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Energy Union Watch
July/October 2018

The Energy Union back to the origins

Actors / Dimensions	Security of Supply	Energy Market	Energy Efficiency	Decarbo-nisation	Research
European Commission	6	6	6	9	3
European Parliament	N/A	N/A	N/A	9	N/A
European Council	N/A	N/A	N/A	6	N/A
Member States	3	3	N/A	3	3

About our evaluation

The above tab summarises the advance of the main European institutions and the member states as a whole under the five guiding dimensions of the Energy Union, as delineated in the Communication on the Energy Union of the 25th of February, 2015. Thus, the marks do not represent an evaluation of the state of the Union in the related sectors, rather a general assessment of the number and quality of actions which have been taken to address them from July to October 2018 (included), ranking from N/A (no action) to 12 stars (full action). The elements which have been considered are the following:

- *Number of initiatives.*
- *Level of initiatives, evaluated by budget, number of involved member states, time frame, urgency of the situation, engagement of the private sector and other factors.*
- *Coherence, both with other European programmes and institutions and with the Energy Union project as a whole.*

In the ensuing pages, we included a brief list of events and actions which have influenced the evolution of the Energy Union, divided per guiding dimension.

Foreword

Nicolò Sartori and Lorenzo Colantoni

It looks like the Energy Union is back at its origins, as security of supply is once again at the centre of the EU energy policy. Among other contributing factors, increasing gas prices, changes in global liquefied natural gas (LNG) markets and many still unresolved questions over the future of key European pipelines have increased the attention given to this resource at the global and the European level – also due to a growing US presence in the debate. While the EU has been struggling to find a clear path for its diversification strategy, it has also increased efforts to complete (or at least to come close to the completion of) its internal market – an ambition which, in the past four months, has however suffered from a heated debate among Member States, particularly regarding the definition of capacity markets. Yet, as the focus has shifted towards security of supply and the internal market, the EU has achieved comparably less on decarbonization than at the beginning of 2018. Nevertheless, the work done on batteries and the preparation for the COP24 in Poland – and then the inevitable discussion on European coal phase-out – show that the Commission's work towards the upgrade of its energy and climate targets has not stopped.

Global markets for gas are indeed changing, and the use of the resource appears on the rise. As growing Chinese consumption is increasing the already high Asian demand – the country has recently become the world's second-largest LNG-importing country – global prices have increased. Wholesale European prices have already nearly reached the highest level in a decade (despite the season being relatively warm), while the rising use of LNG is also moving the prices for the resource up. As the strategic importance of gas grows due to increasing demand, the EU has again been focusing on its still incomplete diversification process, trying to address the many questions that remain open – with mixed success.

The July NATO Summit undoubtedly served to enliven the already heated debate on the future of gas supply to Eastern and Central Europe. Indeed, President Trump openly criticized Germany's dependence on Russian gas, describing the country as "captive" to Moscow, and tried to bring the question to NATO table – energy security having certainly been one aspect of alliance since the 2008 Bucharest Summit. While the US criticisms are likely caused by the growing ambition of the country to become the world's first LNG exporter (which, according to forecasts by the International Energy Agency, IEA, could happen by 2020), this positioning offered another chance to Poland to further criticize Nord Stream 2. The country has been attacking Gazprom also through a complaint, filed in October, on the agreement between the Commission and the company regarding the well-known competition case launched in 2012 and closed last May.

Meanwhile, the EU is still trying to secure its Central and Eastern front by boosting gas interconnections and continuing to work on the situation in Ukraine. Trilateral talks between Vice President Šefčovič and representatives from Moscow and Kiev continue, particularly regarding the future of gas transit in the country given that Nord Stream 2 – whose construction and completion is now more likely than ever – will divert significant amounts of Russian gas and thus reduce resources for the much-needed restructuring of the Ukrainian gas transit systems. Yet, progress in this sense has been limited, as is also the case for the unbundling and liberalization of the country's energy market (another priority of the Commission).

Interconnections, however, present a much brighter picture for Europe's energy security, as Poland has received circa 200 million euros from European funding to improve gas delivery in the south of the country, in a significant boost of the projects related to the development of the Southern gas corridor. Meanwhile, the discussion over Slovakia's Eastring pipeline continues; the infrastructure would connect south-eastern European countries and offer alternatives to Russian gas, on which several countries in the area (such as Bulgaria and Slovakia itself) are dependent for more than 80% of their consumption.

Indeed, despite the Italian confusion on TAP, the most promising option for European gas diversification is probably going east. Even if plans for a pipeline from the Cypriot or Egyptian fields to Europe have not moved forward in the past four months, the possibility of gas deliveries from the area to the EU could become a reality earlier than expected. Cyprus and Egypt have indeed signed an agreement on building a pipeline to deliver gas from the Aphrodite field to the Egyptian gas liquefaction plants. Such a possibility could also extend to Israeli gas in the future, and matches the ambition of Egypt to become once again a gas exporter thanks to the recent discoveries (particularly the Zohr field). As the country could indeed become the leader in the development of gas fields in Eastern Mediterranean, thanks to the magnitude of its newly discovered reserves and the already existing export infrastructures, the EU should monitor closely the evolution of perhaps the most interesting area for its future diversification – also preventing further tensions in the area, as recently happened between Cyprus and Turkey over further gas exploration in the Cypriot Exclusive Economic Zone.

If stabilizing the external front is as important as it is complicated for the Energy Union, the domestic situation is confronting similar levels of complexity – particularly regarding capacity markets. Indeed, this has been the major point of discussion in the energy market and, to a certain extent, decarbonization dimensions in the past four months. The strong debate on the CO2 emissions permitted for reserve plants, and on the estimate of the extra capacity needed for each MS entangles many different issues: while flexibility and capacity are indeed needed by some MS (such as the UK), many in the Commission fear that capacity mechanisms will promote polluting plants, while undermining the development of interconnections and the breaking down of regulatory barriers between MS. In this sense, inadequately designed capacity markets could represent a significant rupture in the already difficult "Europeanization" of domestic energy markets, and undermine the EU climate efforts by giving an escape route to the many older coal plants in countries such as Germany and Poland that are slated to be phased out.

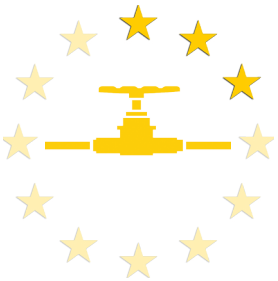
Nonetheless, despite the still unsuccessful debate on capacity markets, the involvement of the Energy Union in decarbonization has not stopped. Dieselgate has once again moved to centre stage, as the Commission has finally acted strongly against the German carmakers responsible for the scandal, the so-called "circle of five" (BMW, Daimler, Volkswagen, Porsche and Audi), launching a DG competition investigation on an alleged agreement among them to impede the development of emissions-reducing technologies. The decision not only fills a void in the still insufficiently addressed Dieselgate scandal, but also confirms the greater involvement of the Commission in the transport sector. While DG Competition is currently taking a decision over the massive merger between Alstom and Siemens to form a "European rail champion", much work is being done by the Energy Union regarding alternative transport and the development of batteries. The implementation of the strategy for the creation of a European Battery Alliance (EBA) is moving forward at a fast pace, as pilot production facilities are already being built and hundreds of players are involved. Indeed, despite a consolidated position by Asian producers, which have led the battery race so far (and particularly China), the speed of technology evolution could allow European incumbents to quickly reach their competitors if the current involvement is maintained. Meanwhile, other alternative mobility options are appearing in the agenda, particularly regarding hydrogen, which has been the protagonist of a "Hydrogen initiative" signed in September by EU energy ministers and of an extensive series of R&D actions.

Yet, despite such positive notes and the numerous reactions to the latest, worrying IPCC report, the EU still struggles to advance several points of its decarbonization agenda, particularly regarding energy efficiency. Despite a significant debate raised by the upcoming COP24 in Poland, difficulties in the phase-out of the resource still loom over the plans of Germany, Spain, Poland, Slovakia and the Czech Republic, recently accused of lack of transparency in the process or still missing a clear path to achieve their objective. Meanwhile the work on energy efficiency has significantly slowed with delays in the definition of new rules for eco-labelling and eco-design.

All in all, the past four months show that the Energy Union is indeed made up of many different faces, but that the direction the initiative has taken is becoming clearer and more mature. Indeed, while the focus on security of supply remains strong, the extensive work done on decarbonization has made this dimension into another key point for the Energy Union. Globally speaking, plans such as the Battery Alliance, the reform of the energy and climate targets, the attention to energy diplomacy and to diversification of gas supplies all serve to illustrate where the initiative has done, and can do, best – and demonstrate that it could represent a powerful tool for obtaining the flexibility needed to address the dominant instability of the changing global energy sector, if the current efforts are maintained and expanded.

Five Guiding Dimensions
Details of the evaluation

1. Security of Supply
Evaluation:3/12



Security of supply has been characterized by significant underlying tensions. Pipelines under construction raise strong contrasts at the local, national, European and International levels and within unusual fora such as the NATO Summit in Brussels, where debates on energy and commercial priorities have de facto bypassed those on defence policy. With concerns over Nord Stream 2 (NS2), German support for the doubling of the pipeline remains the hottest topic on the table, not only in terms of diverging visions with other EU MS over security-of-supply strategy, but also because of Trump's interest in exporting US LNG to Europe. Moreover, trilateral talks convey that the EU, Russia and Ukraine are attempting to find a solution on role of Ukraine, following the upcoming construction of NS2. A second element of tension concerns the Trans Adriatic Pipeline and the widespread opposition over its terminal in Puglia, Italy – which, however, has been perhaps definitively solved. Progress is registered on other strategic infrastructures in particular eastwards and southwards, as prospects for an energy hub in the eastern Mediterranean becomes ever more concrete.

FRICTIONS OVER NS2: THE US–GERMAN DISPUTE

- The NATO Summit in Brussels begins with a strong attack on Nord Stream 2 (NS2) by the US President, in particular against Germany which notably supports and defends the project. The US for this reason describes Germany as a "captive" of Russia due to its energy reliance. Trump goes even further, suggesting that NATO Secretary General Stoltenberg bring the issue to the Allies' table, but later Stoltenberg declares that NATO is not the appropriate framework in which to discuss such topics. These tensions enhance intra-EU divisions, with Poland reportedly encouraging Trump to oppose the doubling of the pipeline (11 July, here). The disagreement between Warsaw and Berlin over the project is evident in the recent meeting between Duda and Steinmeier (25 October, here).
- Despite international tensions, Putin and Merkel meet to find a solution on the doubling of Nord Stream (20 August, here) but Merkel also shows strong support to boost Caspian supplies to Europe in line with the EU's diversification efforts (21 August, here). To smooth tensions, Germany decides to build an LNG plant "in gesture" to the US attempt to sell more gas to Europe, but according to the economy minister Altmaier, this move is not related to the NS2 project under construction (19 September, here). German industry indeed continues to fiercely defend the NS2 gas pipeline, rejecting charges of Germany being too dependent on Russian gas (24 September, here). Another strong statement arrives from Thomas Bereiss, German state secretary for energy, which affirms that Russia has always been "a safe and reliable supplier of gas" and that consequently NS2 guarantees energy supply to Europe (1 October, here). Several European and global energy leaders, reunited in Moscow for the Russian Energy Week international forum, send a clear message to Trump by defending the primary role of Russian gas (4 October, here). A few days later, Alexander Novak, Russian Energy Minister, clears that the NS2 project will go forward even if other sanctions are imposed on Moscow (9 October, here) while German Foreign State Secretary Andreas Michaelis states that European energy policy must not be defined in Washington (16 October, here).

THE OTHER SIDE OF THE STORY: US LNG

- The Kremlin considers US LNG as the main reason behind the US behaviour towards Europe, and at the same time it rejects Trump's definition of Germany as "captive" of Russia (13 July, here). A joint meeting between Juncker and Trump leaves the latter hopeful as they agree to strengthen strategic cooperation with respect to energy, in line with the European security-of-supply strategy (25 July, here), with several European companies having already expressed interest. Many of these projects however have a long realization trajectory, and quantity delivered to Europe will depend on the influence of other profitable markets, such as China (27 July, here). Security of supply, along with diversification of suppliers and routes, are at the centre of the 8th EU–US Energy Council, the first since the Trump administration came into power (12 July, here).
- New data reveal the extent of US LNG flows in the EU: since the first carrier arrived in Europe in 2016: a jump from 0 to 2.8 billion cubic meters of US LNG imports has been registered (9 August, here). Meanwhile, in Helsinki, Putin proposes that Russia and the US work together on the oil and gas markets in order to regulate prices, in an OPEC-like alliance. However, Trump appears to consider Russia as a direct competitor of the US in these markets, undermining such an alliance (31 July, here).
- In line with its position on the NS2 project, Poland decides to buy more LNG from the US. The state-run energy company PGNiG strikes a 20-year deal with subsidiaries of US group Venture Global LNG to provide Poland 2m tonnes of LNG each year, or 2.7 billion cubic metres of natural gas after regasification. Deliveries will start from 2022 (17 October, here).

EU DIVERSIFYING FROM RUSSIAN SUPPLIES...

- Plans are moving forward to turn the Eastern Mediterranean into an energy hub. Egypt and Cyprus sign a deal to eventually allow natural gas from the Aphrodite field to be sold to mainland Europe. Egypt is also approaching a deal to receive gas from Thamar and Leviathan deposits in Israel (19 September, here).
- If the proposed Eastring gas pipeline wins final approval, construction could begin in 2022 and the line could be operational by 2025, drawing initial demand of 12 billion cubic metres per year. The project's aim is to reduce south-eastern Europe's reliance on Russian supplies (20 September, here).

...& RUSSIA DIVERSIFYING FROM EU CONSUMERS

- Russia's Novatek delivers its first LNG cargo to China through the Northern Sea Route (NSR) along the Arctic coast. This passage significantly cuts delivery times and transportation costs for the Yamal terminal, when compared to other channels. The NSR is usually navigable from June until November. Novatek however plans to develop another strategy to deliver frozen gas, Arctic LNG 2 (19 July, here). This project is in line with Novatek findings of more gas for arctic LNG (18 September, here).

WHAT FUTURE FOR UKRAINE?

- The EC insists on breaking up the Ukrainian Naftogaz, the national company for oil and gas, pushing to separate transmission from production and supply. Ukraine had indeed agreed to reform its energy sector as a condition for receiving Western financing (19 July, here). The unbundling of Naftogaz is planned to start in 2020, after the existing transit contract with Gazprom expires (24 July, here).

- Ukraine gas transit is also discussed. EU Commission Vice President Šefčovič engages in trilateral talks with officials from Moscow and Kyev to discuss impacts on the country following construction of the North Stream 2 pipeline (17 July, here). Their aim is to find an agreement on long-term Russian gas transit to the EU in a commercially viable manner. Šefčovič considers the talks an encouraging first step to finding a solution (17 July, here).

BLURRED ITALIAN POSITIONS OVER TAP

- Weeks after the Italian Head of State Sergio Mattarella and Minister for Foreign Affairs Enzo Moavero Milanesi confirm commitment to the Trans Atlantic Pipeline (TAP) (18 July, here), the Italian Minister for the South, Barbara Lezzi, continues to present TAP as a useless project for the South and for Italy (30 September, here). As different stances on the TAP project are consolidating in Italy, in the aftermath of a meeting with Trump Italian PM Conte clarifies that TAP is recognized as strategic by the government but that further discussions with competent ministers and local stakeholders are necessary in order to overcome their concerns (30 July, here). Moreover, Tony Blair – who has been a consultant on TAP – meets the Italian Minister of the Interior and discusses the project to clear blurred positions (3 September, here). After Minister Di Maio reneges on the electoral pledge to halt the project, former party sympathizers set fire to the Five-star flag in the southern town of Melendugno to protest against the government's decision to endorse the TAP, which will bring Azeri gas to Europe via their coastline (30 October, here). It now seems this long confrontation over the pipeline has come to an end with Italian PM Conte giving the green light on the project (26 October, here)

UPDATES ON THE EMERGENCY OIL STOCKS DIRECTIVE

- The European Commission (EC) adopts an update to the Directive on minimum EU stocks of crude oil and petroleum products. The Directive dictates that Member States (MS) must maintain minimum levels of these products in case of supply disruptions. Proposed changes concern the method used by MS to deduct the amounts of petroleum products used for petrochemicals, aspects to do with non-energy applications and the start date for the yearly stockholding obligation (19 October, here).

2. Energy Market

Evaluation:3/12

On the regulatory side, market design rules have been at the centre of the debate among law-makers in the EU and within national governments. Different visions on capacity mechanisms, strategic reserves, adequacy assessments and CO2 limits are challenging the efforts to find a common position. Secondly, interesting price trends create encouraging signs for the future of decarbonization, with new on-shore wind and solar now competing for electricity generation with existing coal and gas plants. Among the many EU antitrust cases, two stand out: Commissioner Vestager launches a probe against the German auto industry, three years after the famous "Dieselgate" scandal, and the Polish PGNiG files a complaint concerning the Commission's agreement with Gazprom. And finally, gas and electricity interconnections are boosted by the launch of several new EU projects, in particular regarding the Iberian Peninsula.

PRICES FACILITATE SWITCH FROM COAL

- Rising prices on carbon, coal and gas show that new on-shore wind and solar can compete with costs of generating electricity from existing coal and gas plants. Indeed, two opposite trends are registered: on the one side, since the beginning of 2017, coal generation costs have increased by 72% to 46 euro/MWh and gas generation costs by 43% to 49 euro/MWh; on the opposite side, wind and solar prices have fallen decisively (in Germany the lowest bids are registered at 38 euro/MWh) (29 August, here).
- European carbon prices reach 20 euro per ton (29 August, here) and are on course to reach the price of 25 euro per ton at the end of the year, higher than the current price on the Emission Trading System (ETS). This is likely to accelerate the switch from coal to gas and question the logic of maintaining coal and lignite power plants beyond 2021. These data are published in a new Carbon Tracker report (21 August, here). With European allowances reaching 25 euro, jumping 30% in only four trading sessions, Poland calls on the EC to intervene to curb carbon prices and to reignite debate on future reforms set to start next year on the Market Stability Reserve (14 September, here).

GAS PRICES PEAKING

- Remarkably, wholesale gas prices in Europe are already near the highest levels in a decade, even though winter cold hasn't yet arrived. This surge stems from actions against coal, with many competing for the same gas supplies. These rising costs will likely translate into increases in household heating bills as well as the cost of powering industries (1 October, here).
- Increasing trends are also registered in the shipping of liquefied natural gas – a tendency which is likely to continue through 2019 (21 September, here).

DIFFERENT VISIONS ON MARKET DESIGN RULES

- The role of capacity mechanisms in the energy transition is at the heart of disagreement among MS: some see them as a complementary source of finance to attract long-term investments and ensure security of supply, while others consider them as a tool of last

resort to address security-of-supply issues. Brussels fears they could be used to subsidize polluting fuels (3 October, here). Furthermore, MS seem reluctant to "Europeanize" national capacity mechanisms by looking beyond their borders for available electricity instead of relying on domestic back-up plants. The EU indeed would like to break down national barriers in order to decrease need for capacity within countries. Lack of cross-border infrastructures is also part of the problem (10 September, here). Flexibility lies at the heart of the issue: capacity mechanisms are meant to address several problems and market situations, implying a certain flexibility in defining legislation (12 September, here).

- Strategic reserves are another related hot topic, showing contrasts among MS such as Germany and Poland. France, the UK, Italy, Greece, Hungary, Poland and Ireland consider that market-wide capacity mechanisms are "more appropriate where long-term adequacy concerns are identified", whereas strategic reserves "should be limited to operating in only critical situations" (4 September, here).
- European adequacy assessments fuel another debate: according to the Commission, ENTSO-E and ACER should hold a fundamental role in performing adequacy assessments to comprehend whether there are sufficient power supplies to meet demand at any given time. However, several countries and ENTSO-E itself believe that European adequacy assessments should not replace national ones (12 September, here).
- Limits to CO2 emissions for reserve plants are strongly debated; several MS oppose the limit of 550g per kilowatt hour (kWh), which remains part of the position of both the Parliament and the Council. However, the two institutions have proposed different limits corresponding to how emissions will be measured (including also the number of hours plants could run). Regulators are now considering limits on the overall amount of CO2 that plants can emit per year (13 September, here). Teresa Ribera, Spanish Minister for the Ecological Transition, announces that Spain is beginning to wind down state aid for coal power, supporting the emission limits for capacity payments at 550g CO2/kWh (21 September, here).

AGREEMENT ON "DYNAMIC PRICING" OF ELECTRICITY

- European Union legislators make progress in reaching an agreement on "aggregators" making money from storing electricity or managing the energy consumption of their clients. The agreement foresees that aggregators do not have to ask energy suppliers for prior permission to step into the market. On the other side, energy suppliers will receive recompense if the electricity they produce is lost – but details on compensation are yet to be defined (22 October, here).

LOOKING EASTWARDS

- TThe EU Commission and the High Representative of the Union for Foreign Affairs and Security Policy adopt a Joint Communication setting the EU vision for a comprehensive strategy to connect Europe and Asia. Energy connectivity is part of the strategy, encouraging the modernization of the energy system and the adoption of clean (decentralized) solutions and energy efficiency towards a liberal and clean energy market (19 September, here).
- The EU–China dispute over photovoltaic (PV) imports enters a new phase: after five years of anti-dumping and anti-subsidy measures on solar panels from China, accused of selling subsidized panels below cost in Europe, the Commission decides not to extend these trade defence measures, considering that the decision will help the achievement of renewable energy goals (31 August, here). Behind the Commission's decision there is also the consideration that a new extension could go against the EU interests, hurting consumers and importers. The EU furthermore decides not to carry out an expiry review

investigation, as requested by ProSun. SolarPower Europe, on the other side, fully backs the Commission's decision (31 August, here).

BREACHING EU INTERNAL MARKET LAW

- The Commission refers Germany and Hungary to the Court of Justice of the EU due to their failure to entirely comply with the Third Energy Package – Germany, in particular, because of incorrect implementation of the gas and electricity directives. Major issues concern the transposition of EU law into the national framework and the rules over the powers and independence of the national regulatory authority. Hungary, meanwhile, is taken to Court because of non-respect of network tariffs rules (19 July, here).
- The Commission decides to suspend the 2014 referral of Croatia to the Court for failing to amend the law on the privatization of the energy company INA-Industrija Nafte, d.d. (INA) (19 July, here).
- For a long time accused of not sufficiently targeting the German car industry, Commissioner Vrestager launches a probe three years after the Dieselgate scandal in the German auto industry (18 September, here). The EC target is the "circle of five" – BMW, Daimler, Volkswagen, Porche and Audi (18 September, here).
- The Commission wants clarifications concerning Transgaz, the state-controlled infrastructure operator in Romania, and its compliance with EU competition rules. The Commission has concerns that the operator could have breached these rules by restricting exports of natural gas from Romania to other MS, in particular Bulgaria or Hungary (21 September, here).
- PGNiG also files a complaint with the Court of Justice of the EU concerning the recent Commission agreement with Gazprom that ended years of anti-trust proceedings (17 October, here).

Concerning state aid and support measures, the Commission:

- Approves reductions of nuclear levy for electro-intensive users in Slovakia, as its plan to grant is in line with EU state-aid rules (6 July, here);
- Approves recompense to energy-intensive companies in Luxembourg for indirect emission costs (6 July, here);
- Approves Dutch support to compensate damages linked to gas extraction in Groningen (13 July, here);
- Approves 500 million euro in German public funding to support railway companies to invest in energy efficiency technologies (27 July, here);
- Approves most of the electricity contribution reductions allowed to electricity-intensive companies in France in the period 2003–15, asking France to recover part of the reductions (31 July, here);
- Backs a support scheme for electricity self-suppliers using efficient co-generation in Germany (1 August, here);
- Endorses German plans to reduce renewable energy extra charges for electricity users producing electricity through efficient co-generation plants (1 August, here);
- Approves the Polish plan to include a new 600 MW gas-fired combined heat and power plant to back high-efficiency co-generation (13 August, here);
- Considers that the past decision to approve state support for emergency power plants in France, Germany, Poland, Italy and Greece will have to be revisited in light of the ongoing reform of European electricity market rules (6 September, here); and
- Approves a maximum of 3.5 billion euro support to back three wind farm projects in Belgium (Mermaid – 235 MW, Seastar – MW, Northwester – 219 MW) offshore in the North Sea (27 September, here).

Furthermore, Under the EU merger regulation, the Commission clears:

- The acquisition of Direct Energie by Total (3 July, here);
- The acquisition of DESFA by Snam (16 July, here);
- The acquisition of the control of Miogas jointly by Spigas and Canarbino (3 September, here);
- The acquisition of North Sea Midstream Partners by the Kuwait Investment Authority (17 September, here);
- The creation of a joint venture by STEAG and Siemens (24 September, here); and
- The realization of a joint venture by SNAM and Società Gasdotti Italia (30 October, here).

FORWARD WITH STRATEGIC INTERCONNECTIONS

- The EC represented by Cañete, Prime Minister of Portugal Costa, President of the Spanish Government Sanchez and President of the French Republic Macron meet in Lisbon to discuss strengthening of regional cooperation in the framework of the Energy Union and a deeper integration of the Iberian Peninsula into the European energy market. The four sign the Lisbon Declaration, building on the 2015 Madrid Declaration that has launched the integration process (27 July, here). The Commission is ready to finance 30% of the project by providing 578 million euro – an unprecedented figure for an energy project. Electricity exchange between France and Spain is expected to double, as the power line is to become operational in 2025 (30 July, here). The European Investment Bank (EIB) Vice-President Navarro confirms that the Bank stands ready to continue the financing of energy infrastructures in the Iberian Peninsula and in France in order to support this ongoing integration process (27 July, here).
- Through the Connecting Europe Facility, the EU invests 48 million euro in priority energy infrastructure. The 8 cross-border projects considered concern the electricity sector (4), the gas sector (2), smart grids (1) and carbon capture technology (1) (16 July, here).
- The Cohesion Policy puts 145.5 million euro in Poland to back a project for the transportation of natural gas. This pipeline is 168 km in length and crosses the southern part of the country as part of the North–South corridor (13 August, here). Moreover, this project of common interest benefits from a further 51 million euro from the European Regional Development Fund (17 October, here).
- The European Fund for Strategic Investments (EFSI) backs a cross-border electricity interconnector between Norway and Germany, spanning 624 km across the North Sea and with a capacity of 1,400 megawatts (MW). The financing agreement amounts to 100 million euro (14 August, here).

3. Energy Efficiency
Evaluation: 3/12

National governments as well as several regions and cities across the EU are increasingly betting on energy efficiency in buildings and in mobility. The EU contributes with strong financial support from the Commission, European funds and the EIB. On the policy side, this dimension is also characterized by challenges in implementing renovation strategies contained in the new rules on buildings as well as retrofitting strategies for old structures. Decision-making over eco-design and energy labelling standards advances slowly while on the other side new initiatives and funds enrich this dimension.

IMPLEMENTING POLICY ON BUILDINGS

- National capitals are expected to implement new rules on buildings and energy efficiency standards, to this end drafting long-term renovation strategies and taking into account health, indoor air quality and other indicators. Commissioner Cañete urges MS to use all tools available under the Investment Plan for Europe. The European Alliance of Companies for Energy Efficiency in Buildings is also working on a guidance document for national administrations (28 September, here).
- By 19 March 2020 all MS must introduce long-term renovation strategies: the two major challenges for MS concern how they will address energy poverty and how they will develop financial tools to back building retrofitting and home renovations (22 October, here).

DELAYS ON THE ECO-DESIGN AND ENERGY LABELLING RULES

- Even though several organizations throughout Europe consider them "crucial" to implement EU climate, energy and circular economy objectives (26 September, here), new energy-efficient eco-design targets concerning fifteen products have been delayed. Only a few energy labelling measures are on track to be approved by November, with most of the work to be processed by the next Commission. Eco-design and energy labelling constitute a quarter of CO2 cuts foreseen by 2020, and one half of energy savings. A two-year delay is also expected to cost consumers and businesses 46 billion euro in increased energy bills (2 October, here).
- Steps forward are registered in the move against energy-intense and inefficient halogen light bulbs, which will no longer be sold across the EU. LED light bulbs, which due to innovation have become safer, more affordable and more energy efficient, will replace the halogen ones. The changes are part of the EU's Ecodesign Work Programme (31 August, here).

BOOSTING A MODERN AND EFFICIENT MOBILITY

- The EC proposes a 700 million euro investment to support 49 key projects aiming at developing a modern and efficient infrastructure for increased use of alternative fuels, electric and hydrogen cars, modernizing air traffic management in Europe and developing

inland waterway and rail transport. Funding would be provided by Connecting Europe Facility (CEF) and this plan is expected to mobilize around 2.4 billion euro from both public and private investments (1 October, here).

MEMBER STATES AND ENERGY EFFICIENCY

- The UK is likely to miss 2030 energy efficiency targets for homes, mainly because of the current measures foreseen under the Energy Company Obligation (ECO) scheme, expected to be relaunched for the period 2018–2022 (4 July, here). A new study shows that around one-quarter of energy currently used in the UK could be cost-effectively saved by 2035. This percentage may also increase to one-half with allowance for falling technology costs and wider benefits of energy efficiency improvements (1 August, here). Finally, in order to meet the country's 2050 targets, upgrading standards for new homes is not sufficient, as the country should commit to pilot schemes to achieve an "efficiency retrofit" for its homes (16 October, here).
- Several European cities vow to make buildings carbon neutral by 2050, among them London, Paris and Copenhagen. Mayors say they want to put in place regulations requiring all new buildings to be carbon-free by 2030 and existing ones to reach the goal by 2050 (23 August, here).

FINANCING ENERGY EFFICIENCY

- EIB signs 292 million euro to Hemsö to support the construction of healthcare and research infrastructure, care homes for the elderly, and educational facilities in the main Swedish cities, all to nearly-zero-energy-building (NZEB) standards (12 July, here).
- In the UK, Amber Infrastructure Group and the Mayor of London have launched a 500 million pound fund for energy efficiency investments in public buildings and small businesses (9 July, here).
- EIB approves 12.6 billion euro for small business, transport, energy and urban investment, of which 3.4 billion address renewable energy and energy efficiency (18 July, here).
- EIB supports housing and climate investments in Ireland: 1.8 billion euro of new Irish projects have been approved and the bank is on track to deliver support for over 1 billion euro in new Irish investment in 2018 (19 July, here).
- EIB, EBRD and EC support greener energy in Zagreb. Loans amounting to 130 million euro will support investments in electricity and heat co-generation units to replace outdated oil- and gas-fired turbines or boilers. Strong support is provided to Croatia's energy company HEP to implement a modern and environmentally friendly system expected to benefit the population and improve efficiency (24 July, here).

4. Decarbonisation
Evaluation: 6/12

Prevailing over other pillars of the Energy Union, advancements in this dimension are particularly visible, particularly regarding cleaner mobility. The Parliament and Council vote their positions on cars and vans emissions, respectively backing a 40% and 35% emission target by 2030. The Battery Alliance (EBA) has been progressing at a fast pace in the year since its launch, with visible results from the action plan and programmes underway for its implementation. The release of the IPCC report and the upcoming COP24 in December in Katowice, Poland, push EU institutions and governments to raise ambitions in combating global warming and to strengthen international mechanisms for cooperation. In order to promote a cleaner energy system, coal continues to be targeted by institutions, but Member States struggle to phase it out, carrying out slow and sometimes conflicting agendas.

ENERGY AND CLIMATE PRIORITIES FOR 2019

- The Commission releases its work programme 2019. Energy and climate actions represent the largest block among the 8 proposals. In particular, the Commission calls the European Parliament (EP) and Council to adopt the proposals made by the Commission in the past four years to complete the Energy Union and tackle climate change. The Commission announces it will present a strategy for long-term greenhouse gas emissions reduction and will report on the State of the Energy Union and the Action Plan on Batteries. Furthermore, the Commission will also make the case for more qualified majority voting in the fields of energy and climate, taxation and social policy (23 October, here).
- Romania, taking the Presidency after Austria on 1 January 2019, declares its support for nuclear energy as a way to reach a cleaner energy mix. In the country, gas and coal are still seen as better than renewables, due to the priorities of price and accessibility it wants to pursue (26 October, here).

FORWARD ON THE CLEAN ENERGY PACKAGE

- The EP strongly endorses three key proposals contained in the Clean Energy Package, namely the proposal on the governance of the European Union (adopted by the ITRE and ENVI committees with 88 votes in favour and 11 against), on the energy efficiency (adopted in the ITRE Committee with 48 votes in favour and 8 against) and on increasing renewable energy use (adopted in ITRE with 50 votes in favour and 7 against) (10 July, here).
- In its October conclusions, the Council recalls progress made in recent months on 2030 targets, including objectives on renewables (32%), efficiency (32.5%), the reform of the ETS and the LULUCF regulation (9 October, here).

RULES ON CLEANER MOBILITY

- After the ENVI Committee of the EP decides on a CO2 reduction target of 45% by 2030 and

an interim goal of 20% by 2025 (11 September, here) as a way to reduce carbon emissions, the European Parliament backs an ambitious 40% emissions cut for cars and vans by 2030. This target is more stringent compared to what the EC proposed. The Parliament also sets a 20% target for 2025, with reduction based on 2021 figures (3 October, here). European lawmakers also call for the Commission to table plans for CO2 emission tests using a portable device by 2023. Miriam Dalli, rapporteur for the dossier in the EP, responds to critics saying the text voted by the EP also encourages investments in infrastructure and proposes a just transition for workers and incentives for manufacturers (3 October, here). The Council agrees to its position on the regulation, setting a 35% target for cars by 2030 (15% by 2025) and 30% by 2030 for vans (15% by 2025). This step marks the beginning of negotiations between the two co-legislators (10 October, here).

- Debate over vehicle emissions and air quality grows stronger even in MS: in Germany the government presents a plan concerning diesel cars, which is however considered very limited as it applies only to 14 cities (2 October, here). Indeed, emissions from diesel cars have pushed nitrogen levels above the permitted level of 50 milligrams per cubic meter in several German cities, but Merkel promises new legislation to avoid very unpopular diesel driving bans (23 October, here).
- A new harmonized set of fuel labels is ready to appear across Europe, a measure that will help consumers to understand the environmental impacts of their choices (12 October, here).
- The ENVI Committee of the EP proposes a target of 35% for new lorries to reduce EU emissions by 2030, with an intermediate target of 20% by 2025. The Commission had previously set a target of 30%. Urban buses are added to the scope of the proposal – recommending that 50% of new buses should be electric by 2025 and 75% by 2030 (18 October, here).
- The Parliament adopts its first reading position on road use charges in order to help meet the emission reduction targets for the transport sector and to make road user charges fairer. According to these rules, Member States imposing time-based road use charges will need to switch to distance-based ones for trucks and buses from 2023, and vans from 2027 (25 October, here).

HYDROGEN ON THE EUROPEAN AGENDA

- Energy ministers gather for an informal meeting to discuss the role of sustainable hydrogen and sign a "Hydrogen Initiative", a political declaration supporting the development of hydrogen and the agreement to use it as an energy source. The discussion includes storage and hydrogen's contribution to the energy-intensive industries and to energy transformation (18 September, here).

MAJOR PROGRESS ON THE BATTERY ALLIANCE

- One year after the launch of the European Battery Alliance (EBA), this strategy is being implemented at a fast pace: the European Commission Strategic Action Plan for Batteries is in place, the first pilot production facilities are being built and the EU has announced further projects. The Commission has put together a network of more than 200 innovation and industrial actors have committed to investing into actions or projects considered as priorities. With regard to progress on the action plan, five key actions are currently underway: work on a new regulatory framework, the upcoming recommendations on battery-related raw materials, the activation of an interregional partnership on batteries, an upcoming call for research on battery-related topics and the upcoming opening of a call for proposals to identify skills gaps and future needs in this sector (15 October, here).

The Commission also clarifies some doubts raised over the prospects of a European lead in this sector. Among the many questions, it provides explanations on the Asian competitors (having the lead in battery manufacturing and producing cheaper products) and sheds light on potential environmental harms due to the raw material intensity of the battery sector (15 October, here).

- In the context of the European week for cities and regions, Vice President Šefčovič and Commissioner Creţu participate in the launch of an interregional partnership on batteries. Led by Slovenia and gathering Auvergne-Rhône-Alpes and Nouvelle Aquitain (France), Andalucía, Basque country and Castilla y León (Spain) and Lombardy (Italy), this partnership will receive support from the Commission to develop and scale-up joint projects in advanced materials for batteries (8 October, here).
- Data reveal EU production remains under 4% but many industries are ready to develop cheaper, more efficient solid-state batteries, as the EU makes ready to offer millions in funding for electric battery plants (15 October, here).

SUSTAINABILITY IN TRADE AGREEMENTS

- The EU and Japan finalize the largest ever trade deal, committing both parties to uphold the Paris Agreement provisions. The deal shows that trade can act as a positive contributor to the fight against global warming. Furthermore, the two are committed to facilitate trade in renewable energy and other low-carbon solutions (20 July, here).
- The first Joint Committee under CETA adopts a joint recommendation on climate change and the Paris Agreement. The EU and Canada will work together to contribute to the goals of the Paris Agreement and the transition to low greenhouse-gas emissions, intensifying existing collaboration in the climate field (27 September, here).

REACTIONS TO THE IPCC REPORT

- Commissioners Cañete and Moedas welcome the IPCC climate change report on a 1.5° C global warming limit. The report provides a timely and useful input to the Commission, which will present its long-term strategy to combat GHG emissions in November (8 October, here).
- Members of the European Parliament (MEPs) consider that the Union's Nationally Determined Contribution (NDC) must be updated to a 55% GHG emissions reduction by 2030, and call on both the Commission and MS to prepare contributions to reduce emissions until 2020. According to them, the share of climate-related spending should increase from 20% to 30% (10 October, here). In the most recent plenary, MEPs consider all policies should be closely aligned with the Paris Agreement's long-term goals, and that the 1.5° C target should be pursued (25 October, here).
- In its conclusions on Climate Change, the Council emphasizes the urgency of combating climate change, underlining that the EU will lead the way and play a crucial role on this challenge. Environment ministers react to the IPCC report and consider these conclusions as the basis for the EU's position at the forthcoming COP24 conference in Katowice (9 October, here).
- The IPCC report enters the debate on 2019 elections, with Alex Stubb – potential European People's Party (EPP) lead candidate for European Commission Presidency – promising to work for a net-zero carbon society by 2045 if chosen (23 October, here).

HEADING TOWARDS COP24

- The choice to host the next UN Climate Change conference in Katowice, Poland, in December 2018 is considered a symbolic one by organizers, signalling the country's willingness to switch from coal-dependence to a hub of modern industry, culture and innovation. On the other side of the story, however, Poland is still a long way from eliminating coal or significantly changing its energy mix, representing at the same time the difficulties shared by coal-dependent states around the world (19 September, here). Even institutionally, Poland shows its two faces, with a pro-coal energy minister that is diverging from the position of the minister for the environment (25 October, here).
- Following a high-level stakeholders meeting (10 July, here) and ahead of COP24, the EC launches a public consultation on a strategy for long-term EU greenhouse gas emission reduction. The consultation aims at collecting views and opinions, considering societal and economic opportunities relevant to achieve the targets (17 July here). According to major commenters such as the ex-IPCC Vice-Chair, the EU should improve its policy package for 2030 to align to the Paris Agreement dispositions (11 July, here). Miguel Arias Cañete indeed considers that states should adopt more ambitious emissions targets (30 July, here).
- The EU and China reaffirm and strengthen their cooperation on climate change and clean energy in view of the December 2018 conference in Katowice, Poland. In the MoU signed between the two, emission trading is strengthened as an effective tool to contribute to a low-carbon economy. (16 July, here). With the United States withdrawing from international commitments on climate change, the EU and China say they remain committed to creating a mechanism to transfer 100 billion dollars each year from richer to poorer countries for climate change adaptation. The fund was strongly contested by the US (16 July, here).

EU AT WAR WITH COAL...

- Bloomberg partners with Commissioner Cañete to back the transition from coal power and promote a clean energy system in Europe. The partnership will build on the EC's Platform for Coal Regions in Transition launched at the end of 2017 and providing support for 41 coal-dependent regions in 12 European countries. In this context Bloomberg will develop plant-by-plant research analysis of coal power, allowing for a more targeted action (13 September, here). Vice-President Šefčovič presents results and projects within the Commission's initiative on regions in transition, mobilizing several EU programmes and funds in seven EU regions particularly dependent on coal (9 October, here).

BUT SEVERAL MS STRUGGLE TO PHASE IT OUT

- Poland, Slovakia and the Czech Republic start phasing out coal but campaigners consider that small entrepreneurs, communities and civil society should be part of the process, denouncing lack of transparency on projects (12 July, here).
- In pursuing its "green ambitions", the Spanish Socialist party has to deal with a small but militant coal mining sector. Brussels exerts a strong pressure on the Sanchez government to close uncompetitive mines, comply with European directives and present plans for Spain's energy and climate sectors. Despite the promotion of ambitious targets on renewables at the European level, the Spanish government faces problems at home that will probably be reflected in local and European elections (13 July, here). However, Spain reaches an agreement with trade unions to shut down most of its coalmines. This agreement foresees 250 million euro invested in mining regions over the next decade (26 October, here).
- In the first part of 2018, renewable energy sources meet more of Germany's power demands

than coal. In the meanwhile, Germany continues to debate how to best phase out coal (11 July, here). However, Germany economic interests and its Energiewende agenda are sometimes conflicting: ongoing protests in Hambach are emblematic in this sense, with people protesting against coal mining and police evicting protesters from tree houses (14 September, here). The fourth edition of E3G's G7 coal scorecard report shows that Germany is performing worse on coal phase-out than the USA, despite the pro-coal rhetoric of the Trump administration, and is falling further behind its peers in Canada, France, Italy and the UK. Germany's self-image as a climate leader is challenged by its slowness to act on coal (21 September, here).

SIGNS OF TRANSITION ACROSS EUROPE

- The Polish parliament approves changes to the country's renewable energy law to remove obstacles to green energy investment and help Warsaw achieve the EU targets. This situation is very different if compared to three years ago, when Poland's conservative Law and Justice party won over pledges to sustain the coal industry (3 July, here).
- The mayors of ten major European cities (including Paris, London, Milan, Stockholm, Copenhagen and Barcelona) jointly call for achieving net-zero emissions by 2050 in line with the Paris Agreement (9 July, here).
- Denmark announces a ban on the sale of new cars with internal combustion engines by 2030 and hopes to have one million electric and hybrid cars on the road by that date, implying that hybrids will be phased out by 2035 (2 October, here).
- In France, a parliamentary group bringing together 135 MEPs from six political groups (all with the exception of La France Insoumise) is determined to carry forward the issues of the ecological transition in particular during the debate of the 2019 finance bill (17 October, here).
- In the Netherlands, the court confirms the country is not acting fast enough in cutting greenhouse gas emissions and instructs the government to do more – in brief to achieve a 25% cut compared to 1990 levels by the end of this decade (9 October, here).

FINANCING DECARBONIZATION

- A new partnership – the Global Green Bond Partnership – is launched in San Francisco. EIB is a founding member of the partnership, whose aim is to support efforts of sub-national entities and financial institutions to accelerate issuance of green bonds (14 September, here).
- EIB supports Amundi Energy Transition – the joint venture between Amundi and EDF – with 50 million euro in order to finance "energy transition" projects among French regions and industries (3 July, here).
- A resolution voted by MEPs demands an increase in climate spending in order to enable the EU's "climate mainstreaming" target – at least 20% of the EU budget to be climate-related in 2014–2020 (5 July, here).
- Rabobank and EIB expand the "impact loan" for SMEs in the Netherlands by 250 million euro due to the successful rate of the past three years: 300 environmentally conscious businesses in the Netherlands have already benefitted from advantageous lending conditions (27 July, here).
- EIB supports the construction of the Northwester2 wind farm 45 km offshore Belgium with a loan of 210 million euro. This project is the fourth one supported under the European Fund for Strategic Investments. Once completed, it is expected to deliver around 219 MW using 23 turbines built by MHI Vestas. This wind farm supplies around 220,000 households (5 October, here).

- EIB supports investments in the energy sector in Portugal by providing finances for Iberdrola´s three new dams and hydropower plants on the Tâmega and Torno rivers. EIB will provide 650 million euro for a project entailing total investments of 1.5 billion euro, expected to employ around 13,500 people during the construction phase (23 July, here).
- EIB supports Enel's plan for 14,000 new charging stations to be installed in Italy by 2018–2022. It will provide a 115 million euro loan to Enel X Mobility, contributing 50% of total investment needed (27 July, here).
- The world's largest offshore wind farm opens in the Irish sea, off the Cumbrian coast. It has a capacity of 659 MW, enough to power around 590,000 households. This new wind farm is a sign of the huge progress made in wind technology: the plant uses less than half of the number of turbines of the previous biggest farms but is more powerful (6 September, here).

5. Research
Evaluation: 3/12

The European Union funding mechanisms, national governments and private companies support research and innovation to boost renewables and support a cleaner mobility, mainly exploiting the potential of hydrogen. Although this dimension of the Energy Union often suffers from lower attention, several actors have exploited funds and are exploring ways to reduce emissions. The Commission also launched a partnership with Bill Gates in support of clean investments to back innovative companies.

RESULTS ACHIEVED

- Findings of the EURAMET ENG55 Photoclass Projects lead to new standards for photovoltaic (PV) classification, by providing reliable estimates on their efficiency under real operating conditions. The system is not based on peak power but on different standardized climate zones (17 July, here).

INNOVATIVE R&I INITIATIVES

- Several banks join the EU-backed pilot scheme for green mortgages (now reaching 37 banks), whose aim is to test new criteria for energy efficiency mortgages for homebuyers. This idea aims to create an energy efficient mortgage through which homebuyers are incentivized to improve the efficiency of their building or to buy an energy efficient property through favourable financing conditions connected to the mortgage (24 September, here).
- The EC and Bill Gates launch a 100 million euro clean energy investment fund to support innovative European companies in bringing new clean energy technologies to the market (17 October, here).

R&I IN THE TRANSPORT SECTOR

- The Juncker Plan sustains an 80 million euro loan for Spain's CIE Automotiv to finance its research and innovation strategy aimed at developing technologies to reduce the weight of vehicles (25 July, here).
- EIB supports innovation in the car industry by providing CIE Automotive's RDI strategy an 80 million euro loan under the Juncker Plan. Investments will be carried out in a number of MS including Spain, Czech Republic, France, Slovakia, Romania, Portugal and Lithuania. The objective is developing technologies to reduce the weight of vehicles and ensure less polluting and more efficient manufacturing processes (24 July, here).
- An EU-funded research project has developed innovations to improve the energy performance of transport for truck and semi-trailer design, so as to increase energy efficiency by up to 25%, supporting the EU's goal of improving the sustainability of the European transport sector (8 August, here).
- The Commission invests in other two emission testing facilities (four are already existing) to be operated by the Commission's Joint Research Centre. These labs, called VELA (Vehicle Emissions Laboratories), are needed to carry out market checks of cars independently of MS (10 October, here).
- The EU contributes to the expansion of hydrogen stations across Europe. In Germany, the 50th hydrogen station has opened (10 September, here). In Poland, Connecting Europe

Facility (CEF) supports Grupa LOTOS and LOTOS Paliwa in their project to construct hydrogen (H2) purification and distribution units and two H2 refuelling points (12 October, here).

R&I IN RENEWABLES

- EU-funded ECOSWIG project produces the world's first superconducting wind turbine that will be installed off the coast of Denmark. This might revolutionize the wind-energy industry through the deployment of lighter (-40% with respect to conventional turbines), more cost efficient and more potent generators (29 August, here).
- EIB is ready to grant a 60 million euro loan to the Portuguese company Windplus. The loan, under the Horizon 2020 research and innovation programme, will serve to install a first-of-its-kind offshore floating wind farm. Wind turbines sitting upon floating platforms could flexibly adjust to the wind condition and direction, maximizing the efficiency in energy production (19 October, here).

INVESTMENTS FROM MS & COMPANIES

- Repsol and Enagas agree on working together to develop a technology able to produce renewable hydrogen using solar energy (30 July, here).
- Germany launches the first hydrogen-powered train in the world, equipped with fuel cells producing electricity through a combination of hydrogen and oxygen, leaving steam and water as the only emissions. This technology might challenge more polluting diesel trains (17 September, here).
- Portugal is ready to launch a tender of lithium exploration licenses by the end of 2018. Portugal has a large potential in the sector, and interest in lithium mining has surged thanks to the growth in electric vehicles (EV) sales (25 September, here).

Public debate

- **CEPS finds that improving the collection and recycling efficiency of ion-lithium batteries at the end of their lives might help reduce the dependence on imported materials,** retaining the value of recovered components in the EU economy, creating new jobs in the recycling sector and mitigating CO2 emissions. The report concludes that further research is necessary for a better cost-benefit analysis (July 2018, here).

- **According to the Florence School of Regulation, a revolution in the electricity sector – produced by a new wave of digitalization – is underway.** The report shows that digitalization will cause changes in infrastructures with a new wave of smart grids and in markets with new centralized digital production and consumption platforms. Furthermore, the digital frontier is constantly moving towards a decentralized trade of electricity (September, here).

- **E3G asserts that pursuing a decarbonization of the gas sector which reflects the 2050 European goals is not a simple task,** although necessary. While big changes in gas networks are needed to reach net-zero emissions, Europe should continue to explore different forms of renewable gas. However, the report stresses that a prospect of decarbonized gas is no reason to slow down improvement in electrification or efficiency (25 September, here).

- **As analyzed by the Institut français des relations internationales (Ifri), 2018 has marked a change in the Emission Trading System market,** due to several factors such as the new ETS Directive, the prospect of the MSR in 2019 or the heat wave of summer 2018. Yet, since the EU carbon market is still not incentivizing a shift to low-carbon energy production sources, there is the need to incentivize the voluntary cancelling of allowances at the national level. This can be reached thanks to a regional commitment on carbon price (8 October, here).

Interview

Henrik Hololei

Director General / DG Mobility and Transport

- **What do you think has been the greatest change brought in by the Energy Union generally speaking, and to the transport sector in general?**

The Energy Union has delivered a very strong impulse for further energy market integration, energy diversification and security of supply, to the benefit of all EU Member States. The energy transition requires new approaches to how we produce and consume energy. But it is the broader impact on the transition to a low-carbon, secure and competitive economy, where the real change brought in by the Energy Union comes into perspective. Essentially, it is about the modernization of our economy. It is about Europe's global leadership role in times of uncertainty and increasing unpredictability.
Decarbonization is an important priority, particularly for the transport sector, among others. We need to accelerate with the transition to a low and zero-emission mobility and transport system. The Energy Union helps create the right market conditions with a strong focus on consumer needs, which is also indispensable for the future competitiveness of the transport sector.

- **What do you believe could be the potential for integration and the issues to solve regarding the relation between the transport sector and the energy transition, in particular for the diffusion of electric vehicles?**

Energy transition means increased decentralization and transition to fully intelligent electricity and gas networks. It means growing shares of intermittent renewable energies, which require grid-balancing solutions. Vehicles and transport more broadly will play a key role in making this transition happen. An increasingly and finally fully decarbonized energy mix is a prerequisite for fully reaping all emission reduction benefits from electric vehicles – be it battery-electric or fuel-electric. Renewable fuels are required to play an increasingly strong role in transport.
A key issue to solve is the integration of an increasingly larger number of electric vehicles into the grid, in order to avoid problems with overload. Meeting additional demand appears overall manageable, but it requires a clear effort to make the overall system smart. We need to address remaining regulatory and technological issues related to smart charging, for example, or vehicle-to-grid services. We need to bring new solutions for large-scale stationary and mobile storage into the market to help circumvent possible problems with grid connections.
The good thing is: we are looking at a complete new set of business opportunities, and consumer rewards. With the increasing advent of electric vehicles the role of a vehicle is changing. In addition to the mobility services vehicles will increasingly provide electricity grid balancing services. These can reward consumers, when their vehicle is parked. This underlines the need to think decarbonization and digitalization together, and from the perspective of the consumer needs.
Here, a lot of work remains to be done. Consumers need seamless and transparent services across borders. It should be as easy to recharge an electric vehicle as it is to refill a conventional vehicle. Nowadays, if you drive with an electric vehicle through Europe, you ask yourself not only: where is the next recharging or refuelling station? You also ask: It is up and running? Can I access it? What are the conditions for using it? How much do I have to pay? How long do I have to wait? Interoperability and transparency is a key requirement for future success with our clean and intelligent mobility and transport solutions.

- **What do you believe will be the impact of the recently announced initiative on a battery alliance in Europe, and would it be able to replicate the success of Airbus?**

First, let me stress how important this topic is. Battery production is of strategic relevance for both the clean energy transition and the future competitiveness of our automotive sector and, if we want to be successful, we cannot be dependent on non-European producers. We need to intensify efforts to keep or re-establish a strong, competitive and sustainable battery sector with a focus on a full manufacturing chain for batteries – from the production of battery cells all the way to the design and use of 2nd life applications and the recycling of the battery at the end of its life. Making public authorities and industry work closely together through a public–private partnership will be crucial.
In this respect, the battery alliance has already created an impact. There are now over 260 public and private actors active in the alliance. Tangible results concern the announcement of industrial consortia and partnerships. First pilot production facilities are being built. Let me take one concrete example: the Swedish company Northvolt is constructing a pilot line for its planned large battery-cell factory, backed by a larger loan from the European Investment Bank together with funding from Swedish Energy Agency. Collaboration at all levels, that is delivering results!
In response to your question about Airbus – which has been a great European success story – let me just highlight that the network approach with different industry consortia is certainly the right way forward in view of the characteristics and maturity of the market.

- **Road transport is changing at a speed many would have not believed possible five years ago. Do you think this is also the case for maritime transport? Specifically, what is the evolution of gas fuelled, particularly LNG, maritime transportation?**

In respect to LNG, this is an excellent solution for air pollution, which is one of the environmental challenges that the maritime sector is currently facing. It allows meeting the sulphur limits in marine fuel requirements (0.10% in SOx Emission Control Areas since 2015 and 0.50% in all other sea areas in 2020) as well as reducing NOx emissions. However, from the perspective of greenhouse gas emissions, its advantages are limited and it is only a transitory solution to zero-carbon fuels. Nevertheless, the excellent work done on LNG could be used to demonstrate what needs to be done in future on alternative / low-carbon fuels.
While we see the share of LNG developing in maritime transport (not exclusively for short sea shipping but also deep-sea traffic), a number of challenges remain such as the uniform deployment of LNG bunkering capacity. Through its Directive on the deployment of alternative fuels infrastructure (Directive 2014/94/EU), the EU is encouraging a wide spread of this solution in European ports. In addition, through the European Sustainable Shipping Forum, the Commission has engaged with Member States and stakeholders to lift technical concerns on the deployment of gas as a marine fuel.

- **What elements are influencing the current evolution of long-distance transport in Europe, and is the energy transition one of them?**

Obviously, the energy transition is influencing the current evolution of long-distance transport, among many other factors. It is important to remind ourselves of the different modes of transport and their specific characteristics and to take a broad focus on different alternative fuels. Clearly, battery-electric solutions will impact the market for passenger cars and delivery vans in the years to come. But they are facing their limits vis-à-vis long-distance transport, particularly in the aviation or maritime sector, but also in long-distance road haul.
Advanced biofuels and in a longer perspective also e-fuels will play a role in aviation, while biofuels and natural gas (in high blend with biomethane) are relevant for the maritime sector and

long-distance trucking, High-speed train connections are already today an increasingly relevant alternative for passenger transport, and their relevance will continue to grow. Modal shift is particularly relevant for freight.
Fuel-cells powered by hydrogen offer important prospects for zero-emission mobility, and not only in light- and heavy-duty vehicles, but now also in trains! Two hydrogen-powered trains, produced by Alstom, have just started operation in Northern Germany, serving a nearly 100 km line. On long-distance haul, fuel-cell trucks are a successfully demonstrated alternative, which finds increasing interest from logistics companies around the world. And let me highlight a very important fact: this is a genuine European technology, with innovations and patents coming from European companies. We need to build on this competitive advantage.

Margherita Bianchi

As the final term to reach the UK withdrawal agreement (29 March 2019) gets closer, the potential impacts of Brexit on both the EU and the UK are increasingly under the lens of political discussion. Within the context of an expanding European legislation in the energy and climate sectors, several aspects of the Energy Union are currently debated, with the possibility of a no-deal between the two blocs causing the greater concerns.

According to the pan-European electricity industry association Eurelectric, strongly calling for a rapid end to negotiations, a no-deal Brexit would definitely be harmful for businesses operating in power sectors, making it problematic to reach energetic ambitions – such as security of supply and energy bills – and climate goals.

An emblematic example of this widespread fear is offered by some of Northern Ireland's leaked government documents, defining a deal as "essential" for energy security and warning that a no-deal Brexit might result in blackouts, a rise in electricity costs or even a market failure for the country. What, on the other side, appears to be taken as granted, is that the UK wants to maintain or even deepen its cooperation with the EU energy and electricity market.

In these four months, British authorities have considered four potential solutions regarding another pillar of the EU energy market: carbon pricing. The first possibility is that the UK remains in the EU's Emissions Trading System (ETS); the second is that the UK launches an ETS connected to the European scheme; the third is the potential set-up of a stand-alone UK ETS; and the fourth is the possibility of a return to a carbon tax. Although the chosen option will depend on the agreement the two parties will reach (if indeed they do), the deputy head of emissions trading at Britain's Department for Business, Energy and Industrial Strategy guarantees that any of these will be as ambitious as the current scheme. On the other side, concerned companies urge Britain to stay in the ETS until the end of the current trading phase (2013–2020), although they have different viewpoints on the country's longer-term involvement in the system. The framework gets even more complicated as Scotland refuses to replace Europe's emissions trading market with a national carbon tax.

According to both the EU and UK blocs, agreeing on common steps on decarbonization is crucial. In line with the EU call to continue cooperation on energy and climate policy after the divorce, the UK Environment Secretary Michael Gove provides reassurances that the UK is committed to safeguarding climate and environmental standards, stren-

gthening regulations, and not letting environmental standards "slip lower" than those of the EU.

However, despite political rhetoric and good intentions to agree on a "soft" divorce, the possibility of a no-deal exit becomes more and more concrete. In this sense, the UK department for exiting the EU has released some guidelines in case this scenario manifests in March 2019. In the four months considered under this Energy Union Watch, it provided potential plans for dealing with civil nuclear regulation and nuclear research, guidance on industrial emission standards, on the reporting of CO2 emissions for new cars and vans, on environmental standards, on the use and trade in fluorinated gases and ozone-depleting substances and lastly some guidance for meeting the climate change requirements. Some commenters however consider that the government is moving too slowly, and that these guidelines are insufficient in terms of details and implementation mechanisms.

For a closer look at the potential implications of Brexit on the energy and climate frameworks, we suggest two interesting insights from E3G and IFRI:

- According to the Institut francais des relations internationales (Ifri), there is no doubt that, even in a no-deal scenario, energy will continue to flow between the EU and the UK. In such a context, clarity on the future terms of the deal is crucial to mitigate the impact of the Brexit challenge and to assure the level of investments required (October, here).
- Despite the will for closer cooperation between the EU and the UK on climate change issues in the aftermath of Brexit, we are witnessing a lack of practical details. E3G recommends the highest possible level of cooperation on climate policy during the transitional period, the creation of mechanisms to coordinate emission trading systems, references to the Paris Agreement within the Article 50 process, and a contingency plan in the case of a no-deal scenario (2 October, here).

Roadmap for the Energy Union

The items in this timeline have been listed by the Commission in the 2015 and 2017 States of the Energy Union. Items with a check mark (✓) are the initiatives already taken by the Energy Union since the publication of the documents, and then approved by the Council and the Parliament.

- 18/11/15 State of the Energy Union
- 16/02/16 First Winter Package
- 30/11/16 Second Winter Package
- 01/02/17 Second State of the Energy Union
- 24/11/17 Third State of the Energy Union

Security of Supply

- ✓ Communication on the progress towards the completion of the list of the most vital energy infrastructures and on the necessary measures to reach the 15% electricity interconnection target for 2030
- ✓ Memorandum of Understanding on an upgraded strategic partnership with Ukraine
- ✓ Report on the European Energy Security Strategy
- ✓ Revision of the Regulation on security of gas supply
- □ Review of the Directive concerning measures to safeguard security of electricity supply
- ✓ Review of the Decision on information exchange mechanism with regard to intergovernmental agreements between Member States and third countries in the field of energy Revision of the Regulation on security of gas supply
- ✓ Liquified Natural Gas and storage strategy

Energy Market

- □ Initiative on market design and regional electricity markets
- □ New Deal for energy consumers
- □ Review of the Agency for the Cooperation of Energy Regulators (ACER) and the energy regulatory framework
- □ Review of the guidelines on state aid for environmental protection and energy (beyond 2020)

Energy Efficiency

- □ Review of the Energy Efficiency Directive
- □ Review of Directive on the Promotion of Clean and Energy Efficient Road Transport Vehicles
- ✓ Review of the energy efficiency framework for products
- ✓ EU strategy for Heating and Cooling
- ✓ Review of the Directive on Energy Performance of Buildings

Decarbonisation

- ✓ Legislative proposal to revise the EU Emissions Trading System, 2021-2030
- □ Communication on decarbonising the transport sector
- □ Review of Regulations setting emission performance standards to establish post-2020 targets for cars and vans
- □ Renewable Energy Package: including a new Renewable Energy Directive for 2030

Research and Innovation

- □ A new European energy R&I approach to accelerate energy system transformation, composed of an integrated Strategic Energy Technology (SET) Plan and a a strategic transport R&I agenda

WORLD ENERGY COUNCIL

WORLD
ENERGY WEEK
OCTOBER 8–11
2018, MILAN

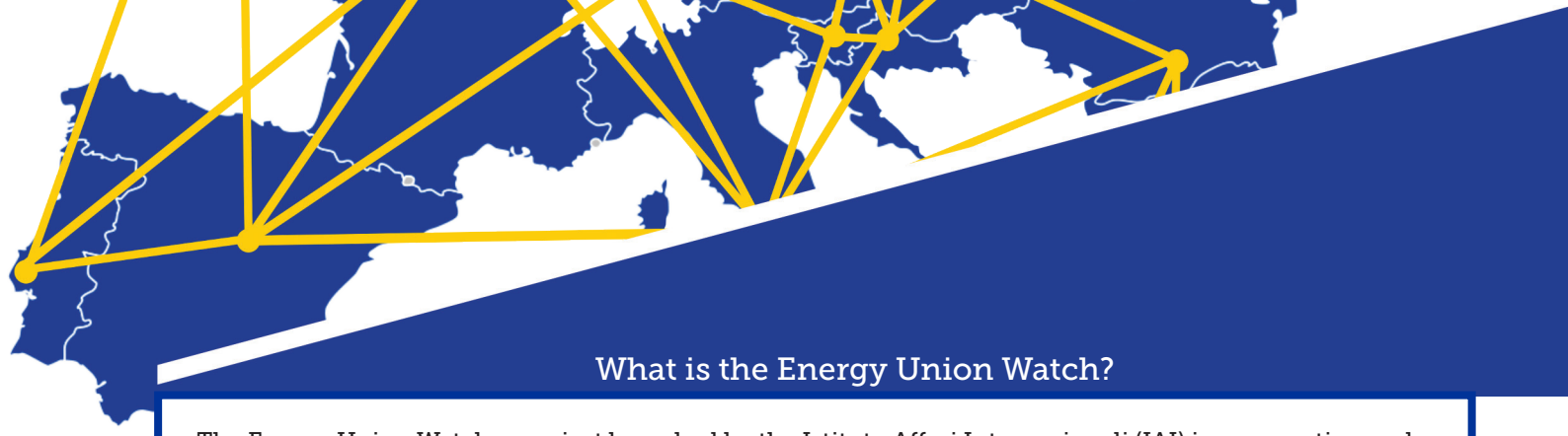
Main findings

Whether it be basic social needs, economic growth, productivity, education or health services – every human activity or need depends on energy. This essential driver of development is still inaccessible to many, while at the same time climate change imposes the need to rethink our economic paradigm and energy use patterns.

Engaging in the transition displays a complex political, technological, corporate, social and financial puzzle: achieving this objective implies changes through innovation, industrial excellence, energy production systems, power generation – a shift towards sustainable ways of living, moving and growing. In short, the goal of energy sustainability requires multi-stakeholder dialogue, as neither single countries nor producers, consumers or actors involved in the energy sector can fully unlock these opportunities alone.

With the goal of providing a 360° evaluation of the challenges ahead, World Energy Week (WEW) – the annual flagship event of the World Energy Council (WEC) – was held in October (8–11) in Milan with the support of both Italian and municipal authorities. The week gathered ministers, ministerial delegations, CEOs, senior representatives of international organizations, academics and industry experts to exchange views and leverage to build solutions from common bases and needs.
Among the highlights of the week was an Energy Transition Summit (ETS) assessing the World Energy Trilemma – an indicator displaying the ability of each country to balance the triple challenge of the development of safe, accessible and sustainable energy systems. Secondly, stakeholders debated energy scenarios in the MED-area with a special focus on the resilience of energy infrastructures, green finance, innovative mobility and digitalization. Italy acts as main protagonist in this region due to its geographical location, its interconnections with Europe and its role in technical and political dialogues in the Mediterranean basin. Its primary position in the area was thus assessed during the Italian Energy Day (IED).
Moreover, several parallel events enriched the debate by providing specific inputs: the Mediterranean area was one of the most discussed due to the many opportunities its two shores offer to sustainably fulfil their complementary energy needs.

For all information on participants, events and materials please see: https://worldenergyweek2018.org/programme/



What is the Energy Union Watch?

The Energy Union Watch, a project launched by the Istituto Affari Internazionali (IAI) in cooperation and with the support of Edison, responds to the exigency of following step by step the evolution of one of the most ambitious initiatives launched by the Juncker Commission, the Energy Union, and bringing the discussion closer to public opinion and the key stakeholders.
The project aims to monitor the activities of the key EU institutions—the European Commission, the Council of the EU, the European Parliament and the European Council—on the five Guiding Dimensions envisaged by the Energy Union. The Energy Union Watch also covers and illustrates the debate among the key national end European stakeholders, including industrial players, think tanks, and interest groups, on the evolution of the policies and the measures adopted in the framework of the Energy Union. Finally, in order to sensitise the citizens and contribute to the public debate, it offers an analytical assessment of the milestones and results achieved in the framework of the Energy Union, presenting a set of recommendations for the activities to be proposed and implemented.
The Energy Union Watch is produced on a quarterly basis, collecting official documents, public information and open source data, which are processed and analysed by the IAI team. The content of the Watch will evolve over time, integrated and enriched thanks to a process of interaction with experts and stakeholders belonging to the IAI and Edison networks.

Updated 30 June 2018

About the IAI

http://www.iai.it/en/
@IAIonline

The Istituto Affari Internazionali (IAI) is a private, independent non-profit think tank, founded in 1965 on the initiative of Altiero Spinelli. IAI seeks to promote awareness of international politics and to contribute to the advancement of European integration and multilateral cooperation. Its focus embraces topics of strategic relevance such as European integration, security and defence, international economics and global governance, energy, climate and Italian foreign policy; as well as the dynamics of cooperation and conflict in key geographical regions such as the Mediterranean and Middle East, Asia, Eurasia, Africa and the Americas. IAI publishes an English-language quarterly (The International Spectator), an online webzine (AffarInternazionali), two book series (Quaderni IAI and IAI Research Studies) and other paper series related to IAI research projects.

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Nicolò Sartori is Senior Fellow and Coordinator of the Energy, Climate & Resources Programme at the Istituto Affari Internazionali (IAI). His research focuses on the external dimension of Italy's and the EU's energy policies—with specific attention to Turkey and the Caspian basin region, the Mediterranean and Russia, and on the governance of energy policies in the EU framework. He is Professional Fellow at the World Energy Council (WEC) Italy, and editor of the column 'Centers of Gravity' in the international review Oil Magazine. He worked at the NATO Defense College in Rome, where he also conducted research on NATO's role as energy security provider in the Caspian region.

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Lorenzo Colantoni is Researcher at the Istituto Affari Internazionali, with specific involvement in theEnergy, Climate & Resources Programme. His focus is on European energy policy, in particular intra-European interconnections, the geopolitics of the European energy supply and LNG. His research extends also to the environment, in particular food security, climate change and international environmental agreements. He has experience at the DG DEVCO of the European Commission and the Centre for European Policy Studies (CEPS). Alongside his research, he also works as freelance journalist for, among others, National Geographic, Limes, L'Espresso and the Energy Post.

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Margherita Bianchi is Junior Researcher at the Istituto Affari Internazionali, where she collaborates within the Energy, Climate and Resources programme. Her research focuses on EU integration developments, the governance and policies of the EU with a particular focus on energetic and climate-related dynamics. She is interested in analysing the external dimensions of EU policies, in particular towards the Mediterranean region and the Eastern neighbourhood. She has previously worked at the European Parliament (in particular within the ENVI and ITRE committees) and with UN Environment.

With the contribution of Alessandro Valentini, trainee at the IAI's Energy, Climate and Resources Programme