

The Energy Union in action

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

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 January to March 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 is now time to decide the future path of the Energy Union on a few key issues, first and foremost concerning decarbonization. At issue is not only the negotiations on the (significant) decarbonization component of the massive Clean Energy for All Europeans (CEFE) package of November 2016; the urgency is caused by a series of wider factors. These include the increase in European economic activity, growing global competition on renewables, an incoherence between Paris pledges and the functioning European policies, the need to compact the heterogeneous paths of Member States (and thus to get rid of coal and decide the future of European renewables) and other trends on the EU and the global level. Decarbonization is, however, not the only sector where Energy Union attention is required; as Nord Stream 2 (NS2) is going forward, and other players (Turkey in particular) are meddling with EU plans for the Southern Corridor and gas resources in the Eastern Mediterranean, the Energy Union will need to set a more decisive course to assert its position in the definition of the two gas Corridors.

The European debate on decarbonization is wide and multifaceted. The core of the discussion in the past three months (and, to a certain extent, also in the previous three) has been the upgrade of European targets to 2030 and eventually to 2050. Indeed, the national renewable energy goals to 2030 were the subject of a Greens–European People’s Party (EPP) agreement in January, which established three intermediate steps in 2022, 2027 and 2030 as part of the negotiations for the CEFE package – a fundamental decision to assure coherence between the targets of Member States and those of the EU (the latter being legally binding, the former not). Yet, the European Parliament (EP) is also still pushing to upgrade the overall renewable target – now at 27% – to 35%, which appears more consistent with the recent fall in solar and wind energy costs. This has been followed by a debate in the EP regarding the possibility of a 2050 zero greenhouse gases (GHG) energy mix – a discussion which brings up again the need to update the 2011 Roadmap, which the Commission itself seems to have largely forgotten in its current planning.

Yet, long-term planning is a necessary factor in coherence between EU policies and the Paris climate pledges, a congruity which appears have been declining since the signature of the Agreement in 2015. Indeed, the evaluation of the European Nationally Determined Contribution (NDC), performed by Climate Action Tracker, passed from “Medium” in 2015 and 2016 to “Insufficient” in 2017; this is a result of the lack of a consistent 2050 perspective, as well as the absence of adequate policies to reach even its 2030 target (which the Commission itself recognizes will not be met under current conditions). The EU will thus have to fix a series of measures, some of which are already close to finalization. In March, the revision of the EU ETS for the 2021–2030 period was finally signed after a long and heated debate. A few other elements will however need to be addressed, such as emissions of forestry and land use (LULUCF), as well as other extra-ETS emissions (aviation and transport in particular). In addition to the debate on the renewables targets, energy efficiency has been under discussion. The EP has been forced to abandon the 40% efficiency target it was supporting in 2017, in favour of a more achievable 35%. Upcoming trilogue negotiations on the target between the Commission, the Council and the EP will boost policy-makers’ attention to this often-neglected dimension. Nonetheless, it is not yet clear if the EU will reach its current 2020 objectives; according to February Eurostat data, the EU is still 4% below its 20% target on energy efficiency regarding primary consumption. The situation is largely due to heterogeneity among Member States, as some show a reduction in energy consumption as high as 18–23% (as in the case of the UK or Greece) for the 2006–2016 period, while others achieved only a minimum decrease or even increased consumption (Poland and Estonia).

More than EU institutions, it is as usual Member States which represent the variable in the equation for the future of European decarbonization. Their achievements appear significantly varied, according to recent Eurostat data: while some MS have already reached their renewables target to 2020 (Finland and Sweden, for example), others are set to miss it (the UK). Member States are heterogeneous (and perhaps contradictory) even on the domestic level; in the past three months Germany has shown



remarkable results for electricity generation, a 36% share for 2017, yet doubts are cast on whether its 20% target will be reached by 2020. On the other hand Poland, which has so far often fought the advancement of climate policies, has showed early signs of change. Its Electro-Mobility Act aims at promoting the expansion of the sector to reach 1 million Electronic Vehicles (EVs) in the country by 2025, while the Polish government has finally showed interest in promoting wind generation – thus supporting a flourishing renewables industry in the country, which has however been neglected in the past years.

The dark secret of EU Member States remains coal, but progress is nonetheless being achieved one way or another. As already described in the previous issue of the Energy Union Watch (Number 10), coal phase-out is going forward in several Member States; the UK has now detailed its plans for the process, while Germany has finally set a deadline. Support comes from EU institutions as well: the Commission will dedicate 1.25 billion to smooth the closure of Polish coal mines, while the EP has been voting for stricter rules against coal in capacity mechanisms. The battle is far from over, yet it seems that the EU has started facing one of the major barriers to its energy transition.

Green finances and the development of technologies are two other major question marks for the European energy transition, which the Energy Union is trying to address. The EIB confirms its involvement for both – notably the former, witness the first euro-denominated Climate Awareness Bond (CAB) in issued January and raised by 250 million euros in March, and also the EIB backing of the first global emerging market green bond fund with 100 million dollars. The institution also continues its flow towards renewable and energy efficiency projects, particularly in the building sector through the Smart Buildings Initiative. Research and development, on the other hand, continue to lag behind the other dimensions of the Energy Union; nevertheless, the first steps are being taken towards a European initiative for a Battery Alliance, promoted by VP Šefčovič himself. The proposal not only supports the energy transition in the EU by providing funds for development of the technological solutions required to compensate for solar and wind intermittence, but also allows Europe to compete with the rapidly advancing Chinese and US battery industries.

Even if more attention has been dedicated to decarbonization, security of supply is still one of the most active dimensions for the Energy Union – this time largely because of external action. The focus of the past three months has been on the Northern and Southern Corridors, as the Commission struggles to realize its plan for both. The debate over NS2 is at an impasse; while the Commission and the EP push for a greater involvement in the issue for the Commission itself, the Council and several national and European industries are strongly opposed. The situation has hardly changed in the past six months, and it is not clear how and when it will evolve.

In the south the situation is more eventful, but hardly any more clear. The 1.5 billion euro loan from the EIB for the Trans-Adriatic Pipeline (TAP) and the 932 million euros for the Trans-Anatolian Pipeline (TANAP) have been finally confirmed, pushing the two infrastructures closer to finalization. Meanwhile, greater discoveries in the Eastern Mediterranean are attracting increased attention on the part of Europe, as the expected Zohr output has increased, while the Italian hydrocarbon company ENI has announced another significant discovery off Cyprus. Yet, Turkey's blocking of an ENI vessel destined to Cyprus adds to the already precarious situation in the region, making a peaceful resolution of the Cypriot issue and thus the full exploitation of resources in the area increasingly difficult.

It is not going to be a quiet period for the Energy Union in the months to come, as the EU continues to try to find its place in a changing global energy sector, which is strongly affected not only by sectorial mutations, but also by an evolving geopolitical equilibrium within Europe and on the global level. Renewables, batteries, gas, the energy market and many other factors will be central to this evolution, and the Energy Union has already proposed several tools through the CEFE package. Their impact will however depend on which instruments are approved, and when they are ready for EU use.



Five Guiding Dimensions Details of the evaluation

1. Security of Supply Evaluation: 3/12



Despite a significant evolution in the exploitation of the Groningen gas field – further reducing its production – the expansion of Nord Stream and the tensions between Turkey and Cyprus in the Eastern Mediterranean remain the most urgent issues on the table. Regarding the former, the never-ending German–Polish debate continues, with the topic becoming more divisive among EU institutions as well. Faced with the Commission’s willingness to extend EU rules over third-country pipelines, the position taken by the legal services of the Council goes in the opposite direction, with the jurisdiction on Member States’ EEZ being at the core of the question. The “diversification” priority of the Energy Union is however being met, notably with important financial flows unlocked by the EIB in favour of the Southern Gas Corridor (1.5 billion euros to the TAP and 932 million to the TANAP). In the Eastern Mediterranean, EU diplomacy raised its voice condemning the Turkish attempt to block ENI activities.

EU GAS PRODUCTION AT RISK

- Despite having reduced Groningen field extraction since 2014 due to frequent earthquakes, after the most recent – which registered 3.4 on the Richter scale – the Dutch government warns two thousand of the companies operating in the area that they have four years to end extracting gas from the Groningen field and need to switch to alternative energy sources by 2022 (23 January, [here](#)). The Dutch minister of economic affairs anticipates that a cut of two-thirds is due by 2022, foreseeing a complete cessation by 2030 (29 March, [here](#)).
- The decline in Dutch production poses an issue of security of supply for the European Union, with Gazprom exports to Europe hitting records in 2016 and 2017, in the latter case 40% higher than in 2012 (20 February, [here](#)).

RUSSIA–UKRAINE, NEW TENSIONS ARISING

- Following arbitration by a Stockholm court resolving a legal dispute on gas between Ukraine’s Naftogaz and Russian’s Gazprom in favour of the former, Ukraine calls on Russia to pay the \$2.56 billion due (1 March, [here](#)). Tensions continue as Gazprom refuses to supply gas to Ukraine, claiming that an additional agreement to the contract is needed (2 March, [here](#)). Following this Gazprom decision, Naftogaz turns to Poland for gas supplies, signing an agreement with PGNiG valid until the end of the month (2 March, [here](#)) and considers ceasing to buy gas from Russia starting in April (23 March, [here](#)).
- The European Union sees peaks in its gas imports from Gazprom due to record cold (2 March, [here](#)) but receives full guarantee over the correct delivery of EU-destined gas supplies by both Russian and Ukrainian authorities in contact with Vice-President Šefčovič (4 March, [here](#)). HRVP Federica Mogherini carries on further diplomatic efforts, stating that the EU is ready to mediate between the two and calling on Gazprom to fulfil its obligations (13 March, [here](#)).



THE DEBATE OVER NORD STREAM 2

- Clashes among EU Member States continue over the NS2 project, especially between Poland – which considers it a danger to the EU's diversification of suppliers – and Germany, with Angela Merkel seeing it merely as an economic project (16 February [here](#)). NS2 indeed has received all authorizations needed from Germany, but some permissions are still necessary from other countries such as Finland, Denmark and Sweden (28 March, [here](#)).
- EU institutions are stuck in a legal impasse concerning the regulation of NS2. On the one hand, the European Commission is proposing an extension of EU internal market rules with regard to offshore gas pipelines, but on the other hand, the legal services of the Council consider this impracticable, as the EU does not have jurisdiction over pipelines in the EEZ of Member States. Opposition arrives as well from several energy industries across Europe, including Eurogas, Confindustria and BusinessEurope (5 March, [here](#)). In the European Parliament, the ITRE Committee approves the application of the Third Energy Package on all pipelines to and from third countries (21 March, [here](#)), but a second opinion from the legal service of the Council reiterates the legal obstacles to such a revision (26 March, [here](#)).

DIVERSIFYING SUPPLIES AND ROUTES

- In an attempt to reduce its share of gas supplies from Russia, Poland's PGNiG closes a deal with Denmark's Energinet for the transit of Norwegian gas to Poland through a Baltic pipeline expected to be ready by 2022 (30 January, [here](#)).
- The Southern Gas Corridor receives support from the EIB Board, which approves EUR 1.5 billion of financing addressed to the Trans-Adriatic Pipeline – TAP (6 February, [here](#)), and EUR 932 million to support the Trans-Anatolian Pipeline – TANAP (15 March, [here](#)). The project gains further support from the German Ministry of Finance, which provides Azerbaijan with a €1.2 billion loan, intended in particular for the development of the Shah Daniz gas field, the construction of the South Caucasus Pipeline, the TANAP and the TAP (6 March, [here](#)).
- The Romanian transmission system operator Transgaz and the Slovak Eustream agree to cooperate on the development of the Eastring pipeline project on their territories (12 February, [here](#)).
- Croatia's plans for an LNG terminal on the Krk island in the Adriatic – aiming to supply as well other European Central and Eastern European countries – faces resistance, mainly from environmentalists and the local community (19 February, [here](#)); opposition remains even after an advisory committee on environmental issues and one on tourism make clear that the terminal won't have any impact on the economy or the environment of the island. Furthermore, despite being qualified as a project of common interest (PCI), it still faces the opposition of some MEPs (30 March, [here](#)).
- Turkey gives permits to Russia to build two undersea sections of the Turkstream pipeline, but it has yet to issue authorization for the land pipeline to ship Russian gas to Europe (20 February, [here](#)).
- The Commission says that in December 2017 Europe received its first cargo from Novatek's new Yamal LNG facility. For the first time a company other than Gazprom has supplied Russian gas to the European Union (26 March, [here](#)).

EASTERN MEDITERRANEAN, OPPORTUNITIES AND CONFLICTS

- The EU Member States approved 17 projects proposed by the Commission under the 2017 Connecting Europe Facility (CEF) call for proposals; 34.5 million euro will be allocated to the EastMed Pipeline project, promoted by the Italo-Greek joint venture Igi Poseidon, for



study development (28 January, [here](#)).

- The expected gas outputs from Eastern Mediterranean increase, in particular because of the giant “Zohr” field off Egypt, expected to exceed the 2.7 bn ft³/day previously announced (13 February, [here](#)). In addition, Italian’s ENI announces another important discovery off Cyprus, the gas field “Calypso” (8 February, [here](#)). A few days after the announcement, tensions in the region develop between Cyprus and Turkey, and a major dispute between the two arises over an ENI ship, with Cyprus accusing Turkish warships of blocking the Saipem 12000 vessel (11 February, [here](#)) and Turkey’s President Erdogan replying that Cyprus should not “overstep the mark” (13 February, [here](#)). Cyprus receives EU backing, as the Council’s President Tusk calls on Turkey to stop the activities leading to incidents (23 February, [here](#)). Faced with Turkey’s perseverance in considering the area under its jurisdiction (22 March, [here](#)), the EU strongly condemns Turkey’s illegal actions (23 March, [here](#)).
- EIB approves the first infrastructure project in Cyprus under the European Fund for strategic investments (EFSI), by securing €35 million to enrich the country’s reserve oil stocks (2 February, [here](#)).

2. Energy Market

Evaluation: 6/12



Steps forward are recorded at the policy level, with the ITRE Committee of the Parliament voting on the internal market for electricity and on the reinforcement of the Agency for Cooperation of Energy Regulators (ACER). Interconnections regain momentum in the debate, with the Commission clarifying prospects and timing for the synchronization of the continental grid with the Baltic States and the approval of important EU grants. Notable is funding to the tune of 578 million for the 370 km interconnection between France and Spain across the Bay of Biscay, which is likely to push Spain close to the target of 10% interconnection.

PUSHING THE ENERGY UNION FORWARD

- In the European Parliament, the ITRE committee adopts its report on the internal market for electricity, setting principles for capacity mechanisms, clarifying the tasks of the EU DSOs, amending energy storage, bidding zones and data exchange provisions. Differently from the Commission, it introduces regional coordination centres and leaves the responsibility for managing electricity flows with the TSO (21 February, [here](#)). Secondly, the ITRE Committee adopts its report on the reinforcement of the Agency for Cooperation of Energy Regulators (ACER), generally supporting the proposal but improving and clarifying the Agency’s role and powers (21 February, [here](#)).

STATE OF INTERCONNECTIONS

- The Council reaches a general approach on a directive (part of the clean energy package) Under the Connecting Europe Facility (CEF) support programme, the EU invests €873 million addressed to clean energy infrastructure, including several projects for enhancing electricity and gas interconnections (25 January, [here](#)). Within the electricity sector the biggest amount of all – a 578 million euro EU grant representing the largest ever for energy infrastructure – is dedicated to the 370 km Franco-Spanish subsea interconnection across



the bay of Biscay, that is expected to double the current power capacity exchanged (from 2,800 MW to 5,000 MW). This project is designed to push Spain closer to the target of 10% interconnections – currently at 6% - and is expected to better integrate the Iberian Peninsula into the internal electricity market (25 January, [here](#)).

- Jean Claude Juncker, together with the heads of state or government of the Baltic states and Poland, confirms the utmost commitment in the synchronization of the Baltic electric grid to the continental European Network by 2025, and promises to meet again in the summer to decide the next steps to adopt (22 March, [here](#)).

RELATIONS WITH THIRD COUNTRIES

- The Trump administration rejects the alternatives that the EU has proposed for safeguarding tariffs on solar power goods. This is reported in a WTO filing jointly issued by the US and the EU (20 March, [here](#)).
- The Norwegian parliament approves the adoption of the energy rules of the European Union, which it had the right to refuse under the European Economic Area (EEA) Treaty. The adoption of the Third Energy Package has been promoted by the centre-right government, which has negotiated a compromise with the Labour Party in order to secure support in the parliamentary vote. A crucial element of the deal is that all power cables that connect Norway to other countries will remain owned by the state (26 March, [here](#)).

The Commission approves a number of state aid and support measures in the energy sector, including:

- An auction scheme to support electricity production from renewable energy resources in Greece (4 January, [here](#));
- Six capacity mechanisms to enhance security of electricity supply are approved by the Commission to Italy, France, Belgium, Germany, Greece and Poland (7 February, [here](#));
- Green certificates for renewable electricity and combined heat and power (CHP) certificates for high-efficiency cogeneration in Flanders (16 February, [here](#));
- The development of 180 MW of electricity from biomass in France (22 February, [here](#));
- A €70 million public investment to support the purchase of electric buses and charging infrastructure in Germany (26 February, [here](#));
- An Italian public support scheme for advanced bio-methane and biofuels worth €4.7 billion (1 March, [here](#));
- A regime of compensation for indirect costs of emissions resulting from the GHG emissions quota exchange scheme in Belgium (16 March, [here](#)).

Under the EU Merger Regulation, the Commission approves:

- The joint control by Mirova-Eurofideme 3 and General Electric of new Spanish wind farms (4 January, [here](#));
- The acquisition of Liguigas, an Italian firm specializing in the supply of liquefied petroleum gas (LPG) by SHV Holding (25 January, [here](#));
- The creation of a joint venture between Canadian Solar and EDF to manage a solar panel components business (2 February, [here](#));
- The acquisition, by the Dutch private equity investment fund Waterland, of De Nederlandse Energie Maatschappij, an electricity and gas supplier (5 February, [here](#));
- The acquisition of the Italian firm Gas Natural Vendita Italia, a natural gas and electricity supplier, by Edison (6 February, [here](#));
- The acquisition of sole control over Mátra, a Hungarian lignite-fired power plant operator,

by EPH of the Czech Republic (12 February, [here](#)).

Finally, the Commission opens formal investigation:

- Into the German grid operator TenneT for limiting cross-border electricity capacity from Western Denmark into Germany (19 March, [here](#)). Later in March, the Commission invites comments on TenneT's commitments to increase cross-border electricity capacity with Denmark, proposed in response to the antitrust investigation (27 March, [here](#)).

3. Energy Efficiency

Evaluation: 6/12



Despite discouraging data on the achievement of 2020 targets, the work of institutions goes forward on different files. In particular, the European Parliament expresses its vote on the energy efficiency target by 2030 after clashes among the S&D and the EPP group with the first supporting the original 40% target, and the second unwilling to move from the 30% objective – thus finally agreeing on a midway 35% target. The backing of EU ambassadors for the directive on energy performance for buildings – part of the Clean Energy package – is another step forward recorded in the framework of the Energy Union. Moreover, the EIB has created a new financial instrument to foster private investments in the energy efficiency of residential buildings: the Smart Finance for Smart Buildings Initiative.

SUFFICIENT STEPS FORWARD?

- Releasing data on energy consumption, Eurostat illustrates that over the last decade, only two EU countries – Estonia and Poland – increased their energy consumption. Among the 26 Member States with falling energy consumption, there are some that exceed -20%, such as Greece, Malta and Romania (5 February, [here](#)). However, Eurostat shows that in 2016 – the latest year available – energy consumption in the EU was above the target of energy efficiency (planned to reach 20% by 2020). In that year, primary consumption is estimated as 4% off the target (corresponding to a consumption of 1543 Mtoe in 2016), while final energy consumption is calculated as 2% above the goal (1108 Mtoe) (5 February [here](#)).

ROADMAP TO 2030

- Political groups' support for a 35% energy efficiency goal for 2035 causes the European Parliament to abandon its original target of 40%. Despite disappointment on the part of several MEPs, the assembly preserves the energy savings goal of 35% and for the first time includes the transport sector in the energy savings mix. The Parliament will enter into upcoming negotiations within trilogue with this target (17 January, [here](#)).

ENERGY EFFICIENCY FOR BUILDINGS

- EU ambassadors support the agreement to revise the directive on the energy performance of buildings reached in December 2017 between the Estonian presidency and the European Parliament. The revision to the Directive will push for improved energy efficiency of buildings and encourage building renovation (31 January [here](#)).

FINANCING EFFICIENCY

- The EIB board approves the creation of the Smart Finance for Smart Buildings initiative, a new financial instrument to foster private investments in the energy efficiency of residential buildings, using EU grants as a guarantee. Added to other EU policy initiatives for smart buildings, this new instrument will unlock a total of €10 billion in public and private funds up to 2020 (7 February, [here](#)).
- The EIB approves 100 million financing to support the construction of Near Zero Energy Buildings in Germany. It is estimated that this could reduce both heating costs and carbon emissions by 50% (15 March, [here](#)).
- The EIB and Piraeus Bank jointly approve a 100 million euro scheme to reduce energy consumption and cut energy bills for companies in Greece (26 March, [here](#)).

4. Decarbonisation

Evaluation: 6/12



As frequently happens, ambitions are raised in the domain of decarbonization thanks to the European Parliament. Indeed, the EP has set a 35% renewable energy target with respect to the EU's energy mix by 2030 (compared to the former 27%) and a more flexible path for Member States to reach it. Additional efforts to cut emissions are backed by the ENVI committee, which has voted on the Effort Sharing, the LULUCF and the EU ETS files, on the latter reaching agreement with the Council on the 2021–2030 timeframe. Furthermore, the Parliament has asked for a revised 2050 low-carbon economy roadmap in light of the Paris Agreement dispositions. Individual Member States are also taking encouraging political stands and initiatives to decarbonize their economies, as in the cases of Germany and Poland. The debate is particularly heated on the instruments needed to finance the transition: the Commission has indeed released a detailed Action Plan on the topic and the EIB has issued Climate Awareness Bonds.

UPGRADING EU AMBITIONS

- Greens and EPP agree on a timeline for Member States to meet renewable energy goals for 2030 in the context of a broader agreement on the Energy Union Governance bill. It thus sets a flexible path for Member States on their way to the 2030 targets on renewable energy, with three steps (instead of four) by 2022, 2027 and 2030 (16 January, [here](#)). The renewable energy target is reviewed by the European Parliament as part of the “Clean Energy for All Europeans” package, which is currently under negotiation between the EU Parliament and the Council of Ministers. The new target is to achieve 35% of the EU's energy mix by 2030 from renewables, which marks a step forward with respect to the 27% target that had been earlier approved by EU national governments (18 January, [here](#)). Two months later, an



energy industry coalition asks the future Austrian Presidency of the EU to support a target of “at least 35%” (28 March, [here](#)).

- A proposal to bring greenhouse gas emissions down to zero by 2050 is backed by the European Parliament, planning a “carbon budget” complying with the Paris Agreement limits (18 January, [here](#)). Moreover, a strategy for GHG emission reduction is requested from the European Commission by the first quarter of 2019. Indeed, the current 2050 low-carbon economy roadmap, drafted in 2011, needs to be updated in light of the Paris Agreement (23 March, [here](#)).
- Commissioner for climate and energy Miguel Arias Cañete vows to increase EU funds for climate change adaption in 2018, pledging 20% of EU foreign spending to climate-related projects. Furthermore, Commissioner Cañete declares he counts on private investments to make the difference in raising \$100 billion each year for climate mitigation and adaptation measures as agreed by the Paris Agreement (18 January, [here](#)).
- French President Emmanuel Macron calls for a EU common carbon price floor – to be accompanied by social policies to support the transition – as well as a carbon tariff for those countries at EU’s external border that do not ratify the Paris Agreement (23 March, [here](#)).

FUTURE OF BIOFUELS

- After a PSE, EPP and ALDE amendment proposal (10 January, [here](#)), the European Parliament agrees on the phase-out of palm oil as a transport fuel by 2021, and on a cap on the level of crop-based biofuels at the level that each Member State has reached in 2017. A 12% target for renewables in transport is furthermore agreed (17 January, [here](#)).

MEMBER STATES AND THE TRANSITION

- New data published by Eurostat reveals that 11 Member States have already met their renewable energy goals to 2020 – while the Union as a whole has reached 17%. Among the most virtuous countries are Sweden with 53.8%, followed by Finland (38.7%) (25 January, [here](#)).
- The Polish government signs the Electro-Mobility Act, aiming at creating 1 million electric cars on Polish roads by 2025 and creating a fertile environment to invest in eco-mobility (5 February, [here](#)). The country is also carrying out efforts to acquire windpower generation capacity (21 March, [here](#)).
- In Germany, renewables surge to 36% of electricity generation in 2017, but despite growing results in the power sector, such a situation is not matched in transport and heating. The Commission considers Germany “at considerable risk” of not achieving the 20% target by 2020 (25 March, [here](#)). As for cutting GHG emissions, Germany’s decrease was only around 27% by 2015. On this point, the CDU/CSU and SPD coalition stresses its determination to reach 55% on the 1990 levels by 2030. The two confirm as well their willingness to raise the target of renewables to 65% by 2030 (6 February, [here](#)).
- According to the latest Eurostat data, the Netherlands produced only 5.8% of its energy from renewables in 2015 – against an expected 14% – and it is probably struggling to reach the 2020 goals. However, the Dutch government is continuing with its renewables pledges and awards two contracts to the Swedish firm Vattenfall to build wind farms in the North Sea by 2022, entirely subsidy-free (20 March, [here](#)).



FINANCING THE TRANSITION

- The high-level group on sustainable finance (HLEG) releases its latest report, assessing current challenges and gaps at the policy, regulatory and investment level, making recommendations and proposing solutions to mobilize the necessary funding for the transition to a sustainable economy. The report clarifies the role of the financial system in delivering the energy and climate-related ambitions of the European Union (31 January, [here](#)). Timed on the publication of this report, the EIB – which acted as observer in the high-level group – issues its first Euro-denominated Climate Awareness Bond (CAB) in 2018 (31 January, [here](#)). Following the report, the Commission releases an “Action Plan on Financing Sustainable Growth”, with three main objectives: to reorient investments; to manage the sector’s risks; and to foster transparency and long-term vision (8 March, [here](#)). The following day the EIB issues a EUR 250 million increase of the EUR Climate Awareness Bond (9 March, [here](#)).
- The EIB and ING close an agreement – also benefitting from the EFSI guarantees – setting up a facility to help the shipping sector to adapt to energy transition. The two will contribute 150 million each to the facility (19 February, [here](#)).
- The EU’s EIB backs the world’s first emerging market green bond fund, providing USD 100 million to accelerate emerging markets towards a green economy by enabling local institutions to issue green bonds (16 March, [here](#)).

WAR OVER COAL

- MEPs from the ITRE Committee vote for stricter rules over capacity mechanisms, regularly used as coal power subsidies. The reports voted on are also supportive of small-scale renewable producers (22 February, [here](#)).
- The UK government releases its implementation plan for coal phase-out. The plan foresees the last remaining coal power stations being forced to close by October 2025 (5 January, [here](#)).
- Spain’s energy regulator (CNMC) – sustained by environmental organizations – rejects the Spanish government’s proposed decree to support coal in the name of Spain’s security of supply. The regulator considers this attempt to be against EU law and anti-competitive (29 January, [here](#)).
- Germany’s coalition partners (CDU/CSU and SPD) agree in principle to set a deadline for coal-fired power production in the country (8 February, [here](#)).
- The closing of coal mines in Poland – and the related social and environmental impacts – are compensated by financial support from the Commission (EUR 1.25 billion) (8 February, [here](#)). The debate over coal is however vivid within the country, in particular concerning government subsidies for coal power. Indeed, the Polish power sector considers the EU power market reform “unacceptable” as it uses, according to them, a double standard in relation to other EU Member States (27 March, [here](#)).

CUTTING CO₂ EMISSIONS

- A draft EU law is put to the vote in the ENVI Committee of the European Parliament, stating that CO₂ emissions from transport, farming, buildings and waste are responsible for 60% of EU GHG emissions (and part of the “Effort Sharing Regulation”) and must be cut by 30%. The proposed objectives are stricter than what is supported by the Commission. Furthermore, the ENVI Committee backs another ambitious draft law regarding CO₂ emitted and absorbed by forestry and land use – the so-called “LULUCF” regulation (24 January, [here](#)).



- The final act on the revision of the EU ETS for the 2021–2030 period is signed on 14 March and published on the Official Journal on 19 March, after the European Parliament (6 February, [here](#)) and the Council (27 February, [here](#)) agree on new rules for the period 2021–2030. The revised directive contains updates concerning the volume of emissions as well as the number and validity of allowances in the market stability reserve, and contains some provisions to protect the industry against the risk of carbon leakage (19 March, [here](#)).

PROMOTING SUSTAINABLE TRANSPORT

- The European Commission refers Malta and Romania to the Court for not providing notification of their national plans on the deployment of alternative fuels infrastructure, which are needed to deliver clean and competitive mobility to Europeans as assessed in the Clean Mobility Package (25 January, [here](#)).
- The Socialists and Democrats (S&D) group within the European Parliament – with their MEP Miriam Dalli serving as rapporteur for the Parliament on the EU draft regulation on car emissions – want to upgrade the EU ambitions on standards for 2030, moving from the Commission’s 30% reduction goal to a 40% cut in CO2 emissions for the period 2021–2030. In addition, S&D MEPs suggest a radical change in measurement of car emissions, facing some resistance (30 January, [here](#)). On the other side, some are considering the 30% target as unrealistic to achieve, but Commissioner Cañete defends the 30% goal as the most balanced (1 February, [here](#)).
- The European Commission opens public consultation with the purpose of further improving vehicle emissions tests (12 March, [here](#)).
- The European Parliament and the Bulgarian Presidency reach provisional agreement on CO2 emissions from heavy-duty vehicles (HDVs): lorries, buses and coaches. The agreement is welcomed by the Commission and includes rules on monitoring and reporting of fuel-consumption, as well as a system of fines (27 March, [here](#)).

5. Research Evaluation: 3/12



Despite scant advancement on this dimension of the Energy Union, the prospects for a European battery industry have been discussed further, and both EU and private financial tools have been proposed to carry on research and development in this promising industry. New technologies are definitely essential, and several projects backed in the hydrogen sector go in this direction. Furthermore, the Commission has released new implementation plans of the European Strategic Energy Technology Plan (SET-Plan), core for the European research domain.

SUPPORTING EU BATTERY RESEARCH AND MANUFACTURING

- Although the market for batteries can reach EUR 250 billion annually and modernize European industry, the region has no significant players in the field, making the European Battery Alliance likely to take the form of a network of smaller consortia, as VP Šefčovič states (13 February, [here](#)). Within the Battery Alliance, the French Saft – part of Total – agrees with Siemens, Solvay and Manz to develop, research and build a new generation of batteries (22 February, [here](#)).
- The EIB approves a 52.5 million euro loan to support the construction of a li-ion battery manufacturing plant in Sweden. The loan is supported through the InnovFin fund (12 February, [here](#)).
- The Commission signs an innovation deal with partners from national and regional authorities and innovators. The deal is aimed at tackling regulatory barriers to innovation in the recycling of electric vehicle batteries (12 March, [here](#)).

EXPLOITING HYDROGEN POTENTIAL

- Dutch companies AkzoNobel and Gasunie reveal plans to build Europe's largest hydrogen production plant in the Netherlands. The installation could produce up to 3,000 tonnes of green hydrogen (H₂) a year. The final decision is likely to be made in 2019 (10 January, [here](#)).
- Air Liquide, H₂ Mobility and Total make important progress towards developing a nationwide hydrogen infrastructure in Germany by opening the first H₂ station in Ingolstadt. The project has been developed in the context of the Clean Energy Partnership (CEP), a consortium of 13 companies created to stimulate hydrogen demonstration (6 March, [here](#)).
- The EU allocates 7m euro funding to replace backup and temporary power diesel generators with hydrogen-fuelled generators through the EVERYWH₂ERE project (6 March, [here](#)).
- The UK government provides £8.8m funding to expand H₂ refuelling infrastructure. The planned infrastructure is the largest ever undertaken in the country (26 March, [here](#)).

INNOVATION FOR RENEWABLES

- A research project led by France's EDF and Ireland's EirGrid is to produce a roadmap to boost use of electricity from renewable energy sources by developing EU power grids that can handle more than 50% of electricity from intermittent sources (19 March, [here](#)).
- Vestas and Energias de Portugal Renováveis (EDPR) launch a combined solar photovoltaics and wind demonstration project in Spain. The hope is that the pilot plan will cast a new



light on how to solve the problem of intermittency in renewable energy sources (27 March, [here](#)).

EU PROMOTING RESEARCH & INNOVATION

- The European Strategic Energy Technology Plan (SET-Plan), aiming at accelerating clean energy technologies, reviews the progress it has achieved so far (5 February, [here](#)) and endorses new implementation plans (March, [here](#)).
- Under the LIFE Programme for the Environment and Climate Action, 10 new projects are supported by the EU in several Member States – an investment package of 98.2 million euros for EU co-funding (8 February, [here](#)).
- The EIB provides a 30m euro loan to Europlasma Group to finance an innovative cogeneration plant. The facility will produce clean electricity from solid recovered fuel and forestry waste using plasma gasification. The project is also financed through the InnovFin program (28 March, [here](#)).



- **The Delors Institute proposes to include a Social Pact to support and strengthen the energy transition**, in order to increase its desirability and backing from European citizens. Four detailed pillars form the bulk of this proposal: guarantees of just working conditions, improved public health, support measures for the participation and commitment of European citizens, and the suppression of energy poverty (29 January, [here](#)).
- **IFRI investigates the EU Battery Alliance, considering whether “Europe can avoid technological dependence”**. The document looks at the next steps in the structure of this industry and discusses the position, as well as the barriers and opportunities for the European Union when faced with other international competitors, namely Asians (20 February, [here](#)).
- **CEPS investigates the lack of investor confidence in the renewable energy sector**, concerning both regulatory and legal uncertainties. Some EU Member States have even been challenged in international arbitration courts by EU renewable investors, posing an issue to the EU which evidently needs to find solutions to restore investor confidence (23 February, [here](#)).
- **With Brexit negotiations going forward, E3G proposes the basis for cooperation in the field of climate change and energy policy**, similarly to how security and defence issues are treated. The think tank sets out proposals and key elements to be taken into consideration for a dedicated chapter in the EU–UK agreement. The paper considers that there are strong incentives for both parties to continue collaborating on this area in the interest of their citizens (16 March, [here](#)).
- **Energy efficiency in lighting and appliances can be a key measure to compensate for the growing energy demand in the medium and longer term**, as well as to support a transition towards the decarbonization of the building sector and to achieve the Paris Agreement targets on emissions, a Climate Action Tracker paper evaluates (23 March, [here](#)).



Roberto Viola

Director General DG Connect - European Commission

- **The digital sector has a key importance in the energy transition; what can its impact be on the European energy sector as a whole, and specifically on the implementation of the Energy Union initiative?**

Over the coming decades, digital technologies are set to make energy systems more connected, intelligent, efficient, reliable and sustainable. Digitalization is already improving the safety, productivity, accessibility and sustainability of energy systems at every level of the value chain. But digitalization is also raising new security and privacy risks.

The digital transformation of the energy sector can contribute to reduce the operations and maintenance costs, to improve the efficiency of the grid, to reduce unplanned outages and to extend the operational lifetime of assets. As highlighted last year by the International Energy Agency, “the overall savings from these digitally enabled measures could be in the order of USD 80 billion per year over 2016–40, or about 5% of total annual power generation costs based on the enhanced global deployment of available digital technologies to all power plants and network infrastructure”.

Let’s take a look at smart grids and smart metering systems, smart home appliances, smart charging solutions for electric vehicles and smart cities. In all these areas, digital technologies create various opportunities. They can help the consumer to participate actively in the energy market and use energy more efficiently. They can also foster a better use of energy from renewable sources. On the other side, without electricity there is no access to internet.

Synergies should therefore be developed, and this is currently happening, between the Energy Union and the Digital Single Market agendas, as well as synergies between the energy and ICT/telecom sectors in order to stimulate joint investments and coherence in regulatory frameworks. Energy and digital will come together most closely if we enable European companies to deliver energy intelligent products and services across Europe and if the energy sector actively contributes to horizontal Digital Single Market policies.

- **Cyberattacks represent a serious threat to security of supply, in particular to the safety of plants and of transmission/distribution networks; how could – and should – EU cybersecurity measures support the resilience of the European energy sector?**

Ensuring resilience of the energy supply system against cyber-threats will be increasingly important as widespread use of IT and data traffic becomes the foundation for the functioning of infrastructures underlying the energy system. An ever smarter energy system can perform power generation, transmission, network management with much better precision and faster response times than human-dependent systems, thereby saving energy and ensuring quick response to outages. However, the increased use of ICT in energy systems is making cybersecurity a key concern. The European Union is therefore working to create an adequate regulatory framework to accompany this digitalization trend.

On 13 September 2017, the European Commission published a set of initiatives included in a



Cybersecurity Package. The core legislative piece – the EU Cybersecurity Act – is currently being intensively discussed between EU Member States, as well as in the European Parliament. The Act envisages the creation of a cybersecurity certification framework for ICT products and services for the creation of tailored certification schemes. In particular, the development of schemes for critical or high-risk applications – including energy networks – is among the priority areas. The Cybersecurity Act also includes the renewal of the mandate of ENISA. One of the Agency's key tasks is to offer policy recommendations to the European Commission and Member States on those sectoral initiatives – such as energy – involving cybersecurity aspects. In this respect, ENISA will contribute to sectoral policy work in cooperation with relevant European institutions, agencies and bodies. In addition, the Act also proposes that ENISA continuously support sectoral Information Sharing and Analysis Centres (ISACs), in particular in critical sectors such as energy, by providing best practices and guidance on available tools and procedure, as well as on how to address regulatory issues related to information sharing.

The Cybersecurity Act comes in addition to the ongoing work on the implementation of the Directive on Security of Network and Information Systems (NIS Directive), which was adopted on 6 July 2016 and will have to be transposed into national legislation by 9 May 2018. The NIS Directive promotes a risk management culture in the electricity, oil and gas subsectors. It indeed requires some public and private companies, among those identified as “operators of essential services,” to implement risk management practices with a view to properly identifying, mitigating and responding to cybersecurity threats. For instance, electricity operators, such as electricity undertakings, distribution system operators and transmission system operators, will be required to properly secure their network and information systems and to notify significant incidents to national competent authorities. Member States have until 9 November 2018 to identify operators of essential services.

- **The penetration of renewable energy sources (i.e., solar, wind) is still limited by their intermittent nature. How can the digital sector support their full and effective integration, perhaps through enhancing the smartization of European energy systems and networks?**

Renewables will play a major role in the transition to a clean energy system. Europe has set itself a target to collectively reach a share of at least 27% renewables in the final energy consumption by 2030. It has spearheaded global efforts to fight climate change, and has been leading global efforts with a commitment to cut emissions by at least 40% by 2030. It has successfully turned solar and onshore wind technologies from niche technologies into central players in the European power sector.

Smart grids, as the interface between the energy, the ICT and the telecom sectors, are one of the enablers for realizing the Energy Union and the Digital Single Market – both in terms of infrastructure and market. They are part of the solution for managing our grids in times of increasing shares of renewables, decentralized generation and new loads, such as electric vehicles, but also for creating new value streams (e.g., services and products).

Digitalization can help the integration of variable renewables into the grid to better match energy demand to times when the sun is shining and the wind is blowing. In the European Union, increased storage and digitally enabled demand response could reduce curtailment of solar photovoltaics (PV) and wind power from 7% to 1.6% in 2040, avoiding thus 30 million tonnes of carbon dioxide emissions in [2040](#).



- **Consumer empowerment is one of the key objectives of the Energy Union; how can the digital sector contribute to this goal? Which are the domains where technology innovation can be applied with greater success?**

The digital sector can indeed contribute to consumer empowerment in many ways. The first condition for consumers to start using digital solutions is to put in place appropriate digital infrastructure, particularly smart metering systems and enabling infrastructure to use the available flexibility (balance demand/generation). In addition we have to create an interoperable ecosystem for the cross-border services which will be associated to this infrastructure.

Europe made progress in this direction with standards like [SAREF](#) which support communication between smart appliances. This was a first important step. SAREF was then extended into Buildings and Environment and it is now being further extended to other areas such as Smart Cities, Agriculture/Food and even Industry and Manufacturing. We are now moving forward to spread the use of these standards and turn them into new services for consumers so that they can fully benefit from the opportunities that smart appliances, smart buildings and smart grids enable. This will require close cooperation between different industry sectors like digital, energy, telecoms and home automation. We intend to provide support for this kind of collaboration under Horizon 2020 in 2018 through large-scale pilots in the focus area "Internet of Things" ([IoT](#)) that targets smart home architectures and standards. Such pilots will allow companies to work together on connected objects and test new business models across different sectors. Energy and utility companies will benefit from the development of IoT: they will become more agile, flexible and efficient.

One has still to keep in mind that being given access to a tool does not automatically mean using that tool. Consumers should therefore be made aware about the possible benefits of using the proposed digital tools and supported in getting familiarized with them, as what is technologically evident for the new generation of consumers is not so evident for the others.

- **The potential contribution of the blockchain technology to the energy sector is today broadly discussed; what are the most relevant applications of this technology, and how it can contribute to the main objectives of the Energy Union?**

Blockchain offers us a great opportunity to rethink our information systems, to promote user trust and the protection of personal data for the benefit of our citizens, businesses and public services. The technology is already being successfully tested, mostly in financial services, and will become in the coming years more operational and integrated into an increasing number of digital services, including energy ones. Smart objects supported by artificial intelligence, and micro-transactions enabled by blockchain technology will fundamentally change the energy market.

Blockchain can enable smaller "distributed" power generators and storage systems, like rooftop solar panels and electric-vehicle batteries that are connected to the grid, to sell energy to their neighbourhood. It can also help for enabling smart collaborative consumption and facilitating the integration of local renewable production with what is provided by the main energy companies. The European Commission launched the EU Blockchain Observatory and Forum in February 2018 and has already invested more than EUR 80 million in projects supporting the use of blockchain in technical and societal areas. Around EUR 300 million more is to be allocated to blockchain by 2020.

Moreover, on 10 April 2018, 22 European countries signed a Declaration on the establishment of a European Blockchain Partnership. The Partnership will be a vehicle for cooperation amongst Member States to exchange experience and expertise in technical and regulatory fields and prepare



for the launch of EU-wide blockchain applications across the Digital Single Market for the benefit of the public and private sectors.

Data and communication are essential for putting this in practice, and the energy, ICT and telecom sectors have to cooperate in appropriately sharing and exploiting the value of energy data.

In order to get there, energy companies need to move to a culture of data sharing. This also requires a well-integrated regulatory framework that is coordinated across sectors and Member States.

This is what the Commission is aiming for with its EU [data economy](#) initiative, as well as by supporting research and innovation for the use and exchange of 'big data' in the energy sector in the Horizon 2020 work programme (2018–2020). Equally important is the work of the [Smart Grids Task Force](#), which is currently focussing on the alignment of energy data formats and on developing network codes for demand-response.

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
- Review of the Guidelines on State aid for environmental protection and energy
- 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)

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

Energy Efficiency

- ✓ Review of the Energy Efficiency Directive
- Review of the Directive on Energy Performance of Buildings
- 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 Regulations setting emission performance standards to establish post-2020 targets for cars and vans

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 strategic transport R&I agenda



WORLD ENERGY COUNCIL

**WORLD
ENERGY WEEK
OCTOBER 8–11
2018, MILAN**

World Energy Week is the Council's annual general gathering of global energy leaders to promote the sustainable supply and use of energy for the greatest benefit of all.

The week's programme will offer a wide range of events including high-level, exclusive sessions that will convene Ministers, CEOs and energy leaders.

The event will drive debate and open dialogue between an audience of local and global energy experts. There will also be prestigious social events throughout the week including a gala dinner and special cocktail reception. Security, equity, digitalisation, sustainable mobility, green finance and the transition of energy markets are some of the topics dealt with during the week.

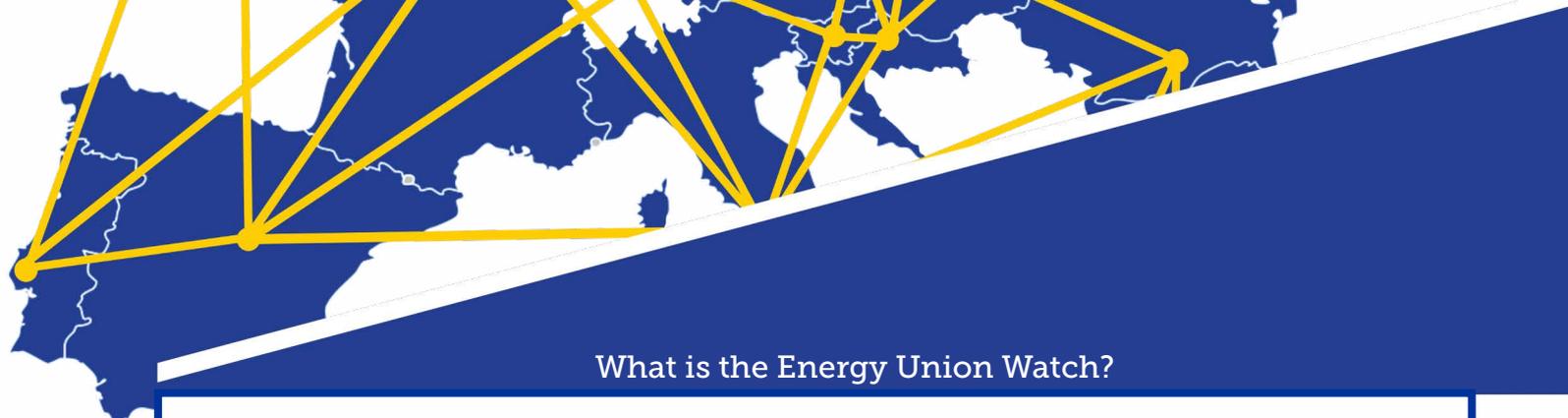
Milan is confirmed as the international center of the dialogue on energy, sustainability and sustainable development, indicated by the UN 2030 Agenda.

Contact: segreteria.wew2018@secrp.com - www.worldenergyweek2018.org

Who are we?

WEC Italy is a non-profit multi-energy association based in Rome, established in 1988 under the patronage of the Ministry of Foreign Affairs and the Ministry of Economic Development (www.wec-italia.org).

The Association is a supporting member and founder of the World Energy Council (WEC), the foremost international multi-energy organization in the world today, accredited by the United Nations and Member Committees in close to 100 countries around the world (www.worldenergy.org).



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 and 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 31 March 2018

About the IAI

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

Founded by Altiero Spinelli in 1965, the Istituto Affari Internazionali does research in the fields of foreign policy, political economy and international security. A non-profit organisation, the IAI aims to further and disseminate knowledge through research studies, conferences and publications. To that end, it cooperates with other research institutes, universities and foundations in Italy and abroad and is a member of various international networks. More specifically, the main research sectors are: European institutions and policies; Italian foreign policy; trends in the global economy and internationalisation processes in Italy; the Mediterranean and the Middle East; defence economy and policy; and transatlantic relations. The IAI publishes an English-language quarterly (The International Spectator), an online webzine ([AffarInternazionali](http://www.iai.it/en/affarinternazionali)), two series of research papers (Quaderni IAI and IAI Research Papers) and other paper series related to IAI research projects.

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With the contribution of Anita Porta, trainee at the IAI's Energy, Climate and Resources Programme