10
Energy Union Watch
October/December 2017

The Energy Union in action

Actors / Dimensions	Security of Supply	Energy Market	Energy Efficiency	Decarbo-nisation	Research
European Commission	3	6	9	6	6
European Parliament	N/A	N/A	9	9	N/A
European Council	3	9	6	9	3
Member States	3	6	6	6	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 June to September 2017 (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

The past three months have been a period of great activity for the Energy Union, as the Commission accomplished several key points of the initiative's agenda, while keeping up the work on issues at the centre of the European energy and climate debate of the past year. Pipelines and gas supply security, interconnections and the definition of a new approach to the energy market have indeed been at the core of discussions in these months. Yet, the Commission has also approached with greater emphasis dimensions which have been neglected in the past (particularly energy efficiency) and significantly expanded its work on decarbonization, specifically on renewables, while also promoting a major debate on the future of energy technologies, as nuclear and batteries have witnessed unprecedented action. Most significantly of all, the Commission made notable progress on the Clean Energy for All Europeans package (the second Winter Package), as several proposals have either entered the negotiations phase or have already been finalized.

Predictably, the safeguard of gas supply has been the focus of the Commission's action regarding its first dimension, security of supply. The Council has now approved and thereby adopted a revised Regulation on gas, including a solidarity principle defining regional groups to promote cooperation before and during disruptions, and obliging Member States to provide gas in cases of severe shortage. This is a remarkable achievement, as the Regulation has been at the top of the agenda of the Commission since the publication of the first State of the Energy Union and was then included in the Clean Energy package. The focus on gas supply has also been accompanied by the work of the Commission and Member States on infrastructures, as in the case of Finland's approval of the "Balticonnector" gas pipeline with Estonia, and the 101 million euros put forward by the EU for construction of the Krk LNG terminal in Croatia.

Meanwhile, the electricity sector faced a more contradictory situation. On the one hand, the constant expansion of EU and extra-EU connections, such as the recently opened 400kV Romania–Serbia line, is balanced by the opposition of several Member States to the Commission proposal of adding a 15% interconnection objective by 2030 to the 10% by 2020 the EU is currently struggling to reach. Yet, such uncertainty from MS on the matter could undermine core targets for the Energy Union, such as the development of a truly European energy market, prevented in the past also by the lack of adequate interconnections (as in the case of France and Spain, for example), and the integration of renewable energies.

Nonetheless, the energy market dimension witnessed a positive development, as the Council approved a general approach on a Directive for the redesign of the European energy market. The measure, proposed by the Clean Energy package as well, touches central points of the reshaping of the European energy market, which is increasingly needed due to changes in the structure of demand and the growing presence of renewables. The Council thus focused its attention on the setting of electricity prices, consumers and the role of energy storage. While this can represent another fruitful step towards implementation of the second Winter Package, it will now have now to pass through negotiations with the European Parliament before the final approval.

The real surprise has however been in energy efficiency, which witnessed some of the most intense action since the creation of the Energy Union. The major activity of the Commission, but also of the European Parliament, has been two-fold: the upgrade of the EU's energy efficiency target, and the revision of the Energy Performance of Buildings Directive (EPBD). As the Parliament approaches the trilateral talks on the Energy Efficiency Directive, the proposed increase in the level of ambition has been at the centre of a strong debate in the European Parliament, with several groups trying to change the text and keep the 30% target approved in 2014. The original proposal, 40% by 2030 at the EU level, has been finally approved but only by one vote. Yet, more debate is expected to follow, particularly from

the Council side, where many Central and Eastern European countries will likely fight such a expanded target.

The discussion over energy efficient buildings has been perhaps equally tough, as approval of the EPBD revision took months of negotiations between the Council, the Commission and the EP. The discussion touched controversial points and involved new measures, such as the definition of standards; national targets to 2050, with 2030 and 2040 milestones and measurable indicators; as well as the installation of electric vehicle charging points. Negotiations turned so tense that the Estonian Presidency called them off in early December 2017; an agreement was eventually reached two weeks later, albeit with a limited decrease in the overall level of ambition of the Directive revision.

Unlike energy efficiency, decarbonization has been a sector which has received significant attention since the beginning of the Energy Union; yet in the past three months, the dimension received likely attained its highest level in 2017. As with decarbonization, the Commission's action has been directed towards increasing the level of ambition of the 2014 energy and climate targets. In this sense, it has adopted a common negotiating position on the definition of binding national targets for reducing emissions in sectors not covered by the ETS. This represents an important step, considering that one of the most prominent weaknesses of the 2014 package of targets was indeed the absence of national binding targets. This, however, will now have to face intense negotiations with the EP and the Council. Similarly, the Commission has also adopted a negotiating position on the inclusion of emissions from land use, land-use change and forestry (LULUCF) into the EU's climate framework from 2021. This position appears to be already shared by the EP and the Council, which concluded an informal agreement among themselves to define a framework to account for LULUCF emissions.

However, one of the most important sectors in the decarbonization dimension has failed to see such an agreement between the EP, the Commission and, on the other side, the Council. Indeed, the first two have significantly promoted an increase in the level of ambition for the renewables target, in relation to the forthcoming revision of the renewables Directive (included in the Clean Energy package as well). VP Šefčovič strongly supported a 30% share of European consumption in renewables by 2030, compared to the current 27%, noting the recent major fall in cost of renewables which would make a change in the target feasible. The EP went beyond that, promoting a 35% target (even if with no binding national targets and a 10% margin of flexibility). Yet, such a position has not been shared by the Council, which kept the 27% target in its negotiating position, finally adopted in the second half of December. As the revision of the Directive will touch delicate matters for many MS, such as the structure of renewables subsidies, it appears that the approaching negotiations will be more complicated than hoped by the Commission and the EP.

Outside the Commission's action on the Clean Energy package implementation, the discussion focuses again on pipelines. Nord Stream 2 is again under debate, as the Commission continues to seek a mandate to negotiate the development of the controversial infrastructure, supported by several MS (such as Poland)—an ambition admittedly met with opposition on the part of the Council's legal experts. The Commission's role has nonetheless been strengthened by an amendment to the Gas Directive, which extends EU regulations also to importing infrastructures. This could provide an alternative means for the Commission to deal with the development of Nord Stream 2, if the Council confirms its opposition to the mandate.
Meanwhile, in the east, positive MS action is countered by stalling on the part of the European Investment Bank. Indeed, while Cyprus, Greece and Italy have signed an MoU to build a 2,000 km pipeline from the Leviathan and Aphrodite fields in Eastern Mediterranean to Italy, the EIB has delayed its decision on a 1.5 billion euro grant for the Trans-Adriatic Pipeline (TAP).

Last but not least, these months also witnessed significant discussion over the future of one technology (nuclear) and the progression of a future technology (batteries). Indeed, some MS are facing growing difficulties in dealing with the previous stock of nuclear reactors (as in the case of France, which will not be able to reduce its share of nuclear energy to 50% in 2025), while others are looking with interest at expanding or creating nuclear capacity. Poland has in fact started evaluating the option, while the UK has been promoting research on small reactors and approved the construction of a new nuclear plant in Wales—despite uncertainty still hovering over the destiny of Hinkley Point C.

The Commission has also made its first, significant step regarding batteries. As the need for energy storage appears increasingly crucial in the energy transition, both for integrating renewables and promoting the shift towards electric transportation, VP Šefčovic organized a meeting among top executives of European auto, chemical and engineering companies, to develop a solid and complete battery supply chain in Europe. The aim is to be able to compete with Asian and US competition in the sector, capitalizing on European expertise in the different parts of the supply chain—a proposal which many have witnessed as the early steps towards creation of an "Airbus for batteries."

Such a significant amount of work by European institutions in the energy sector, and specifically on the Clean Energy package, is a positive indicator for the evolution of the initiative. First, it has proved the ability of the Commission to work fully on the implementation of the package—a hard task, considering the number and scope of proposals contained within it. Also, it shows an increased involvement by other European institutions in the progression of the Energy Union, sometimes even increasing the ambition of the proposals (particularly the EP). And yet, the success of the Clean Energy package, and the Energy Union itself, will be achieved only when such an involvement finally reaches the MS—an accomplishment which is yet to come.

Five Guiding Dimensions
Details of the evaluation

1. Security of Supply
Evaluation:3/12

The future of Nord Stream has gained a central role in the Energy Union debate. The attempt of the European Commission to engage directly with the Russian government to negotiate the status of the pipeline—dismissed by the negative position of the Council—shows how divisive this issue can be at the EU level. Such evidence is further reinforced by the introduction, by the Commission, of an amendment to the EU Gas Directive that would extend the core principles of EU internal energy market to existing and future "import" gas pipelines, about which the European gas industry has expressed relevant concerns. To overcome the "Russian impasse," the EU is strengthening its diversification efforts, as witnessed by the €101.4 million investment in construction of an offshore LNG terminal in Krk, Croatia; the MoU between Cyprus, Greece, Israel and Italy for the construction of the EastMed pipeline; and the introduction of a "solidarity principle" within the Security of Gas Supply Regulation.

THE FUTURE OF THE ENERGY UNION

- The Third State of the Energy Union Report, published on 24 November, confirms the EU is on track to implement the Energy Union project. The report stresses that energy transition is not possible without adapting the infrastructure to the needs of the future energy system, and that the major bottlenecks remain in the field of electricity. Vice-President Šefčovič says the goal is that, by 2019, the Energy Union must no longer be a policy but a daily reality benefitting every European citizen (24 November, here; full report here).
- On 8 December MEPs adopt a new legally binding framework for the Energy Union, during an extraordinary joint session of European Parliament committees on energy (ITRE) and environment (ENVI). The proposal is divisive, as conservative and centre-right MEPs reject what they consider as an "outdated," "inflexible" approach (8 December, here).
- On 12 December, the Council approves the EU's legislative priorities for 2018–2019, agreed with the European Parliament and the Commission. Among them is to deliver on the Energy Union objectives, in particular by implementing the 2030 climate and energy framework and by continuing follow-up to the Paris Agreement, including through legislation on clean energy for all Europeans and on clean mobility (12 December, here).
- On 18 December, the Council agrees on a general approach on a regulation setting out the system for governance of the Energy Union. The regulation establishes a cooperation and control mechanism to oversee the implementation of the 2030 EU climate and energy policy objectives on renewables, energy efficiency, interconnections and emissions. The new rules will, above all, ensure long-term policy coherence and stability in the climate and energy sector, provide certainty to investors and enhance coordination between Member States (18 December here).

THE PROMOTION OF STRATEGIC EXTERNAL COOPERATION ON ENERGY

- During the 14th EU–India Summit in New Delhi, a Joint Statement is signed by the two partners on clean energy and climate change, in which an intensification of cooperation in the frame of the International Solar Alliance (ISA) is notably mentioned (6 October, here). At the same summit, the EIB confirms its partnership with the ISA to mobilize solar finance, as well as €800 million backing for small-scale renewable energy projects across India—the EIB's largest ever support for energy investment in Asia (6 October, here).
- In Cairo, Commissioner for European Neighbourhood Policy Johannes Hahn and the Egyptian authorities sign an MoU on the EU Single Support Framework (SSF) for Egypt for the years 2017–2020. It is decided that 40% of the total SSF budget will be spent on economic modernization, energy sustainability and the environment (30 October, here).
- Before the Eastern Partnership (EaP) Summit, MEPs welcome the significant progress made by Eastern partners (including in the energy sector), and recommend the creation of an "EaP+" model for associated countries that have made substantial progress on EU-related reforms, to offer them the possibility of joining, among others, the Energy Union (15 November, here).

REFORMING COOPERATION ON GAS SUPPLY

- The Council adopts a revised regulation concerning measures to safeguard and strengthen the security of European gas supply. A "solidarity principle" requires EU countries to work together in regional groups to assess the potential for disruption to their gas supplies and coordinate to prevent or mitigate the consequences. Also, they need to be ready to provide gas to neighbouring countries in the event of an extreme shortage (9 October, here). The bill, signed into law (electronically, for the first time in EU history) by EP President Tajani and Estonian Presidency representative Maasikas, comes into force on 1 November (1 November, here).
- The EU invests €101.4 million in the construction of an offshore LNG terminal in Krk, Croatia (2 billion m2 of capacity), which will improve energy security in Central and South-Eastern Europe. The grant agreement, signed in the presence of Energy Ministers of Croatia and Hungary during an Energy Council meeting and welcomed by Commissioner Cañete, is part of Energy Union strategy ensuring that every EU country has access to at least three different sources of gas (18 December, here).

ENHANCING ELECTRICITY SECURITY OF SUPPLY

- Vice-President Šefčovič, Commissioner Cañete and the Ministers of Energy of Estonia, Latvia, Lithuania and Poland agree on the way forward to find, by the end of May 2018, a solution to synchronize the Baltic States' electricity grid with the continental Europe system, a cornerstone of the Energy Union. Technical studies on dynamic analysis and system frequency stability are currently underway to find the optimal solution (18 December, here).
- The EU, the EIB, the European Bank for Reconstruction and Development (EBRD) and the World Bank provide a €270 million package to finance a permanent interconnection between the electrical networks of Moldova and Romania. The investment, which covers the construction of a new 600MW back-to-back converter substation in Vulcanesti (South Moldova) along with a 400 kV high-voltage overhead line connecting it to Chisinau, is critical for the diversification of Moldova's electricity supply (20 December, here).

ON THE OPPOSITE SIDE OF THE ENERGY TRANSITION

- The chief executive of Statoil, Norway's biggest oil company, refuses to give up on oil exploration in the country's Arctic despite another disappointing drilling campaign this year in the Korpsfjell field. Indeed, he says that Statoil will return to the Norwegian Barents Sea next year with "optimism but realism" (30 October, here). Norwegian oil production has started to rise again after an 87m ton low in 2012, and according to Euractiv the signs are that Oslo has every intention of driving this trend further (2 November, here).
- Poland receives its first ever shipment of US coal, which helps it to meet a shortfall left by the failure of PGG, the Polish mining giant, to achieve its production targets. Given US President Trump's offer of help to supply Poland with coal in order to diversify its energy sources, at least three more US cargoes are expected over the next seven months (15 November, here).

THE DEBATE OVER NORD STREAM 2

- The Danish parliament discusses a bill that could block the Nord Stream 2 gas pipeline project, due to security concerns. The new law allows Denmark to evaluate whether projects passing through its territorial waters are compatible with the nation's foreign policy, security and defence interests (13 October, here).
- The EU Council's legal experts argue that the Commission should not be granted a mandate to negotiate the Nord Stream 2 pipeline with Russia on behalf of the Member States, as Poland and others wish (4 October, here). Nonetheless, President Jean-Claude Juncker says he seeks to obtain that mandate to present the EU's objections to the project. Brussels is concerned that the Nord Stream 2 pipeline will increase the EU's reliance on Russian gas and cut gas transit revenues for Ukraine, damaging its fragile economy (20 October, here).
- In the attempt to regulate Russia's planned Nord Stream 2 pipeline to Germany, the European Commission introduces an amendment to the EU Gas Directive to ensure that the core principles of the EU internal energy market are extended to cover offshore, "import" gas pipelines (6 November, here). The move, which dovetails with the Commission's proposal for a mandate to negotiate with Russia over Nord Stream 2, seems to be an attempt to regulate the construction of the Russian-backed pipeline (16 November, here).

LOOKING EAST

- Cyprus and Greece agree to press on with the undersea EuroAsia electricity cable in the hope of tapping into significant gas reserves in the eastern Mediterranean and ending energy isolation. The two-way 1,520km-long undersea cable, with a capacity of 2,000MW, will link Israel and Cyprus with Greece via the island of Crete. If Israel approves the project as expected, work is expected to begin in 2018 and last until 2022 (17 October, here).
- On 5 December, Cyprus, Greece, Israel and Italy sign a memorandum of understanding to build the world's longest underwater natural gas pipeline to supply Europe. The EastMed pipeline, which will be some 1,900 kilometres long, will connect Italy to the Leviathan and Aphrodite gas fields and is estimated to cost approximately €5 billion. It will have an annual capacity of 10–16 billion cubic feet, and could be completed by 2025 (6 December, here). The EastMed project has been included in the third list of Projects of Common Interest (PCI) in the cluster "infrastructure to bring new gas from the East Mediterranean gas reserves" (23 November, here).
- The European Investment Bank delays a decision on whether to grant a €1.5 billion loan—the largest in EIB history—to the Trans-Adriatic Pipeline (TAP), after the bank's board insists it needs more time to assess the project. (13 December, here).

2. Energy Market
Evaluation: 6/12

Positive achievements at the EU level are balanced by government reluctance to strengthen market integration in the electricity domain. In fact, while the Council defines an encouraging approach for the new design of the EU internal electricity market based on free setting of electricity prices, a greater role for consumers and new opportunities for storage, Member States put into question the Commission's objective to interconnect 15% of Europe's electricity grid by 2030. Despite this resistance, concrete expansion of the European (internal and external) interconnection keeps pace thanks to EU support: Romania and Serbia complete the 400 kV electricity transmission line between Resita and Pancevo, while the realization of the Balticonnector gas pipeline linking the existing gas networks in Finland and Estonia gets the green light from Finland's Ministry of Economic Affairs. The fate of nuclear within the future European energy sector is also a catalyst for national debate, with big countries such as the UK, France and Poland committed to go ahead with atomic power, although in different circumstances.

A NEW APPROACH FOR THE EU ENERGY MARKET

- The Council reaches a general approach on a directive (part of the clean energy package) setting out the framework to redesign the internal electricity market across the EU. The negotiating position of the Council focuses on free setting of electricity prices—Member states will only be able to regulate prices temporarily—and on dynamic electricity price contracts, which will empower consumers. Moreover, distribution and transmission system operators will, under certain conditions, be allowed to own and manage energy storage facilities (18 December, here). Having reached a general approach, the Council will be able to enter into negotiations with the Parliament in 2018 to discuss the directive (19 December, here).

THE FUTURE OF NUCLEAR ENERGY IN EUROPE

- According to a survey by YouGov, the majority of British people oppose the UK government's plan to leave the Euratom nuclear treaty, which the government considers as "uniquely joined" to the EU's main treaty, after Brexit. The poll indicates that 56% of British people want to remain in the treaty, with only 10% agreeing that the UK should leave as part of the Brexit process (17 October, here).
- In the attempt to gain a competitive edge on technology, the UK government decides to provide, over the next three years, up to £56m in funding for research and development of SMR (Small modular reactor) technology, which developers esteem ready for deployment by the mid-2020s (7 December, here).
- The French government postpones its target to reduce the share of nuclear energy in the country's power production after being warned of potential supply shortages after 2020. Environment Minister Nicolas Hulot states it is unrealistic to cut the nuclear energy share from 75% to 50% of electricity production by 2025 (8 November, here).
- Lithuania asks the EU Budget Commissioner Günther Oettinger for more financial support for the decommissioning of the unsafe Ignalina nuclear power plant, built during the

Soviet era. In order to fully phase out the plant by 2038, Vilnius is asking Brussels to extend funding past 2020. The EU has already allocated €1.5 billion until that year (9 November, here).

- In his first policy speech, the new Prime Minister of Poland Mateusz Morawiecki says he looks favourably on nuclear energy. Although not making a major departure from Poland's pro-coal policy, he claims that nuclear energy can be a valuable source to guarantee energy independence, with low carbon emissions, for future generations (13 December, here).
- The Office for Nuclear Regulation and two other UK government bodies approve a Japanese-designed reactor for the Horizon Nuclear Power plant in Wylfa, Wales. The Welsh plant, with a capacity of 2.7GW, will represent a major leap forward in bringing much-needed new nuclear power to the UK, says Horizon's chief executive Duncan Hawthorne (14 December, here).

THE EU IN THE RACE FOR BATTERY PRODUCTION

- An industrial-scale battery site opens in Sheffield, demonstrating that the UK is making steps forward in battery production. The plant, located next to an existing power plant and with the equivalent capacity of half a million phone batteries, is an important development for storage of electricity coming from all sources, including renewables (9 October, here).
- On 11 October, the European Commission hosts a high-level meeting on battery development and production in Europe, attended by representatives of the European industry, Member States and financial institutions. The meeting follows the Commission's decision to make battery development a flagship initiative under the Energy Union and the Industrial Policy Strategy (10 October, here). After the meeting, Vice-President for Energy Union Maroš Šefčovic states that all actors strongly support the establishment of a full value chain of batteries in Europe with large-scale battery cell production at the core, and he emphasizes the need to act rapidly and collectively towards this goal (11 October, here).

THE STATE OF INTERCONNECTIONS

- Romania and Serbia complete the 400 kV electricity transmission line between Resita and Pancevo. The interconnection will allow the elimination of congestion in the Romanian and Serbian power systems as well as increasing the transfer capacity between the two countries (28 October, here).
- The Balticconector, a 153km gas pipeline that will link existing gas networks in Finland and Estonia, receives authorization by Finland's Ministry of Economic Affairs for construction across the Finnish boarder. Moreover, agreements are reached for the acquisition of a gas pressure regulation compressor and a dust-liquid separator, to be installed between 2018 and 2019 (2 November, here).
- The UK's Office of Gas and Electricity Markets (Ofgem) rejects the proposal to build a 60MW, 260km subsea power transmission link from Shetland to mainland Great Britain. The tougher emission targets approved by the EU in July, as well as the UK's announcement that, starting from the next auction, wind farms on remote islands could compete for a Contract for Difference (CfD), influenced the decision (24 November, here).
- During talks over the Commission's electricity market design proposals, power grid interlinkage between EU countries (specifically, the flagship objective to link up 15% of Europe's electricity networks by 2030) is put into question by some Member States. According to Euractiv, this is due to the resistance of a number of MS to what they perceive as a "command-and-control approach" to energy policy (12 December, here).

INFRINGEMENTS, STATE AID, MERGERS AND ACQUISITIONS

- The European Commission has opened an in-depth investigation to assess whether Spain's environmental incentive for coal power plants is in line with EU state aid rules. The Commission has concerns that the support is being used to meet EU environmental standards that were in any case mandatory (27 November, here).
- The Commission sends letters of formal notice to Cyprus and the Czech Republic to ensure the implementation of the EU's Third Energy Package. Specifically, the Commission requests correct application of the Electricity Directive (2009/72/EC) and the Gas Directive (2009/73/EC), which contain key provisions allowing energy markets to function properly (7 December, here).

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

- the Spanish scheme supporting electricity generation from renewables (10 November, here)
- a €4 million/year support scheme for the installation of solar panels on apartment buildings in Germany (20 November, here), together with a plan to progressively apply renewable energy surcharges to certain self-suppliers of electricity (19 December, here)
- the Polish support scheme for renewable energy, with a total budget of €9.4 billion (13 December, here)
- the €54 million Lithuanian scheme supporting certain biofuels, including bioethanol from cereals and biodiesel from rapeseed, with a total budget (18 December, here)
- the launching by France of two tenders for the construction of PV installations with a total capacity of 1.040M (21 December, here)

Finally, under the EU Merger Regulation, the European Commission has approved:

- the creation of Fluence Energy LLC, a joint venture by AES Corporation and Siemens focused on battery-based energy storage (10 October, here)
- the acquisition of joint control over Windplus, which will develop offshore wind projects in Portugal, by CGE, DGE, EDP Renewables, SGPS, EDPR, Trustwind and Repsol NE (6 December, here)
- the acquisition of 11 PV parks and 32 wind farms by Futures Energies, jointly controlled by Engie, Omnes Capital and Prédica (8 December, here).

3. Energy Efficiency
Evaluation: 6/12

Surprisingly active thanks to the actions of the Commission and the European Parliament, the EU makes significant advancements in the energy efficiency domain. The Parliament, in particular, contributes to raise European ambitions through a legislative resolution on the Energy Efficiency Directive that sets a binding target to reduce energy consumption by 40% by 2030 at the EU level. Other significant steps are made when it comes to efficiency in building, with the agreement reached by the European Parliament and the Council on the revised Energy Performance of Buildings Directive that requires Member States to reach an overall emissions reduction of by 80–95% by 2050 in both residential and non-residential buildings. To complete the picture is the significant contribution of the EIB, increasingly active in supporting national initiatives, as in the case of Sweden, where it directly funds projects on residential "nearly zero-energy" buildings.

FIGHTING FOR ENERGY EFFICIENCY

- The lawmakers in the European Parliament finalize the text forming the basis of the Parliament's joint position on the Energy Efficiency Directive, ahead of trilateral talks with the Commission and the Council (21 November, here). The text is put to the vote in the Parliament committee on Industry, Transport, Research and Energy (ITRE) on November 28. A fierce confrontation starts on energy efficiency targets, as the centre-right EED sides with far-right ENF in favour of changing to a 30% target, lower than the one proposed in the text (28 November, here). Eventually the text passes, though by only one vote (28 November, here). The legislative resolution imposes a binding target to reduce energy consumption by 40% by 2030 at the EU level, with each EU country being compelled to set its own national energy-efficiency targets accordingly (28 November, here).

THE LONG AND WINDING ROAD TO ENERGY-EFFICIENT BUILDINGS

- The Industry and Energy Committee (ITRE) agrees on the update of the Directive for Energy Performance of Buildings (EPBD), which aims to make sure all new buildings in the EU are as energy efficient as possible by 2050. The MEPs' proposal focuses on the introduction of clear energy reduction benchmarks for 2030 and 2040. New measures also include the addition of infrastructure for electric vehicles to all new buildings, and the use of "smartness indicators" to help reduce energy consumption by adapting the building to the needs of the occupant (11 October, here).
- The EU Commissioner for climate action Miguel Arias Cañete personally attends three-way talks between the European Commission, Parliament and the Council on the recast of the EPBD (5 December, here). After a reportedly tense late-night session, EU Presidency holder Estonia calls off the negotiations on the EPBD. The Parliament chief negotiator Bendtsen says the Estonian Presidency must guide the Council to show flexibility and find common ground (6 December, here).

- On December 19, the European Parliament and the Council reach an agreement on the revised Energy Performance of Buildings Directive (EPBD). The provisional agreement requires Member States to establish national strategies for the renovation of residential and non-residential buildings, aimed at an overall emissions reduction of 80–95% by 2050 (compared to 1990 levels). Member States are also required to set 2030 and 2040 milestones and define "measurable progress indicators", whereas the installation of electric vehicle infrastructure will be necessary only at a later stage. It is up to the European Commission to develop, by 2019, a common scheme for rating the "smart-readiness" of buildings (20 December, here). The Commission welcomes the agreement, although Commissioner for Climate Action and Energy Cañete declares he would have preferred more ambition on e-vehicle charging points. A formal approval of the EPBD from both the Parliament and the Council is expected in upcoming months (19 December, here).

FINANCING EFFICIENCY

- The European Investment Bank provides €70 million for the "ICO-IDAE Energy Efficiency 2017–2018" credit line project, organized by the Spanish Ministry of Energy in conjunction with the Instituto de Crédito Oficial (ICO). The goal of the credit line is to provide financing for SMEs wanting to invest in replacing equipment with more energy-efficient and less polluting alternatives (19 October, here).
- The EIB and SKB, Sweden's largest non-profit housing co-operative, sign a €56 million loan agreement to build new minimum-energy apartments in the Stockholm region. This is the first time the EIB has provided direct financing for energy-efficient residential (or "nearly zero-energy") buildings in Sweden (30 October, here)
- Under the framework of the Juncker Plan, the EIB signs a €43 million loan to finance the energy-efficiency refurbishment of private homes throughout the Nouvelle-Aquitaine region, in France. This EU financing will provide concrete support for ARTÉÉ, the Agence Régionale pour les Travaux d'Economie d'Energie, in its various energy efficiency refurbishment projects over the next five years (6 November, here).
- The European Investment Bank and Svenska Cellulosa Aktiebolaget (SCA) sign a €150m loan agreement that will support renewable energy and energy efficiency measures in a pulp mill in Timrå, Sweden. The installation of advanced process technologies will result in substantial energy efficiency gains, and the mill will also be able to make use of renewable resources, such as bark and by-products from the production process, for its energy generation (16 November, here).

INFRINGEMENT DECISIONS

- The European Commission sends Spain a letter of formal notice requesting it to ensure correct implementation of the Energy Efficiency Directive (2012/27/EU), which requires Member States to install meters or heat cost allocators to measure energy consumption and allocate the costs in multi-apartment and multi-purpose buildings (4 October, here).
- The Commission calls on Greece and Malta to correctly implement EU rules on energy performance for buildings, and specifically the Energy Performance of Buildings Directive (2010/31/EU). The Directive requires Member States to apply minimum energy performance requirements for new and existing buildings, as well as to ensure that all new buildings are "nearly zero-energy" from 2021 onwards (7 December, here).

4. Decarbonisation
Evaluation: 9/12

The Energy Union's level of ambition remains high when it comes to decarbonization policies, as demonstrated by the common negotiating position adopted by Member States on two regulations on land use and on non-ETS emissions, and by provisional agreement between the Council and the Parliament for the revision of the EU ETS. However, although the Commission and Parliament push to increase the overall share of renewable sources in European energy consumption by 2030 from the 27% currently foreseen by the Renewable Energy Directive, opposition on the part of the Council prevents a further leap forward for the EU in this domain. While Member States show their commitment to more ambitious climate change policies, as in the case of Italy and the Netherlands—whose governments plan to abandon coal-fired plants by 2025 and 2030 respectively —the support of European financial institutions such as the EIB makes possible the implementation of a number of national initiatives in the sectors of wind energy, smart cities and circular economy.

UPGRADING EU AMBITIONS

- EU Member States adopt a common negotiating position on two key legislative proposals for the EU's 2030 climate and energy policy framework, paving the way for negotiations with the European Parliament. The first proposal (focused on LULUCF) aims to incorporate emissions and removals from land use and forests into the EU's climate framework from 2021. The second, a proposal for an "Effort Sharing" regulation, foresees the reduction of emissions in sectors not covered by the ETS (including buildings and transport) through binding annual targets for Member States, starting from 2021 (13 October, here).
- The European Parliament's Environment Committee approves a legislative text on the EU Renewable Energy Directive. The proposed text aims to increase the share of renewable sources to at least 35% of EU energy consumption by 2030, and reintroduces mandatory national targets in order to reach the joint target (24 October, here). On 28 November, the Industry and Energy Committee (ITRE) also approves the 35% target, but without the imposition of binding national goals. A 10% "flexibility" margin also passes, meaning that Member States will be able to fall short of their targets in "exceptional and duly justified circumstances"(28 November, here).
- The impressive fall in renewable energy prices leads Vice-President Šefčovič to believe that a 30% renewable energy target is affordable. He argues that, as the costs are roughly the same, the 30% target will be discussed alongside the 27% included by the Commission in the renewable energy directive of November 2016 (23 November, here). Some stakeholders believe that Šefčovič's declaration, together with the Parliament's decision to increase the renewables target to 35%, might result in the target being raised from the prefixed 27% to 30% (1 December, here). On 18 December, however, the Council adopts its negotiating position on the Directive and confirms the 27% target on renewables (18 December, here).
- The Council and the European Parliament reach an informal agreement on the land use, land-use change and forestry (LULUCF) regulation. The agreement provides a framework for ensuring that emissions generated by protection and management of land and forests are accounted for. This will contribute to meeting the decarbonization target in place

for non-ETS sectors, which are required to contribute a 30% emission cut by 2030 (14 December, here). The Commission welcomes the agreement, with Commissioner Cañete stressing the role of this new regulation in Europe's contribution to the Paris Agreement (14 December, here).

THE UNCERTAIN FUTURE OF BIOFUELS AND BIOENERGY

- On 23 October, the Environment Committee of the European Parliament votes to phase out crop-based biofuels (such as bioethanol and biodiesel) entirely by 2030, and introduces a 7% cap on the share of biofuels in EU total energy consumption. According to green activists, the approved text is laudable but fails to secure climate-friendly use of biomass for heating and electricity generation (24 October, here). The directive is then voted against in the ITRE Committee, forcing Mr Eickhout to look for a compromise. The rejection of the proposals was widely expected from centre-right MEPs, who have previously criticized the proposal. However, MEPs from the S&D group also do not back the proposal, despite having supported it in the Environment Committee (15 November, here).

MEMBER STATES AND THE TRANSITION

- The Netherlands presents an ambitious climate and energy policy. Above all, the newly formed government adopts a Climate Law aimed at reducing CO2 emission by 49% by 2030. By the same date, the Netherlands intends to close all its coal-fired power stations and to allow only zero-emission vehicles to be sold. Moreover, the Dutch government aims to persuade the EU to increase its CO2-reduction target to 55% by 2030 (11 October, here).
- During a parliamentary hearing on the new energy strategy, Italy's Minister of Industry Carlo Calenda states that coal-powered plants will be phased out by 2025. The decision of the Italian government, which has asked Terna to identify the infrastructure needed, follows similar plans made by Portugal, the Netherlands and the UK (26 October, here).
- At the COP23 summit in Bonn, Luxembourg's ministers launch a de-risking mechanism that will allow financing of green projects. Specifically, Luxemburg's finance minister Pierre Gramegna announces a joint venture with the EIB, the world's largest issuer of green bond, that will provide seed money to leverage funds from multilateral development banks and private investors (17 November, here).
- The Spanish government challenges a decision by its main electricity provider, Iberdola, to shut down all coal-fired power plants, including two in the Spanish provinces of Asturias and Castilla y Leon. In fact, the Spanish energy ministry drafted a decree on the procedure of closure of energy facilities, which poses new and very restrictive conditions for closing an electricity production site—a move that seems to contravene the Paris Agreement (24 November, here).
- Lithuania and Luxembourg conclude the first-ever cooperation agreement on the statistical transfer of renewable energy amounts as stipulated in the Renewable Energy Directive—an important step that allows Luxemburg to achieve its 2020 national renewable energy target. According to the Commission, the agreement shows that cooperation mechanisms guarantee greater flexibility to EU Member States, providing them with a tool to jointly develop renewable energy potential in a mutually advantageous way (26 October, here).

FINANCING THE TRANSITION

- The EIB provides a €7.5 million loan to GreenFiber International SA to finance a recycling and circular economy project in Romania. The project, backed by the European Fund for Strategic Investments, will help create 280 full-time sustainable jobs and will increase the amount of waste collected and processed by over 50,000 tonnes per year (19 October, here).
- The EIB signs a €180 million financing agreement supporting the construction of the largest onshore wind farm on European territory—a complex of 179 wind turbines (3.6MW each) to be built near the Swedish city of Piteå, close to the Arctic Circle. Of the EIB financing, €100 million is provided under the Junker Plan, while the remaining €80 million is covered by Euler Hermes, the German Export Credit Agency (7 November, here).
- The EIB and GIZ, the Deutsche Gesellschaft für Internationale Zusammenarbeit, step up cooperation on climate change mitigation and renewable energy projects. They have already launched FELICITY, a cooperative project that helps cities identify and devise suitable plans for sustainable infrastructure and then draft applications that make international banks want to invest (8 November, here).
- On the margins of the COP23 climate talks in Bonn, the China Society for Finance and Banking and the EIB launch a White Paper that provides an international comparison of several green bond standards. The new paper paves the way for enhancing the consistency of green finance definitions and standards between China and the EU (11 November, here).
- The European Investment Bank grants Edison a €150 million line of credit to finance the construction of wind farms with a total capacity of 165 MW by E2i Energie Speciali. The loan—the largest granted in the wind power sector in Italy in 2017—will be used to complete the eight wind power projects in Abruzzo, Basilicata, Campania, Puglia and Sicily (23 November, here).
- The EIB, Societe Generale and Brittany Ferries announce the first green maritime financing under the EIB's €750 million Green Shipping Guarantee (GSG) programme. "Honfleur", the vessel receiving the financing, is expected to enter into service in April 2019, and will be Brittany Ferries' first LNG-powered ferry (12 December, here).
- During the One Planet Summit, the European Commission announces €9 billion funding for action on climate change and especially sustainable cities, clean energy and sustainable agriculture. According to Commissioner for Climate Action Cañete, the funds—which form part of the EU's External Investment Plan—will be used to scale up investments across Africa and the EU neighbourhood region (13 December, here).

ADDRESSING TRANSPORT EMISSIONS

- The European Commission proposes a legislative package aimed at reducing CO2 emissions in road transport and encouraging the uptake of alternative mobility, in an attempt to help Europe's car industry remain competitive in the sector. Under the proposal, the average emissions for new cars in 2030 will have to be 30% lower than the 2021 target of 95 g of CO2 per km, a proposal that transport, environment and consumer groups label as "ineffective", says Euractiv (8 November, here).
- The European Parliament, the Council and the Commission reach a political agreement to tighten the rules for checking and certifying that a vehicle meets all EU law requirements to be placed on the market. The new rules will raise the quality level and independence of type-approval and testing before a car is placed on the market, increase checks of cars that are already on the EU market and strengthen the overall system with European oversight (7 December, here).

FINALIZING THE ETS REFORM

- The Estonian presidency offers Poland more room to subsidize the coal transition, an important concession from the EU in ongoing talks on reforming the Emissions Trading System (ETS). Specifically, Poland obtains a raise in the number of emission permits, which are distributed to coal power plants used to fund the clean energy transition, from 40% to 60% of auctioning volumes (3 October, here).
- Following a Council meeting between the EU's environment ministers, a carbon "safety reserve" is agreed upon, helping less wealthy Member States cut emissions in non-ETS sectors (transport, building and agriculture). The reserve will be accessible only for countries that reach their 2030 greenhouse gas reduction targets early. Additionally, the 115 million tonnes of CO2 equivalent will be accessible only for countries which have already made use of other "flexibilities" available under the Effort Sharing Regulation (13 October, here).
- The Council reaches a provisional agreement with the European Parliament on a regulation to extend the existing provisions covering aviation activities in the EU ETS regulation beyond 2016. The adoption of this new regulation, which was due to expire at the end of 2017, avoids the risk of legal gaps allowing airlines to remain exempt from paying for CO2 emissions from intercontinental flights until December 2023 (19 October, here).
- The Parliament and the Council agree on measures to guard the carbon market in case of a breakdown in Brexit talks. With the UK's utilities among the largest buyers of permits, the measure seeks to prevent a mass selloff of allowances if British companies suddenly find themselves out of the ETS market (19 October, here). The Commission is on the same wavelength, as it presents a draft regulation amending the EU ETS Registry Regulation to the Climate Change Committee, aimed at ensuring the integrity of the EU ETS during the 2013–2020 trading period (24 October, here).
- The European Parliament and Council reach a provisional agreement to revise the EU ETS for the period after 2020. The proposal provides for an increase in the yearly reduction of emission allowances to be auctioned from the existing 1.74% to 2.2% from 2021. Additionally, a doubling of the Market Stability Reserve's capacity is agreed that will be capable of mopping up excess emission allowances on the market by absorbing up to 24% of excess credits in each auctioning year (9 November, here). The agreement, welcomed by Commissioner Cañete as a landmark deal demonstrating the EU's commitment to the Paris Agreement, will contribute to reducing greenhouse gas emissions by at least 40% by 2030 (9 November, here). On 22 November, the Council officially endorses the provisional deal, which is submitted to the European Parliament for approval (22 November, here).

CITIES AND REGIONS AGAINST CLIMATE CHANGE

- One month ahead of COP23, the European Committee of the Regions (CoR) calls for renewed European ambition on climate, stressing the need for inclusion of all levels of government in the process. Specifically, the CoR asks for adequate new financing initiatives for local climate initiatives. For its part, the Committee says it will continue to strengthen relations with cities and regions outside Europe's borders to push the climate agenda forward (11 October, here)—and, importantly, it introduces the concept of "Locally Determined Contributions" as a way to enable local and regional authorities to help bridge the emissions gap (11 October, here).
- EU Climate Commissioner Miguel Arias Cañete and California Governor Jerry Brown meet to discuss linking the EU carbon market to the US state's cap-and-trade system. The two representatives agree that the EU and California are natural partners in the fight against climate change, and commit to further discussions on ETS, and possibly also on the development of zero-carbon transport (8 November, here).

- The CoR welcomes a Declaration adopted at the Climate Summit of Local and Regional Leaders at COP23 in Bonn, saying that world's cities and regions should have both more rights and more responsibilities in the fight against climate change (12 November, here). The Declaration, signed by mayors of 25 cities around the world, representing 150 million citizens, includes unilateral commitments to cut their carbon emissions to net zero by 2050, while boosting efforts to become more resilient to extreme weather and other pressures linked to climate change (14 November, here).
- The Platform for Coal Regions in Transition, designed to assist Member States and regions in the development of long-term strategies to kick-start the transition process and respond to environmental and social challenges in coal regions, is launched on 11 December. The Platform assists regions in tackling the challenge of maintaining growth and jobs in communities affected by the expected steady decline in coal production (11 December, here). The Commission announces that the first carbon-intensive regions benefiting from tailored support under the Platform will be Hauts-de-France (FR), Norra Mellansverige (SE), Piemonte (IT), Saxony (DE) and Wallonia (BE), each of which will receive €500,000 to cover the costs of the external expertise and to support the early implementation of the transformation strategies (12 December, here).

5. Research
Evaluation: 3/12

European research and technology efforts focus on realization of a low-carbon, climate resilient future, with the Commission fostering projects in the areas of renewables, energy efficiency of buildings, alternative mobility and storage, involving both industrial actors and regional stakeholders. New technologies for transport, in particular, become central in the R&D action of the Energy Union, as witnessed by the efforts in the hybrid and hydrogen cell domains.

TECHNOLOGICAL INNOVATION IN ENERGY

- A Dutch consortium coordinated by Alfen introduces the Cellular Smart Grid Platform (CSGriP), a storage solution designed to allow local parts of the grid to disconnect from the central grid and function autonomously. Through self-adjustment of supply and demand based on the frequency of the electricity grid, this solution makes local cells intrinsically stable (17 October, here).
- On October 18, the First Minister of Scotland Nicola Sturgeon inaugurates the world's first floating wind farm. Located 25km offshore of Peterhead in Aberdeenshire, the Hywind farm will add an expected 135GWh of renewable electricity to the Scottish power grid yearly, providing power to around 20,000 households (19 October, here).
- The Handalm Windpark, a wind farm at an average altitude of 1,800 metres in the mountains of southern Austria and expected to produce 76MWh of electricity yearly, enters into operation. Supported by the EU's NER 300 programme, the wind farm showcases a range of innovative technologies designed specifically for high-altitude locations (24 October, here).

R&D FOR TRANSPORT

- The German H2 supply network expands as the first hydrogen (H2) filling station opens in Bremen. The opening of the station, in which the German Ministry of Transport and Digital Infrastructure has invested around €900,000, is part of the National Innovation Programme for Hydrogen and Fuel Cell Technology (16 October, here).
- The German transport authority (LNVG) will deploy 14 hydrogen fuel cell trains, supplied by Alstom, on the national train network. The Coradia iLint prototype, whose H2 fuel cell only emits steam and condensed water while operating, is expected to begin carrying passengers in early 2018 (24 October, here).
- Under the umbrella of the European Fund for Strategic Investments, the European Investment Bank and Volvo sign a €245 million loan agreement backing research and development activities in connectivity, efficient petrol hybrid engines and longer-range electric cars (9 November, here).

EU INSTITUTIONS PROMOTING ENERGY RESEARCH

- The European Commission announces that, under the Horizon 2020 programme, it will allocate €3.3 billion to research on a low-carbon, climate resilient future. In particular, €2.2 billion will be earmarked for clean energy projects in the areas of renewables, energy efficiency of buildings, electro-mobility and storage, including €200 million to support the development and production in Europe of the next generation of electric batteries (27

October, here). A total of €20.3 million will be assigned to the EU-SysFlex project, launched by EDF and EirGrid, which aims to prepare the EU electricity system for coping with a renewable energy penetration rate of more than 50% (13 December, here).

- A number of European regions receive financial support from the European Commission to work on high-tech, energy-themed joint projects. Specifically, Scotland and País Vasco are coordinating 16 regions for joint projects in the field of marine renewable energy, while Andalucía will lead a group focusing on sustainable buildings (7 December, here).
- The Council of the EU adopts a conclusion stressing the vital importance of eco-innovation in the transition towards a low-carbon circular economy. During the meeting, Siim Kiisler, Estonia's Minister for the Environment, asks European governments to facilitate business promotion of eco-innovative products on the market (18 December, here).

Public debate

- **The European Environment Agency publishes "Trends and projections in Europe 2017: tracking progress towards Europe's climate and energy targets"**, its annual assessment on the EU's progress towards decarbonization. The paper estimates the EU and most of its Member States to be on track to reach their 2020 targets on renewable energy and energy efficiency, although it calls to keep in check energy consumption, whose recent increase threatens to slow progress on climate goals (24 November, here).
- **"Sustainable Development in the European Union: Monitoring Report on Progress Towards the SDGs in an EU Context" is the first of a series of publications by Eurostat aimed at monitoring SDGs in the EU**. According to the study, over the last five years the EU has made progress towards all goals. The most significant progress is in SDG 7 "affordable and clean energy", SDG 12 "responsible consumption and production", SDG 15 "life on land", SDG 11 "sustainable cities and communities" and SDG 3 "good health and well-being" (20 November, here).
- **Bruegel puts out "The Impact of Brexit on the EU Energy System"**, a document developed at the request of the European Parliament's Committee on Industry, Research and Energy (ITRE). According to this study, the energy-system-related impact of Brexit on EU citizens and companies will be limited, as will impacts on market, climate and supply security projects. However, special attention to the impact of Brexit on the Irish energy system is warranted (19 December, here).
- **CEPS-ECH Director Christian Egenhofer publishes "Is security of energy supply possible without deeper cross-border market integration? Lessons from the cold spell in South-Eastern Europe".** The paper analyses the implications of the South-Eastern Europe electricity "crisis" caused by a cold spell in December 2016. The critical situation may prove to be a wakeup call for the governments of the region to act towards integration with neighbours and renewables support, the document argues (December, here).
- **In "Pressure on Germany grows as international movement from coal accelerates", E3G analyses the increasing political pressure on Germany to phase out coal**, following the launch of Powering Past Coal Alliance (PPCA) and Europe Beyond Coal initiatives. Specifically, the briefing paper explores Germany's political paralysis on coal, building on our pre-election analysis and contrasting it with the accelerated phase-out dynamic developing both in Europe and internationally (E3G, 21 December, here).

Interview

Gian Luca Galletti

Italian Minister for the Environment

- **According to you, what are the main changes, either positive or negative, that the Energy Union has brought to European Energy and Climate policy?**

Energy policy planning must have a European dimension: thinking that we could do without interconnection at the continental level would mean denying reality. The National Energy Strategy (NES) itself, which we prepared in close cooperation with the Ministry of Economic Development, is strictly connected with the agreements that have been reached in Europe, which are crucial for the implementation of the Paris Agreements. I am a convinced pro-European, and I will tell you one thing: it is in the field of environment that we are seeing in these years the best Europe, strong and proactive.

- **In 2015, European emissions increased, after having decreased in the previous years also thanks to the economic crisis. Should the European Union reconsider its tools for fighting climate change, taking into account the increase in production? If yes, how?**

The European agreement 40-27-27 and, of course, the Paris Agreement, send a clear message: we need a stronger commitment, which also implies a re-examination of the economic model that we have adhered to so far. The model of linear economy has to be entirely replaced by the circular model. Also in this sphere, Italy is taking important steps: we have presented during the last days the national position paper, waiting for the actual strategy. The key words are regeneration, recycling, eco-design. These words also mean more opportunities for our enterprises.

- **European efforts to fight climate change are often stalled by the opposition of some Member States like Poland. How will cooperation in the climate field in the EU be fostered in the future?**

I believe the path of cooperation that we managed to undertake is the right one. We need not bilateral agreements, but a multi-party governance in which everybody is encouraged to find a synthesis, to give up something and at the same time to pursue the most ambitious goals possible. We all know that not all Member States are willing to proceed at the same pace, in current performance as in future goals. The respective governments still have much to do, but a lot will be done by the market: investing in the environment, in the environmental sustainability of economic processes will become more and more convenient.

- **Italy and Europe have made considerable progress in the use of renewable energy, but at a significant cost; in what way do the NES, for Italy, and the new renewable energy directive, for the EU, represent a change compared to the past?**

What costs are we talking about? If we only talk about the impact of renewables subsidies on electricity bills, we fail to take into account the savings in the national energy balance, the savings for the families that have chosen clean energy and efficiency, the savings, current and prospective,

in terms of public health, which have an impact on the costs of the national healthcare system. And do not we have to take into consideration the 100 billion construction works made possible by the ecobonus, and the more than 200,000 job places that have been created? The NES and the choices at the European level on renewables are the tools for an inevitable and economically virtuous transition. We can grow economically and in terms of occupation only with green economy and circular economy.

- **Together with renewables, natural gas is a crucial element of the Italian strategy, especially in anticipation of the phase-out of coal, one of the greatest accomplishments of the NES. What are the advantages related to the use of gas in an energy sector in transition, like the one we are facing nowadays?**

Natural gas is for Italy the key to a balanced decarbonization process. This is the meaning it is given in the NES. We are aware that part of Europe still strongly relies on coal. However, if we want to reduce emissions without creating economic imbalances and competitivity gaps, natural gas is an essential resource.

- **The COP21 has been a great success, and Europe has been among its leading actors. Now comes the moment of the implementation of the Paris Agreement: how will it be possible to guarantee the containment of emissions below two degrees when the level of ambition of NDCs is still too low, and the treaty lacks mechanisms of control?**

That was the main topic of discussion at COP22 in Marrakesh and at the following conference in Bonn. It might be ignored by the mass media, but the process we are bringing forward in these years following the Paris Agreements is extraordinarily important. And I include in this process also intermediate steps of great relevance for Italy, like the G7 Environment in Bologna. The "rules book" we are now writing will allow us to be even more ambitious relative to the Paris Agreements, also keeping into account that the position of the American administration, at least the present one, requires an even stronger commitment on our side. It is a difficult challenge, but it is inevitable.

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 infrastructures and measures to reach the 15% interconnection target
- ✓ 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 and Communication on infrastructures and measures to reach the 15% interconnection target
- ✓ 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

Energy Efficiency

- ✓ Review of the Energy Efficiency Directive
- ✓ Review of the Directive on Energy Performance of Buildings including
- □ 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

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
- ✓ Establishing a monitoring and reporting system for heavy duty vehicles
- □ 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 | IN-DEPTH: ENERGY CYBER SECURITY

In 2016 the cyberattacks increased dramatically compared to the previous year, and over 1050 attacks were reported with considerable "serious" consequences. For this reason, the cyber-attacks are now classified as a top-risk into the World Economic Forum Global Risk Report, a level of risks comparable to terrorist attacks or mass migration.

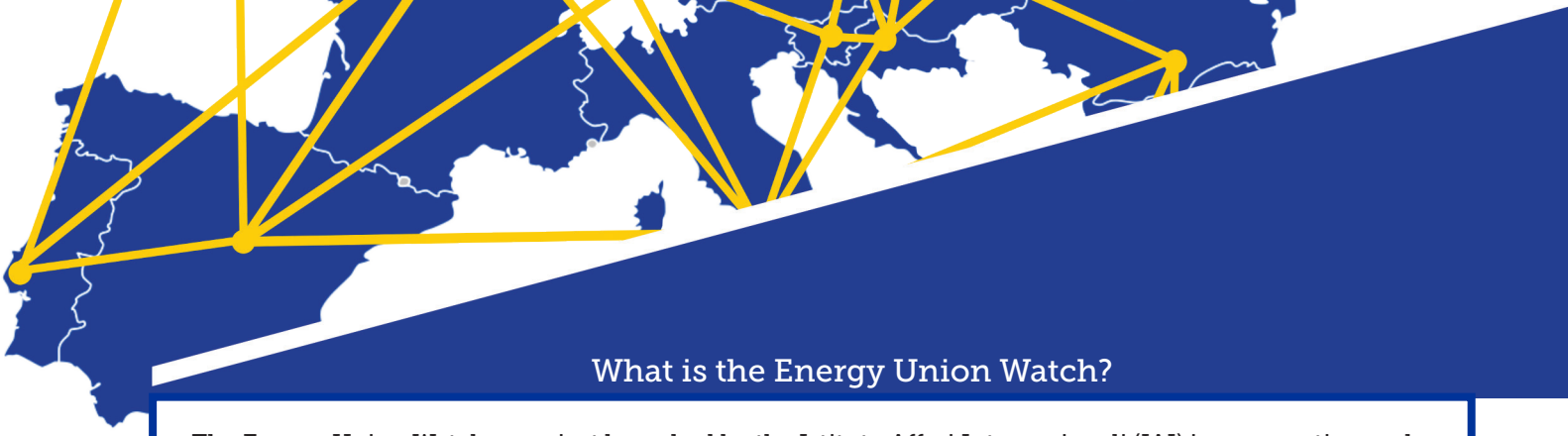
Indeed, over the past year, energy companies have seen a massive increase in the number of successful cyber-attacks. Recent attacks towards energy networks, such as in Ukraine, and those in the oil and gas industry like in Norway and Saudi Arabia have led to a new awareness on cyber risks.
Governments and energy leaders have already become aware about cyber threats. For instance, Italy pays high attention to this field implementing the reform of objectives and governance for cyber security and especially including the argument, for the first time, at a strategic level in its new National Energy Strategy.

However, it is urgent to increase the level of security of medium, small and micro companies, in order to limit the vulnerabilities in their information systems and create the awareness of their staff.
The World Energy Council has conducted in the last few years a number of works on cyber security and published the report "The road to resilience: Managing cyber risks" (here) that investigates how cyber risks can best be managed, recommending actions for decision makers and stakeholders to improve the sector's response to rising cyber threats, as part of a wider move toward greater resilience.
Considering the critical role that the energy sector plays in the functioning of a modern economy, with its increasing interconnection and digitization, with the emergence of smart grids and smart devices, make the energy sector a highly attractive target for cyber-attacks aimed at disrupting operations, WEC Italy has launched 4 years ago "The National Conference on Energy Cyber Security" (Conferenza CSE). During the last edition, the topic of the need for more economic and administrative incentives in order to facilitate investments in cyber security and multilevel cooperation strongly emerged from the debate between experts.

For the energy sector, the cyber threats are an area of critical uncertainty and represent a major risk to energy security. Therefore, cyber threats must therefore be addressed with a systemic approach to risks across the entire energy supply chain, utilizing both technical measures of resilience combined with human resilience measures built on developing a robust cyber awareness culture.

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 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.

About the IAI

http://www.iai.it/en/
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Founded by Altiero Spinelli in 1965, the Istituto Affari Internazionali does research in the fields of for-eign policy, political economy and international security. A non-profit organisation, the IAI aims to fur-ther 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 transat-lantic relations. The IAI publishes an English-language quarterly (The International Spectator), an online webzine (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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Lorenzo Colantoni is Junior Fellow at the Istituto Affari Internazionali, with specific involvement in theEnergy, Climate & Resources Programme. His focus is on European energy policy, in particular intra-European intercon-nections, the geopolitics of the European energy supply and LNG. His research extends also to the envi-ronment, 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, Nation-al Geographic, Limes, L'Espresso and the Energy Post.

With the contribution of Federico Mascolo, trainee at the IAI's energy, climate and resources programme

Updated 31 December 2017