. Regarding the sector’s evolution, it was stressed that companies need flexibility to interact with customers and that less regulation is needed to be flexible and to develop disruptive innovations.



*“It can be challenging for large businesses to integrate small and innovative entities. Therefore, it is essential to integrate assets with information and software to develop the products that the customer wants and that provide value for money.”*

**Alistair Phillips-Davies, Vice-President of EURELECTRIC and Chief Executive of SSE**



President Mexia handing the EURELECTRIC Industry and Innovation Award to Thomas Schlegl, Managing Director of Eologix.

Dalius Misiunas, CEO of Lietuvos Energija and President of NLEA handing the EURELECTRIC Student Award to Lithuanian student Mindaugas Česnavičius.

The EURELECTRIC annual event gave prominent place in the programme to the traditional industry and student awards. The 2016 EURELECTRIC Industry and Innovation Award went to Eologix, a start-up company that developed an innovative sensor for icing detection on the surface of wind turbine rotor blades, while the Student Award was handed to Mindaugas Česnavičius, student at the Kaunas University of Technology (Lithuania) for the best video creation on the topic of digitisation.

The EURELECTRIC conference was sponsored by Business Associates Accenture as Gold Sponsor, Pöyry as Silver Sponsor and Ormazabal as Bronze Sponsor.



# INTERNATIONAL ELECTRICITY SUMMIT

**Chief executives from across the globe met in Sintra, Portugal, on 26-27 September 2016 to address some of the key challenges facing the industry as it transitions towards a low-carbon economy. Issues such as climate change post-Paris, decarbonisation strategies, electricity market reform, evolving cost and price structures, challenges posed by the empowered customer and the new role of distribution system operators were among the major items debated over the two-day event. Attended by CEOs from leading industry organisations Edison Electric Institute, USA, Canadian Electricity Association, Federation of Electric Power Companies of Japan, Australian Energy Council, State Grid Corporation of China, Regional Electricity Integration Commission (CIER) of Latin America and EURELECTRIC, the high-level Summit is a key networking event enabling chief executives to dialogue and take stock of the changing business and political environment in an informal context.**

In a joint statement, endorsed by all delegations, industry leaders reaffirmed their commitment to a low-carbon economy, recognising the Paris Agreement as a historic achievement in the global efforts aimed at combatting climate change. They called for international political momentum to be maintained as the focus now shifts towards implementation of the Agreement. They further stressed the decarbonisation of the electric power sector as an essential element in the transition to the long-term sustainability of the global economy and expressed their commitment to leading this transition.

On market reform, the electric utilities discussed the limitations of existing market structures to meet the challenges of decarbonising electricity supply reliably and at lowest cost. Noting the increasing transition to the capital intensive cost structure of zero emission technologies, they agreed to work together to explore new market based solutions that operate inside the sector and which reflect the value of delivering energy, flexibility and capacity.

The electric utilities also discussed the consequences of the current mismatch between pricing of electricity and the actual costs of it, recognising the increasing need to properly calibrate the structure of electricity rates and bills. They also agreed that all customers should equitably share in the cost and value of maintaining the grid.

Moreover, and as the grid continues to evolve from a passive system to a dynamic, customer-centered and multi-directional network, utility leaders acknowledged that distribution system operators would gain increasing importance as active system managers and that there is a need, therefore, to further define their role especially in “grey areas”.

**The next Summit  
takes place in  
Washington DC  
from 8-11 April  
2018 and will be  
hosted by EEI.**



## INTERNATIONAL FORUM ON ENERGY FOR SUSTAINABLE DEVELOPMENT

**In 2016, EURELECTRIC and CIS Electric Power Council continued their cooperation and regular exchanges on topics such as market integration and environmental protection. In October 2016, EURELECTRIC took part in a workshop co-organised by CIS Electric Power Council and the United Nations ESCAP (Economic and Social Commission for Asia and the Pacific) on the occasion of the 7th International Forum on Energy for Sustainable Development held in Baku, Azerbaijan. Participants from Russia, central Western Europe and China presented the electricity market in their country, as well as cooperation projects aiming at developing interconnections, infrastructure and synergies across the region.**

The Russian Energy Agency presented a set of regional projects through which Russia cooperates with neighbouring countries. These included grid development to facilitate power exchanges between Russia, Azerbaijan and Iran and wind parks in the region of south Siberia-North as part of the Silk Road Project implementation.

CIS Electric Power Council highlighted that transmission of energy to third countries will create opportunities for trade and business. Projects such as the development of an energy circle with countries around the Caspian Sea are therefore key to enhance regional cooperation. Moreover, the connection of Russia and central Europe to the European system is extremely relevant and CIS Electric Power Council therefore coordinates an international working group on electricity markets and interconnections that develops recommendations for further cooperation.

At the event, EURELECTRIC presented the status of the integrated European electricity markets as well as the upcoming legislative initiatives that will upgrade the electricity market design to underpin decarbonisation and decentralisation. EURELECTRIC is willing to share the European experience of building an internal energy market with the electricity industry and policy makers from the region.

EURELECTRIC and CIS EPC will continue to exchange information and cooperate in 2017 on market integration and regional cooperation with the objective of strengthening mutual understanding of the markets and identifying synergies in terms of policy developments.







# ATTRACTING AND EMPOWERING THE DIGITAL CUSTOMER

In the energy sector, digitisation is transforming the business architecture, redrawing boundaries and redefining relationships between consumers and utilities. Consumers will gain more control over their energy use and benefit from additional services, while suppliers will optimise their business, tailor new offers and target their communication. System operators will benefit from new tools to manage their grids more efficiently and integrate increasing amount of variable renewables in the system. Interaction between intelligent appliances, smart grids and home platforms – mediated by or on behalf of consumers – will usher in a new era with radically different consumption patterns centred on automation and remote controls.

With the electricity retail business set for major change, EURELECTRIC is working to foster customers' shifting preferences and to support the transition to a smarter energy system. The retail price structures should trigger efficient investments and underpin electrification of other sectors, such as heating and cooling and transport. Consumers should be given the tools to make informed decisions, to benefit from transparent and understandable bills, fair prices and impartial dispute settlement mechanisms, as well as being certain that their consumption data are protected.

The electricity industry will support this transition also through a more intelligent network. Europe's distribution system will need to adapt its role to keep pace with the transformation of the energy world and with changing customer needs. EURELECTRIC believes that regulation must ensure that regional monopolies such as DSOs are incentivised to invest in/use smarter and digital solutions and that privacy and security including cybersecurity, are safeguarded.



## INTERVIEW WITH ANTÓNIO JOSÉ COUTINHO – CHAIR OF EURELECTRIC'S RETAIL CUSTOMERS COMMITTEE

### *What do you see as the key element to allow consumers and prosumers to participate in the market?*

The most important element is cost-efficient pricing. Consumers need to see the benefit of using electricity for transport, heating and cooling, thus contributing to the decarbonisation of the economy and increasing their own demand response potential.

The question is how do we get there? Member States have a prominent role to play. First, they must phase out regulated prices. Second, they should free up the electricity bill by bringing down policy support costs. Taxes and policy costs have been the main driver for price increases over the last years. They currently comprise 36% of the average EU household bill. This has to change and other energy carriers should contribute to the decarbonisation of our economy. Third, the way regulated charges, that is network and policy costs, are charged must evolve. We call on competent authorities to define a set of tariff structures tailored to consumers' contracted capacity and consumption behaviour. Last but not least, prosumers should be able to sell their surplus of energy at a fair market price.

### *Consumers often complain that they do not understand their electricity bills. Do we need more or less regulation on bills?*

The bill is an important communication tool between companies and their customers. As consumer needs are different, it is crucial that the bill can be tailored accordingly. To allow this, regulation should be more principle based and less prescriptive on what information is to be provided in energy bills. EU requirements on billing are extensive and complemented by stricter provisions at national level. Because of this, the bill can be overloaded with information that is not always useful to the consumer.

Moreover, such a prescriptive approach is preventing innovative forms of communication with consumers that fully leverage what digital technologies can now deliver. NRAs have room to learn from each other on good billing practices. This would be more helpful than building up EU minimum standards.

### *Do we need a EU framework to tackle energy poverty?*

No, we don't. As consumers who have energy debts are likely to have other debts (for instance rent or insurance), the best way to tackle the root cause of debt is via social – not energy – policies.

As for the EU dimension, we don't think it is particularly relevant. Each Member State is different when looking at employment rates, social security systems, climatic conditions, housing stock or energy prices. National governments and social services are in the best position to assess and address energy poverty with their own tools.

Energy companies can help. Consumers who are struggling with their electricity usage and bills can be offered energy advice or payment arrangements. Energy efficiency investments can also be a long-term effective solution for tackling energy poverty. However, such investments – or any specific price reduction – should be financed through general taxation or public private partnership and not imposed to utilities without a formal way of recovering these costs

Measures such as regulatory tools on the housing sector, or financial incentives including tax exemptions should also be envisaged. Considering the progressive nature of taxation, using social policies would allow for a fair burden-sharing without causing those on lower incomes to bear a disproportionately higher burden.



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## SHAPING THE POWER SYSTEM 4.0

**Innovation is a top priority for EURELECTRIC and a key enabler to the success of the energy transition. Triggered by EU decarbonisation and liberalisation legislation, and with the digital and ICT revolution, innovative and flexible generation technologies, processes and business models are rapidly emerging. But what electricity solutions will customers value in the future? Will retailers be able to determine the value of these services?**

Innovation in retail is driven both by changing customer needs and technology. Customers demand simpler and affordable energy services able to answer customised needs: they increasingly opt for distributed energy resources (especially generation) and they invest in smart technology such as heat pumps, home management systems or connected objects. While acquiring unprecedented control of their energy use, customers are willing to explore solutions to reduce their bill without reducing the comfort of their houses.

Retailers have been actively combining their knowledge of customers and the know-how of new technologies to develop innovative offers, such as new tariff pricing options, distributed generation, energy efficiency, demand side management and storage services. Most utilities not only rely on their own skills via innovation hubs and accelerators, but they also collaborate with and invest in clean technology start-ups.

To overcome regulatory barriers and de-risk innovation investments, we need a homogeneous approach to innovation policy across the EU. The focus should be shifted from mere adjustment of regulatory barriers to ensuring a fruitful enabling environment via different instruments, such as service-based bodies and one-stop shops. These will help foster innovation in established businesses, support entrepreneurs and educate consumers to become active participants of the energy system. While consensus on a European regulatory framework on innovation can take time to build, temporary measures such as exempting pilot projects and real life tests from obstructing regulatory requirements should be considered.

Solving the innovation equation will require a collaborative approach from all stakeholders and proactive exchange of experiences to allow for timely detection of challenges and barriers. EURELECTRIC is prepared to continue its role in facilitating this dialogue towards a smarter, more efficient and future oriented European electricity system.



To view more examples of innovation for customers, visit our website: [www.eurelectric.org/innovation](http://www.eurelectric.org/innovation)

## EVOLVING TOWARDS A CONSUMER CENTRIC DIGITAL ENERGY WORLD

**While ICT technologies have long been incorporated into large generation facilities, trading floors, dispatch centres and transmission grids, they are now spreading into distributed energy resources, distribution grids and even appliances in consumers' homes. Digitalisation holds a lot of promise, but it also brings in a number of challenges for all energy market players, including consumers.**

Consumers today buy a variety of electrical appliances with embedded sensors that can be connected to one another or remotely steered. These appliances are generating and exchanging ever-larger sets of data - yielding new insights into consumer habits and behaviour. Consultancy reports predict billions of such objects to be connected by 2020.

The “new generation” consumers are also becoming market players in their own right, either individually (as prosumers) or collectively (via cooperatives or community schemes). Looking at the increasing adoption rate of self-generation and consumption solutions, electric vehicles (EVs), battery-based storage and the emergence of microgrids, we can start to talk about the actual “democratisation of energy production”. This sweeping change is not limited to energy. Smart homes may well span other areas such as comfort, security and health services.

However, there are key challenges that need to be taken into consideration. Digital appliances and services may be too complex or too expensive for consumers. For businesses, a lack of standardisation and interoperability may slow down the commercialisation of new appliances. Learning to process and convert reams of unstructured data into concrete action may also take time. Finally, the roll-out of smart meters at European level is taking place at a slower pace than expected because of varying cost-benefit analysis outcomes, as well as data privacy and security concerns.

Suppliers and DSOs must therefore take the time to explain why digitalisation and smart meters are needed and to prove – through innovative services – the advantage they bring. Most suppliers offer now devices or software allowing consumers to get close to real-time information about their consumption (in-home displays, visualisation of consumption and comparisons with peers, energy audits, etc.). Such services together with new initiatives - like the EU Greenbutton, a voluntary industry initiative aimed at providing electricity consumers with easy access to their energy usage data in a standard format - should progressively attract and empower digital consumers.



**EURELECTRIC published a report on next generation data management for energy consumers. The report maps data in the energy sector and proposes a series of key regulatory principles for data access and data exchange.**

## 2017: THE YEAR OF ELECTRO MOBILITY

**Transport is responsible for about a quarter of EU emissions and is almost exclusively dependent on oil. As the Energy Union aims to break oil dependency and to decarbonise transport, especially for road and rail, electro-mobility is the key technology for replacing fossil energy sources. As the old energy order ends and a new one begins, policymakers should acknowledge electrification as the final piece in the sustainable mobility jigsaw.**

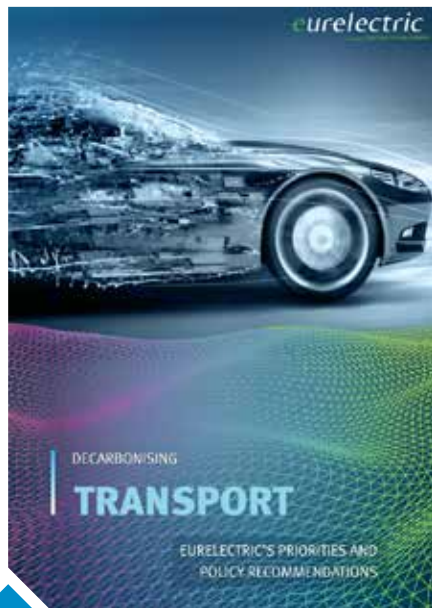
With the current EU power mix, a standard electric vehicle (EV) is responsible for far less CO<sub>2</sub> emissions per km than an average internal combustion engine car - and the share of low carbon electricity in the European power mix increases every year. At tailpipe, EVs do not emit any CO<sub>2</sub> or pollutants like NO<sub>x</sub>, SO<sub>x</sub> and VOCs. Instead, combustion engine vehicles are for a large part responsible for air and noise pollution, especially in cities.

EURELECTRIC is actively involved in the Platform for Electro Mobility where we have partnered with stakeholders such as car manufactures, NGOs and public transport associations in order to speed-up the electrification of transport. We also support the European Commission and Member States officials by representing electricity as a transport fuel at the Sustainable Transport Forum.

There are several policy initiatives on electro mobility expected for 2017 that can pave the way for the electrification of transport. EURELECTRIC's Toolkit on Decarbonising Transport presents the power sector's priorities and key policy recommendations with regard to the different elements to achieve the decarbonisation of this key sector of the European economy, and the contribution of the electricity sector towards this goal. When revising the Clean Vehicles Directive, decision makers should make sure to increase the share of low-emission vehicles in public procurements. Moreover, the announced introduction of a EU methodology for fuel price comparison and the expected new CO<sub>2</sub> standards for vehicles (Light Duty Vehicles and Heavy Duty Vehicles) are key initiatives that encourage electro mobility.

While higher legally binding percentage of renewable fuels in transport will help trigger effective national policies, charging infrastructure plays a central role in helping the success of electro mobility. A well-developed and inter-operational charging infrastructure is not only key to increase the deployment of electro mobility, but also to effectively link the transport and the energy sector via controlled charging and Vehicle-to-X technology. To make this possible, the Directive on deployment of alternative fuels infrastructure needs to be implemented as soon as possible.

With the International Energy Agency predicting increasing numbers of plug-in hybrid electric vehicles (PHEV) and EVs for OECD Europe until 2030, we expect to see an improved business case for the provision of charging infrastructure, as well as an increase of electro mobility services.



**EURELECTRIC published a toolkit, which presents the European power sector's vision and key policy recommendations for the decarbonisation of the transport sector, with explanations regarding the rationale behind such objectives.**



## INTERVIEW WITH FRANK MITCHELL – CHAIR OF EURELECTRIC'S DSO COMMITTEE

### *What is the role of DSOs in the energy system transition and will it change over time?*

As DSOs, we have a crucial role to play in enabling a successful transition of the energy system, while providing reliable and cost effective service to our grid users. Due to the increased incidence of decentralised generation, DSOs are moving away from their traditional role as passive network operators toward active system managers. New players and services are making interactions more varied and complex.

DSOs must continually adapt and extend their central role in facilitating an open and competitive market. Being at the heart of the changes that are happening within their own networks, DSOs must continue to act as neutral energy market facilitators and co-ordinators of all customers.

For DSOs to become active network operators, it is crucial to clarify any existing “grey areas”, such as electric vehicle charging infrastructure, electricity storage, flexibility, data management and energy efficiency. Although a market approach can enable the benefits from competition and innovation, in some cases the DSOs can also contribute to address market failures in early stages of market development, as sometimes the ‘market’ needs a kick-start. When DSOs are involved in such new activities, they should do so under special justification and under a strong regulatory oversight, so that they do not hamper competition or create market distortions.

### *But how will we know whether the DSO steps up to this new role in the most cost effective way? What is the role of the regulator in all of this?*

Although the role of DSOs is changing and strengthening, some basics will continue: DSOs will need to “do-the-right-things” and “do-things-right”, all in the most cost effective and timely manner in the interest of our customers and society in general. DSOs will continue to be regulated entities under supervision, and the efficiency and simplicity principles will largely prevail.

Meanwhile, energy regulators need to recognise the broadening and new roles of DSOs as neutral market facilitators and encourage efficient technological innovation. Performing this new role will lead to extra costs to realise the related benefits, inter alia, to the introduction of smart grids and the increasing complexity of data handling. New regulatory mechanisms will be needed to support and create incentives for innovative grid projects.

### *Why is flexibility important for DSOs in the energy transition?*

Flexibility services may be of great help for distribution grid operation to handle local congestions or other grid issues. DSOs could procure services in a variety of ways for example by established markets or by bilateral agreements. Over time, as markets develop and liquidity deepens, we could see execution platforms develop which could reduce the transaction costs.

It will therefore be important to develop a clear definition of how flexibility should be managed at a local and regional level. Often there are geographical limitations on flexibility for active DSO grid management and in these cases, it is important to foster liquid, well-contested markets, with a plurality of players.

This is a priority for DSOs given that real-life operational problems are arising more frequently. EURELECTRIC is working together with the other DSOs associations on this issue and looks forward to making significant progress on it during 2017.



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## INNOVATIVE DSOs IN A DECENTRALISED ENERGY SYSTEM

**With the growing uptake of smart grids and distributed energy connected to Europe's distribution grids, Distribution Systems Operators (DSOs) are successfully embracing the 'digitalisation' transformation. However, DSOs will face many challenges when large scale distributed generation will be integrated, with high numbers of electric vehicles connected to the grid and prosumers interacting in the market. More active grids will require a more advanced monitoring and management of the grid, for which innovation technologies are needed.**

According to the European Commission, 95% of renewable energy sources (RES) are connected to DSO grids and revenue allowances from regulated activities in the distribution sector are in the order of Eur62bn per year Europe-wide. To keep up the pace, increased distribution network investments will be needed by 2020 throughout Europe. These investments, though, imply a revised asset base, operating costs and revised business models. To incentivise such investments and underpin the changing network economics, amendments to the Third Energy Package and national regulation are needed.

As regulated businesses and natural monopolies, DSOs have to develop innovative solutions under a fixed regulatory framework. In 2016, EURELECTRIC conducted a survey among 20 Member States to show the status of regulatory incentives for innovation in Europe.

The survey showed that regulators in 11 out of 20 countries do not offer any specific mechanism to incentivise innovation. Moreover, incentives for OPEX-related innovation are only implemented in 4 out of 20 countries. When asked if the regulatory framework fosters or hampers innovation, half of the countries surveyed mentioned that the regulatory framework hampers innovation. The conclusion of the report was that there is a clear positive correlation between regulatory mechanisms and innovation incentives. In cases where the regulatory framework treats costs for innovation/research & development like any other costs, the system hampers innovation.

To help the DSOs face these innovation challenges, EURELECTRIC will continue to argue for a more coordinated innovation strategy for Europe, with increased levels of co-operation and knowledge sharing between Member States. To foster smart grid innovation and transition towards a new DSO business model, we encourage the European Commission to create a legislative framework recognising the need for innovation incentives, while leaving the specific design to national regulatory authorities.







# EVOLVING TOWARDS SMARTER POWER MARKETS

Ensuring the convergence of markets across Europe is number one priority for EURELECTRIC, and we continuously engage in the development and implementation of the network codes. While, the market needs to effectively value energy, flexibility and capacity, a range of ill-designed interventions should be removed. Market integration must be achieved and cross-border capacity must be used efficiently to fully integrate high shares of renewables. We need to urgently move towards a more regional approach to RES integration, system operation, system adequacy and capacity mechanisms.

Access to a competitive integrated European gas market is essential for flexible gas power plants to facilitate the integration of renewables in the electricity sector. When reforming the gas sector, it is essential to consider the correlations between the gas and electricity regulatory frameworks.

Finally, financial market regulation should recognise the specificities of physical trading compared to financial trading. If these specificities are not recognised and adequate provisions included, the EU's strategy of an Internal Energy Market will be compromised, thus harming market liquidity and energy consumers.



## INTERVIEW WITH JUAN JOSÉ ALBA RÍOS – CHAIR OF EURELECTRIC'S MARKETS COMMITTEE

### *Should the electricity market design evolve to adapt to the low-carbon transition?*

Yes, market designs are not carved in stone and should evolve with the energy transition. We will face several critical challenges in the short to medium term. First, the need to foster the competitiveness of low-carbon technologies and to allow for flexible solutions to develop. Second, we should make sure that the market provides price signals, which are adequate both for existing assets and investments. Third, the necessity to avoid structural over or undercapacity, to ensure security of supply in a cost-efficient way.

### *What are EURELECTRIC's priorities when it comes to the so-called legislative "winter package"?*

Several elements of the legislative package need to be in tune to provide the instruments to face these challenges.

First, we have to make sure that consumers reap the benefits of linking the wholesale and retail market together. They need to be able to participate in the market via demand side on a level playing field with other flexibility providers such as generation and storage. This will be possible only with a bill that is clear and free of the costs of policy support burden.

Second, making the EU ETS stronger is a no-regret option to drive low-carbon investments. As we progress towards an integrated European electricity market, renewables must be laced on a level playing field with other technologies, including balancing responsibilities, rules for access and dispatch to the grid.

Third, in order to effectively make the market fit for renewables, we must ensure the full integration of day-ahead, intraday and balancing markets, and implement shorter gate closure. Wholesale prices must also be allowed to adequately reflect scarcity, thus helping to provide investment signals that can be trusted by market participants. Another key element is to develop and implement market-based congestion management built on a common method.

Last but not least, a more regional approach to electricity systems' operation and adequacy is the most sustainable path to follow. A truly integrated internal electricity market will need an optimised electricity system on a regional and European basis, that is to say that TSOs should act as one. This will require coordinating and ultimately integrating system operation and planning tasks relevant to cross-border trade at regional level, building on existing TSO coordination initiatives.

### *Speaking about regional approach and modifications to the market design, how can we ensure a coordinated development of capacity mechanisms?*

As made explicit by the European Commission, DG Competition inquiry into capacity mechanisms, many Member States are already introducing different types of capacity mechanisms to ensure security of supply. This in depth analysis sheds light on the security of supply challenge and on existing instruments. The overarching goal of any capacity market must be to ensure system adequacy. Well-designed capacity mechanisms contribute to giving longer-term investment – or divestment - signals to ensure security of supply. We agree with DG Competition on the key features for capacity mechanisms. They should be market-based, technology-neutral and open to all existing and new assets like generation, demand response, storage. Plus, they should also allow for the contribution of capacities across borders to drive regional cooperation and take into account regional interdependencies.



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## THE YEAR OF DELIVERY FOR EUROPEAN NETWORK CODE ADOPTION

**The implementation of network codes (NCs) is the backbone of the market integration process. Ensuring the convergence of markets across Europe is a number one priority throughout the development and implementation process of the NCs. To help achieving this objective, a strengthened involvement of stakeholders in developing, amending and monitoring the electricity NCs is key. The convergence of markets across Europe should be a number one priority throughout the development and implementation process of the NCs.**

NCs/guidelines are the common rules for power system operations, market and connection ensuring the system is fit for more renewables, competition and active demand. The development and implementation of NCs involves regulators, system operators, stakeholders and the EU institutions. 2016 has been a year of delivery for a great part of the NCs adoption. Rules on capacity allocation and congestion management (CACM), forward capacity allocation (FCA), requirements for generators (RfG), high voltage direct current (HVDC) and demand connection code (DCC) have already been adopted, published and are going through a process of implementation.

Looking ahead, monitoring the implementation of NCs will probably represent an even greater challenge than their development. In particular, the NCs define several non-exhaustive requirements that leave room for choices to define what has to be developed, such as regional agreements, common methodologies, implementation guidance documents etc. At the same time, the right balance between the NCs' implementation and actions that are left to the discretion of national competent authorities should be ensured. The upcoming challenge now is to make sure that the proper level of harmonisation and real obligations are created to bind markets and TSOs on a pan-European basis to ensure smoother market integration. EURELECTRIC calls on the European Commission and ACER to present concrete, robust and inclusive proposals on how the NCs will subsequently be amended and their implementation efficiently monitored. This is to respond to a changing system and market conditions, while still ensuring adequate stakeholder involvement.

## WHAT ROLE FOR FINANCIAL REGULATION IN A NEW MARKET DESIGN?

**The volatility of power prices, the expectations on when/how physical assets are available - grid congestion, maintenance, fuel availability and variable renewables – are elements that create risk for companies in the electricity sector. The use of financial instruments allows companies to reduce these risks.**

If the market is characterised by a volatile environment, utilities will tend to use trading more proactively in order to guarantee predictability over the economics of the operations. Vice versa, less volatility and more certainty lead to a lower use of financial instruments. More active trading and the use of financial instruments will likely be needed to tackle price volatility triggered by the integration of renewables and decentralised generation, as there will be a greater use of short-term markets. Accordingly, the use of a wide-range set of financial instruments will be required to ensure that short, medium and long term operations are developed under a controlled risk profile.

EURELECTRIC fully supports the EU's objective to bring more transparency and market integrity in the energy sector. However, it is crucial that any financial regulation takes into account the specificities of energy markets – mostly driven by the need to optimise and mitigate risk – to avoid disproportionate obligations that risk having negative impacts on the real economy.

If financial regulations – such as the revision of the MiFID and EMIR Directives – consider the use of financial instruments by asset-based companies on the same grounds as financial institutions, several unintended consequences could occur. For instance, a tie-up of capital for investments, higher volatility of prices, a reduction in market liquidity along with the risk of less competition due to market concentration and increased costs of hedging that may trigger higher energy costs for consumers. A trend of standardising financial products may also reduce the ability of market players to innovate. EURELECTRIC is closely following the developments taking place in financial regulation - MIFID Directive, EMIR, MAR and REMIT regulation – and calls on legislators to take into account the specificities of the energy market and of our industry.





# ACHIEVING DECARBONISATION IN A DIGITAL WORLD

The Paris Agreement marked a crucial turning point towards the development of a low-carbon economy, setting in motion an irreversible trend towards decarbonisation. The European power sector is fully committed to this objective aims to produce carbon-neutral electricity across Europe by 2050.

EURELECTRIC is working to ensure that the EU's transition towards a low carbon economy is achieved in the most cost-effective way, most notably through a well-functioning electricity market and a robust EU ETS.

The power sector has already come a long way in its transformation towards low carbon generation. As the power sector pursues carbon-neutrality by 2050, electricity becomes the obvious choice for driving the decarbonisation of the transport and heating & cooling sector. Looking forward, we therefore see the electrification of the demand side sectors of the economy, which do not fall under the EU ETS, as being crucial on the path to decarbonisation.

As electricity becomes increasingly low-carbon, replacing fossil based systems with electric technologies which utilise electricity from renewables and other low-carbon sources will provide a promising pathway to decarbonise the rest of the European economy.

The Energy Union would provide the necessary framework to help ensure that this evolution is undertaken in the most cost-effective way, including by maximising synergies and cooperation. In order to ensure this, we need a stable and market-based regulatory framework that properly values electricity and stimulates innovation.



## INTERVIEW WITH GIUSEPPE MONTESANO – CHAIR OF EURELECTRIC'S ENVIRONMENT AND SUSTAINABLE DEVELOPMENT POLICY COMMITTEE

### *What is the role of the European electricity sector in achieving the Paris Agreement objectives?*

The Paris Agreement is a landmark agreement along the long and complex path to address the global climate challenge. The Agreement is a key achievement that provides the necessary signal to governments, businesses and the public of the universal commitment to fight climate change.

As the attention now shifts to its implementation, it will be important to maintain international political momentum and COP22 shows the complexity of the challenges that this will involve. The role of electricity will need to be strengthened during the implementation phase if we are to achieve the ambitious objectives of the Agreement.

### *The review of European climate legislation is currently in full swing. What will be the key issues for the European power sector in this review?*

We remain committed to delivering a carbon neutral energy supply in Europe and to ensuring that it is competitively priced and reliable throughout the integrated European energy market. The commitment to decarbonise electricity generation, together with the electrification of key sectors, such as heating, cooling and transport, will make a major contribution to meeting Europe's climate change targets. A strong EU ETS can be a key driver for market-based investments in low-carbon electricity generation. However, additional work is needed in order to make the EU ETS the main instrument to provide incentives to reduce greenhouse gas emissions, improve energy efficiency and to invest in low carbon technologies.

Following an internal analysis on options to strengthen the EU ETS, EURELECTRIC proposes a combination of technical adjustments to be effective: to increase the Linear Reduction Factor to at least 2.4%, to increase the intake rate of the Market Stability Reserve to 24% per year from 2019 until at least 2023, while lowering the applicable thresholds to make it work more swiftly in both the short and longer term.

We will also support measures to ensure that the necessary compensation is provided to address the cost impact for Member States that are disadvantaged by a more carbon intensive starting point. We see immense potential for electricity to support the decarbonisation of the non-ETS sectors. The negotiations for a new Effort Sharing Regulation and the revision of the energy efficiency package are the places where the role of electricity in reducing emissions from the transport and buildings sectors can be better enabled.

### *What do you see as the main challenges to achieve greater electrification of the heating and cooling and transportation sectors in Europe?*

A fuel switch to electricity in the non-ETS sectors such as transport and buildings can provide huge benefits when we consider such a switch in conjunction with the ongoing decarbonisation of the power sector. We must ensure that the legislative reviews set the necessary level of ambition required to drive the required investment and innovation in these sectors. We must overcome major obstacles such as additional energy costs placed on electricity bills, which make it more expensive than other energy carriers. We must also ensure the development of smarter financial instruments to increase private investment in new technologies. Finally, we must ensure the necessary coherence and consistency between the various targets and measures under the 2030 climate and energy framework to ensure efficient regulation and effective implementation.



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## FOCUS ON COP22: PARIS AGREEMENT IMPLEMENTATION PROCESS KICKS OFF IN MARRAKECH

**The annual Conference of the Parties (COP22) under the United Framework Convention on Climate Change (UNFCCC) took place in Marrakech Morocco in November 2016. The meeting followed the rapid ratification and entry into force of the Paris Agreement which took place on 4 November 2016, less than a year after it was adopted. This enabled the Marrakech Conference to convene the first ever Meeting of the Parties to the Paris Agreement. After the historic entry into force of the Paris Agreement, people looked to COP22 to maintain momentum in the battle against climate change.**

In Marrakech, Parties returned to the city where 15 years ago the Marrakech Accords were adopted, the rulebook for the Kyoto Protocol, with a similar task at hand. COP22 once again featured extensive technical negotiations, this time aimed at bringing into operation the Paris Agreement. Delegates and business leaders forged ahead with ambitious new climate frameworks and bold pledges aimed at accelerating the global low-carbon transition.

Taking place following the huge momentum created by the Paris Agreement, COP22 in Marrakech, nicknamed the “Action and Implementation COP”, had implementation at its principal objective. Delegates had to demonstrate to the outside world that the UNFCCC process would contribute effectively to the momentum generated post-Paris by the actions of non-state actors, as well as other international processes. Meanwhile, Party delegates had considerable technical work at hand, to build a foundation for the accelerated completion of the modalities, procedures and guidelines that will make the Paris Agreement implementable.

During the Conference all countries reaffirmed their collective commitment to implement all elements of the Paris Agreement. While many believe that the concrete outcomes of the Conference were modest, important progress was achieved on some key elements of the implementation of the Paris Agreement, including the so called “Paris Rulebook” that will be completed in 2018.

In the run up to the Marrakech Conference, EURELECTRIC published a position paper in which it called for maintaining international political momentum in the months and years to come as attention shifts to the implementation of the Paris Agreement. The European electricity sector has supported the EU in its leading role to achieve an ambitious and legally binding global climate agreement. Regional and national climate change policies and measures will now be key for the implementation of the National Determined Contributions and for ensuring the success of the Paris Agreement.



**MARRAKECH**  
**COP22|2016|CMP12**  
UN CLIMATE CHANGE CONFERENCE



## REVIEW OF THE EU'S ENERGY EFFICIENCY LEGISLATION

**Energy efficiency remains high on the EU political agenda as policymakers seek to adopt new legislation with a 2030 perspective. After a series of stakeholder forums and consultations, the end of 2016 saw the Commission tabling a proposal for a revamped Energy Efficiency Directive (EED), as well as an updated Energy Performance of Buildings Directive. Much of the political attention is focused on the ambition level of the overall energy efficiency target.**

EURELECTRIC's ambitions for European energy efficiency policy are based on ensuring a cost-efficient level of ambition, which allows utilities to further develop their growing business interests in energy efficiency markets. On the other hand, we believe that it is critical to prevent a continuation of the climate and energy policy overlap which occurred in the setting of targets and instruments for 2020. Some reports have shown a decline in the effectiveness of the ETS and in overall cost efficiency at higher energy efficiency ambition levels.

However, the target will not only be the decisive factor. The legislation should also ensure the necessary flexibility is given to Member States (and subsequently utilities) in order for them to reach whatever target will be agreed. Even without a significant increase in the absolute numbers, amendments to the legislation regarding which measures may be counted towards the target, and the extent to which they may be counted, may have an even greater impact. This is strongly connected to the governance system that will be developed, which EURELECTRIC believes must be improved without the addition of excessive red tape for Member States and market players. EURELECTRIC is a strong defender of allowing the much-needed flexibility, which has proven to be essential in addressing each Member States' individual challenges in energy efficiency.

The review of the EU's energy efficiency legislation also holds to the key to another EURELECTRIC priority: the usage of decarbonised electricity in the downstream sectors. While this concept is gaining more and more traction with European and national legislators, most policy levers, which allow electric technologies to show their benefits, lie within the efficiency context. Critical issues such as removing taxes and levies from the power bill, looking beyond a 'demand reduction' policy approach, as well as technical items such as the Primary Energy Factor review will be of major importance to allowing electricity to play a more central role in downstream sectors.





## ELECTRIFICATION OF NON-ETS SECTORS TO HELP MEET EUROPE'S ENERGY NEEDS WITH LESS CARBON

In mid-2016 the European Commission published a legislative proposal on a new Effort Sharing Regulation that includes national targets for EU Member States to reduce greenhouse gas (GHG) emissions in those sectors of the economy not falling under the EU ETS covering the period 2021-2030. The proposal was accompanied by a Commission Communication on a European Strategy for Low-Emission Mobility. The Non-ETS Sectors are responsible for up to 60% of all GHG emissions in the EU. For Europe to succeed in addressing the climate change challenge, decarbonisation will need to take place throughout all other sectors of the economy as well. What role can the European electricity sector play?

To achieve the cost-optimising benefits of a coherent economy-wide approach to climate change, EURELECTRIC believes it is crucial that a consistent carbon price signal should apply across all sectors, thus enabling the efficient distribution of assets and efforts. EURELECTRIC sees a solution in changing the energy carrier in non-ETS sectors, such as heating and transport, to electricity from low or carbon-neutral sources. This shift will not only cost-effectively decarbonise the non-ETS sectors, but will also unlock the potential for technologies, which increase the efficiency in which energy is used.

Furthermore, using electricity in the non-ETS sectors, such as transport and buildings) would not only help to reduce greenhouse gas emissions, but it would effectively cap the emissions of the non-ETS sectors by de facto bringing them under the EU Emissions Trading System (EU ETS). Electric solutions will also increase the potential to ensure appropriate price signals which, when coupled with demand response and smart grid technology, effectively allowing the consumer to play a more active role. European consumers will be able to manage better their consumption and decentralised generation facilities, including using EVs and batteries as decentral storage and ultimately shaping their energy bill.

Given the European power sector's continuing progress to drive carbon out of the electricity system, there is a significant opportunity to allow wider sectors to benefit from these efforts. Maximum value of decarbonisation can only be realised if the reach of energy system investments is extended into other sectors. The ultimate aim should not only be to decarbonise the power system, but to deliver a total optimisation of the European energy system. EURELECTRIC will continue to strongly promote the value of electrification in the ongoing and upcoming legislative reviews.



EURELECTRIC published a toolkit, which presents the European power sector's vision and key policy objectives for the decarbonisation of the heating and cooling sector, with explanations regarding the rationale behind such objectives.



## INTERVIEW WITH OLUF ULSETH – CHAIR OF EURELECTRIC'S ENERGY POLICY AND GENERATION COMMITTEE

*How do you see the future of the European power sector within the European Energy Union and the changing energy market?*

The European electricity sector is undergoing a complex and long-term transformation. The share of renewable energy sources is increasing and we are moving rapidly towards a smarter power system where centralised and decentralised solutions all have a role to play. New technologies are becoming commercially viable and this enables major changes in the way the sector works. At the same time, new types of customers are emerging and these are generally more aware and demanding, more active and engaged. The future of the European power sector within the Energy Union will see us taking on more responsibilities along but also many opportunities.

*How do you see the development of the Energy Union and its governance framework?*

The Energy Union project reflects an ambitious, European approach to energy policy. This is important for Member States and hence the EU as a whole, as it will enhance security of supply, cost competitiveness and emission reductions in ways which individual countries cannot achieve on their own.

The Energy Union should provide visibility to the implementation of this policy path through a combination of EU wide, regional and national measures. We think that the governance system for the Energy Union should ensure that progress is monitored through an assessment of the implementation of national plans and their follow-up. Developing such a holistic system will help provide a stable market-based regulatory framework. It will also reflect a coherent, EU-wide approach with respect to the achievement of the targets under the EU's 2030 Climate and Energy Framework, as well as the broader Energy Union policy objectives, including the Europe's 2050 decarbonisation perspective.

*One of the key objectives of the Energy Union is for the EU to become the world leader in Renewables. What needs to be done to ensure further RES deployment in Europe?*

The European power sector is fully committed to this objective and has committed to deliver carbon neutral electricity supply by 2050. In 2015, 56% of electricity in the EU came from low carbon sources. We have also seen in recent years, the share of RES in the in the power mix becoming the largest source of low carbon electricity in the EU, comprising over 28% of total power generation. I am confident that renewables are in the process of becoming fully competitive with other power generation technologies. We must therefore ensure (especially in the context of the current legislative review of the EU's Renewables framework) that future RES deployment is sustainable, cost-efficient and based on market fundamentals.

The post-2020 framework for renewables must reflect a coherent economy-wide approach, which will enable the efficient distribution of renewable assets and efforts. To deploy RES in a market-based and cost-effective way, wholesale electricity prices (underpinned by a strong EU ETS) should become the main driver for mature low carbon technologies post-2020. As markets open to RES, the same rights and obligations should be applied to these market players (such as balancing responsibility and grid connection). If Member States choose to continue to provide support for mature renewables after 2020, this should be done in the most cost-efficient and market-based way minimising distortions, including those affecting the merit order. Member States should address the barriers to regional support and take into account the future electricity demand when deciding on supported volumes and on their geographical scope.



Scan the  
code to view  
the full video





## ENSURING NUCLEAR POWER'S CONTRIBUTION TO EUROPE'S LOW-CARBON ENERGY TRANSITION

Completing the internal market and strengthening the EU ETS are key elements for the development of low-carbon power generation. A level playing field between different technologies, allowing for market-based solutions to be found in order to reduce the risks associated with capital-intensive low-carbon energy projects, is equally essential. In this context, EURELECTRIC welcomed the European Commission's "Nuclear Illustrative Programme" (PINIC), published in April 2016, which recognises the significant investment required from this sector. EURELECTRIC believes that a continuing contribution of nuclear power should be part of Europe's low-carbon energy transition.

## PAVING THE WAY FOR RENEWABLES

**The EU aims to become a world leader in renewable energy. The European power sector is fully committed to this objective and has committed to deliver carbon neutral electricity supply by 2050. In 2015, 56% of electricity in the EU came from low carbon sources. In the same year, the share of RES in the in the power mix became the largest source of low carbon electricity in the EU, comprising 29% of total power generation. As policymakers aim to adopt new EU legislation on renewables with a 2030 perspective, EURELECTRIC has taken an active part in consultations and debates on renewable energy policy in 2016.**

At the end of 2016, the Commission tabled a proposal for a new Renewable Energy Directive (RED). Much of the attention is focused on how an EU overall target of at least 27% in final energy consumption can be reached. The European power sector has developed solid experience in the deployment of RES in the European energy market over the past years and is fully confident that technological developments and market experiences will allow renewables to become fully competitive with other power generation technologies.

This will require that future RES deployment is sustainable, cost-efficient and based on market fundamentals and ensure a European approach and cost-efficient deployment of RES in a manner that does not hamper the completion of the internal market. Further alignment of the key characteristics of support schemes through common EU rules should take place through consistent implementation of the state aid guidelines for the period after 2020, and the RES Directive. The partial opening of support schemes, joint projects and regional schemes provide other means to increase consistency and adopt a more cost efficient approach to RES.



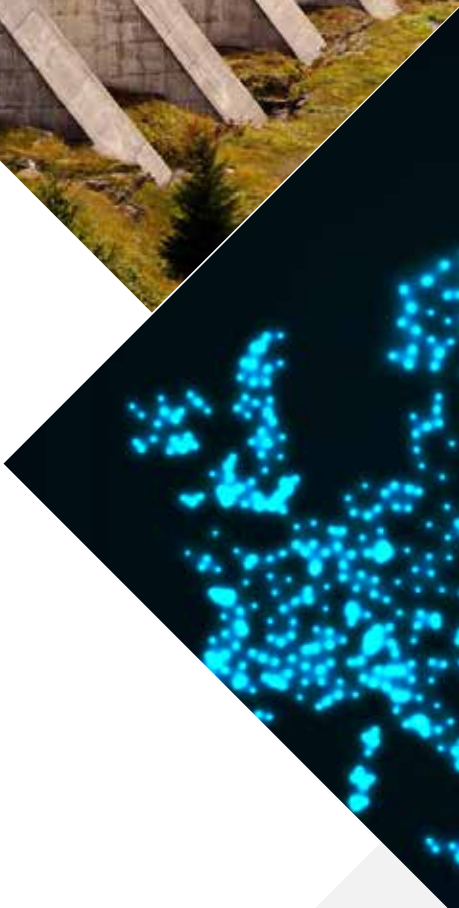
## HYDROPOWER AS A HIGHLY EFFICIENT AND COMPETITIVE RENEWABLE ELECTRICITY GENERATION TECHNOLOGY

**Hydropower is Europe's largest source for renewable energy and is a highly efficient and competitive electricity generation technology. Yet despite being a strong European asset, hydropower is not always considered as a strategic technology and its promising and multifunctional role as an enabler of the energy transition is insufficiently understood. EURELECTRIC accorded much attention to this topic in 2016 advocating European policymakers to recognise the important role of hydropower in the European power systems and the multipurpose functions of hydro infrastructure.**

Hydropower is situated at the crossroads of different policies, from water management to decarbonised electricity generation, as well as other environmental and planning policies. A number of key challenges therefore arise as hydropower seeks to balance these sometimes conflicting objectives.

The potential of hydropower in the energy transition should, however, not be overlooked. This technology has the ability to regulate the energy system in a secure and stable way, and provide the necessary flexibility and storage capacity to ensure the stability of the electric grid. This in turn allows for the integration of an increasing amount of intermittent renewable energy sources in the system without compromising security of supply.

As Europe pursues its decarbonisation agenda, hydropower has been identified as a highly valuable asset in climate change mitigation, due to its low carbon footprint and high generation efficiency. This makes hydropower a competitive and reliable renewable energy source.





# ANNEXES

Status as at 31/12/2016

## EURELECTRIC FULL MEMBER ORGANISATIONS



Oesterreichs E-Wirtschaft **AUSTRIA**



Fédération Belge des Entreprises  
Électriques et Gazières (FEBEG) /  
Federatie van de Belgische Elektriciteits-  
en Gasbedrijven (FEBEG) **BELGIUM**



Energy Management Institute **BULGARIA**



Croatia EURELECTRIC Section – Croatian  
Chamber of Economy **CROATIA**



Electricity Authority of Cyprus **CYPRUS**



Cesky Svaz Zamestnavatelů v  
Energetice (CSZE) **CZECH REPUBLIC**



Dansk Energi **DENMARK**



Eesti Elektriõstuse Liit **ESTONIA**



Energiateollisuus ry, Finsk Energiindustri rf  
**FINLAND**



Union Française de l'Electricité (UFE)  
**FRANCE**



Bundesverband der Energie- und  
Wasserwirtschaft e.V. (BDEW) **GERMANY**



Hellenic Electricity Association (HELAS)  
**GREECE**



EURELECTRIC Magyarországi Tagozat (EMT)  
**HUNGARY**



Samorka, samtök orku-og veitufyrirtækja  
**ICELAND**



Electricity Association of Ireland (EAI)  
**IRELAND**



Assoelettrica – Associazione nazionale  
delle imprese elettriche **ITALY**



Latvijas Elektroenerģētiku un  
Energoūvnieku asociācija (LEEAA)  
**LATVIA**



Nacionalinė Lietuvos Energetikos  
Asociacija – NLEA **LITHUANIA**



Organisation des Entreprises d'Electricité  
du Luxembourg **LUXEMBOURG**



ENEMALTA Corporation **MALTA**



Vereniging Energie-Nederland



Netbeheer Nederland **THE NETHERLANDS**



Energi Norge **NORWAY**



Polski Komitet Energii Elektrycznej (PKEE)  
**POLAND**



Associação Portuguesa das Empresas do  
Sector eléctrico (ELECPOR) **PORTUGAL**



Asociația Institutul National Roman Pentru  
Studiul Amenajării și Folosirii Surselor de  
Energie – IRE **ROMANIA**



Zväz zamestnávateľov energetiky  
Slovenska (ZZES) **SLOVAKIA**



Energetska Zbornica Slovenije, Sekcija  
Eurelectric (EVS) **SLOVENIA**



Asociación Española de la Industria  
Eléctrica (UNESA) **SPAIN**



Svensk Energi Swedenergy AB **SWEDEN**



Verband Schweizerischer  
Elektrizitätsunternehmen (VSE) /  
Association des Entreprises Électriques  
Suisses (AES) **SWITZERLAND**



Türkiye Elektrik Sanayi Birliği (TESAB)  
**TURKEY**



The voice of the energy industry

Energy UK



Energy Networks Association (ENA)  
**UNITED KINGDOM**

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<b>Bosnia-Herzegovina</b>	JP Elektroprivreda Bosne i Hercegovine
<b>Russia</b>	Association "NP Market Council"
<b>Serbia</b>	Electric Power Industry of Serbia
<b>United Kingdom</b>	Jersey Electricity Company Ltd.

#### MEDITERRANEAN AFFILIATE MEMBERS

<b>Algeria</b>	Société Nationale de l'Électricité et du Gaz (SONELGAZ)
<b>Egypt</b>	Egyptian Electricity Holding Company (EEHC)
<b>Israel</b>	The Israel Electric Corporation Ltd.
<b>Morocco</b>	Office National de l'Électricité et de l'Eau Potable (ONE)

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<b>Japan</b>	Central Research Institute of Electric Power Industry (CRIEPI)
<b>Kazakhstan</b>	Kazakhstan Electricity Grid Operating Company (KEGOC)

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<b>Switzerland</b>	Alpiq Suisse SA
<b>Switzerland</b>	BKW/FMB Energie AG
<b>Switzerland</b>	Groupe E
<b>Switzerland</b>	Services Industriels de Genève

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Areva	Ittron
BWSC	Landis+Gyr AG
DNV GL	Opower
DTEK	Oracle Utilities
EPEX Spot SE	Ormazabal
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FTI Compass Lexecon	Pricewaterhouse Coopers
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WG Innovation (H)\*  
**Javier ALONSO MARTINEZ** (ES)



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WG Wholesale Market Design  
**Anne-Malorie GERON** (FR)



WG Gas to Power (H)\*  
**Cyril HARRY** (FR)



TF Financial Regulation & Market Integrity  
**Bernhard WALTER** (DE)



TF EURELECTRIC Cooperation with Russia/CIS  
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**Erik LANDECK** (DE)



WG Active Distribution System Management  
**Maximilian URBAN** (AT)



WG Distribution Customers & Grid Management  
**Lowina LUNDSTRÖM** (SE)

### BCA GROUPS \*

WG Health, Safety & Environment  
TF SF6

Ad hoc group Neighbourhood: Energy Community and MENA

\* **BCA**: Board, Coordinating Committee Active

\* **(H)**: Horizontal

**JOINT WHOLESALE, RETAIL AND  
JOINT TF DSO-RETAIL  
JOINT TF**



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Customer Relationship  
**Roel KALJEE** (NL)



WG Retail Market Design  
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Residues & Wastes  
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VIEIRA** (PT)



WG Energy & Resource  
Efficiency  
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### DSO COORDINATION GROUP DATA MANAGEMENT RENEWABLES

#### SECRETARIAT GROUPS

NE Business Data  
NE Network Codes  
NE Islands System Managers  
NE Access to Electricity  
WG Brexit  
WG European Social Dialogue

**WG:** Working Group  
**NE:** Network of Experts  
**TF:** Task Force

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**Emma-Louise BEDFORD**  
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**Krzysztof LASKOWSKI**  
Advisor, Climate



**Brigitte FRANCÉ**  
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**Charlotte RENAUD**  
Advisor, Market design  
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**Francisco BEIRÃO**  
Advisor, Wholesale  
Markets



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