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THE STATE OF THE "ENERGY UNION"

New tools for EU integration, awaiting political steps

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IN A FRAGMENTED EUROPEAN SCEnario, marked by prevailing national interests and short-sighted political responses to the social-economic crisis, it is ever so important to acknowledge and highlight the positive steps that the European Union has taken towards a complete, long-term integration.

Energy falls within the relevant sectors capable of contributing to the qualitative leap the EU must take towards policy integration. In other words, following the Banking Union, the Energy Union (March 2015)[1] may be the second pillar in which EU leaders should invest so as to ensure that common policies may follow common rules. Indeed, despite some prominent exceptions, there has been a gradual but relevant evolution from a European intergovernmental approach to a supranational approach; in fact, even national institutions in the energy sector are converging towards European institutions.

Hence, as argued briefly in this note, the technical ground has been prepared and the institutions for implementing the Energy Union, without changing the EU Treaties, are already in place. The time has come for the leaders of Europe to show their political willingness to develop consistent and shared energy policy strategies. If this transition successfully occurs, single Member States will benefit in the long-term by jointly betting on a "green economy" and technological innovation rather than competing for external resources (i.e., fossil fuels), and the EU as a whole will have much to gain in terms of economic growth and a more consistent and cohesive EU foreign policy.

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[1] For further information see https://ec.europa.eu/energy/en/publications/energy-union-package

In this regard, it is interesting to further note that while debt crises, by nature, imply conflicts of interest and have led to divided approaches among Member States, the energy crisis has already contrarily proven that there is added value to coordination and sharing among the EU Countries. The benefits of coordination were recently highlighted in the gas crisis between Russia and the Ukraine, the latter being the main country of transit of Russian gas towards the EU. After the first difficulties surfaced in 2006 and once again in 2009, Ukraine today benefits from the possibility of receiving gas from Slovakia and Poland, owing to the obligation to guarantee bidirectional energy flows among bordering countries, recently imposed by the European Agency for the Cooperation of Energy Regulators (ACER) on enterprises that transport gas and transmit electricity.[2]

Indeed, a European Energy Union requires, at the very least, a regulatory framework to promote a network of European infrastructure ("hardware") and ensure common standards and rules ("software") for fluid interoperability between national systems. Many steps have been taken in this direction; however, despite their value, these technical foundations alone do not constitute a strategy. In the current governance framework, two strategic choices fall within the responsibility of national governments: those related to the energy mix–renewables, gas, oil, coal etc.–and those concerning the foreign import strategy. On the basis of these technical achievements, it is thus possible to undertake the necessary political steps towards a common energy strategy.

In the energy field, however, European Member States face quite different situations. Northern Europe, Scandinavia in particular, relies heavily on hydroelectric production; France partially relies on nuclear power; Italy, in the last decades, has increased the use of gas and renewable energy sources; the Baltic countries, and recently Germany, continue to count heavily on coal. Of course, these differences give birth to different national energy policies.

It is evident that, in this scenario, it is not easy to pursue the common good stemming from a shared European strategy. In the energy sector, as well as in other dimensions, Europe runs the risk of falling into the trap of national egoisms; as effectively pointed out by President Giorgio Napolitano in his recent *Lectio Doctoralis* held at the University of Pavia: "We are facing nationalist regressions, populist onsets, old and new extremisms, that have plotted in overshadowing the one and only authentic historic need for Europe, which coincides with the strategic interest that the European national States have had for a long time: that is, the need for greater cooperation and integration and, at this point, for an actual radical change towards political union." [3]

Aware of this dilemma, the Energy Union has been structured so that national egoisms are attenuated in order to guarantee mutual support and coordinated action where needed, i.e., for greater energy security in case of emergencies or temporary crisis in external supply. To elaborate, the Energy Union is based on five Guiding Dimensions: 1. shared policies for the security and supply of primary sources; 2. the completion of the European internal energy market; 3. common standards and tools to improve energy efficiency; 4. consistent decarbonisation policies and, finally, 5. common research for the innovation of the sector. Targets 2 and 3 mainly concern the regulatory sphere, while the others fall primarily within the domain of national governmental policies.

[2] This obligation is part of the "network codes", recently introduced by the Agency of Energy Regulators. Moreover, the Commission has established a series of measures to strengthen EU energy security on the basis of the outcomes of the "stress tests", carried out with Governments and National Regulatory Authorities (NRAs), to verify the impact of possible interruptions in the supplying of gas to the EU from Russia for 3/6 months.

[3] G. Napolitano, "*Europa in crisi: le responsabilità della politica*", Università di Pavia, 27 November 2015 on the occasion of the awards ceremony for *Honoris Causa* in History.

The tools for the implementation of the Energy Union are already in place, without the need to amend the Treaties, consequently making the process of market integration, at this point in its development, quite irreversible. This is argued here on the basis of the following two reasons: first, a set of European rules and standards have already created a solid regulatory foundation for a single energy market; second, the Energy Union has strengthened the role of the supranational European institutions (Commission, Parliament, Regulatory Authorities), as opposed to intergovernmental ones. Let us consider them separately.

In paragraph 1, the advantages for Member States deriving from the implementation of the Energy Union are briefly illustrated, aside from their evident contribution to EU integration. Yet, as argued in paragraph 2 and 3, the process of energy market integration has solid regulatory foundations, waiting for a political leap.

1. *The benefits expected from the Energy Union. A "win-win" solution*

The Energy Union activates virtuous ("*win-win*") mechanisms for all EU Countries, though for different reasons[4]. I will briefly provide three examples of the benefits expected in reference to three Guiding Dimensions: 1. the completion of the European internal energy market (IEM); 2. the contribution to decarbonisation and, finally, 3. common research for innovation in the sector.

Concerning the first Guiding Dimension, both the opening of national markets, launched at the end of the 1990s, and the gradual creation of the Integrated Energy Market (IEM) have already produced positive effects in both the electricity and gas markets.

With reference to the electricity sector, the advantages of a complete integration derive from common operational standards and cross-border interconnections that make markets more fluid and ultimately favour competiveness in wholesale prices. These are outcomes of a process lead by ACER and CEER (the Agency and the Council of European Energy Regulators). Indeed, the Agency addresses cross-border issues mainly concerning connection modalities, network congestion management, and the interoperability of transmission networks. A second element of integration concerns the European organizations that bring together the national transmission system operators of electricity and gas infrastructure—Entso-E and Entso-G, respectively—responsible for tasks related to system resilience and EU security, such as the coordination of regional initiatives, the publication of seasonal reports on the adequacy of the electrical system, and the creation of development plans for the European networks (in a ten-year view and in the short term). These measures have greatly enhanced the resilience of EU electricity systems.

With reference to the gas sector, the adoption of shared European rules and platforms has enabled Member States to erode the monopoly of non-European producers, renegotiate long-term contracts indexed at the price of oil—termed *take or pay contracts* due to their defining agreement clause—and benefit from the extraordinary decrease in gas prices on international markets, owing to the American findings of non-conventional gas (*shale gas*). In addition, following the Energy Union project, single Member States will benefit from greater security of supply thanks to the introduction of joint negotiations to be carried out by European institutions.

[4] On the one hand, greater integration strengthens system resiliency to external shocks while coordination, by increasing negotiation power, reduces dependency of supply on a few energy producing countries (i.e. Russia, Qatar, Nigeria) from which Europe suffers. (Today, imports represent over 53% of total internal consumption).

The benefits of a more unified EU gas market have been amplified by radical changes in the global gas market. In this regard, the increase of liquefied natural gas (LNG) has multiplied exchanges by sea, enabling a unification of the three different regional gas markets in the Pacific, USA, and Europe and the consequent forming of a global gas price—decoupled at last from the volatility of oil prices—all in a relatively short time span. This outcome represents a totally unexpected result that tends to free Member States from the power wielded by the handful of gas-producing countries. Today, producers face a radically different situation from the past; whereas yesterday's market was supply-driven, today's market is led by demand. In this scenario, producers are searching for market outlets from Europe to the East. The benefits, however, will be jointly achieved by Member States on the condition that Europe provides itself with the necessary common strategy and infrastructure.

A second aspect of great relevance concerns the contribution of decarbonisation policies, the third Guiding Dimension of the Energy Union and the development and promotion of renewable energy sources. This requires the creation of common policies to keep up with the technological transformations of the sector. In fact, the revolution of renewable energy sources imposes an organizational transformation in the electricity production chain. Moreover, the diffusion of distributed generation, at once intermittent and local, highlights the need to build adequate interconnections and common European standards in order to guarantee the system sufficient security of supply and technical resilience. Technological changes require a review of the rules in Member States aimed at adapting local distribution network operators to new tasks and promoting innovative investments in distribution networks. This evolution also opens the electricity market to new players and new products from the ICT sector and is an important stimulus for growth. Yet another cornerstone is the development of common standards to guarantee interoperability of national systems, maintaining the margins of necessary flexibility.

A final and third example of virtuous mechanisms sustained by the Energy Union concerns the final guiding dimension of the Energy Union—the coordination of research in the energy sector. Indeed, the first embryonic steps have been taken towards this promotion of common research under the aegis of the Commission. In November 2015, the network for connecting scientific research institutes, universities, and industrial centres of the sector was inaugurated, promoted, and coordinated by the European *Joint Research Center* (*JRC*). Italy contributes actively to this project: the seat of the JRC is in Ispra and the Politecnico of Turin is involved in the network of research centres. In 2015, Ispra launched a twin project with their counterpart, the American Centre of Applied Research (*Argonne National Laboratory* under the *US Department of Energy*). The activity concerns several projects focused on new technologies aimed at supporting and spreading electric mobility and new models of electricity consumption.

2. *The foundations of an integrated energy market*

The Energy Union has solid technical foundations. Since the end of the 1990's, three European Directives[5] have gradually established European rules and standards (the *software*) in the sector. Accordingly, cross-border infrastructure (the *hardware*) for the electricity and gas markets have been strengthened. Together, these represent the foundations for a shared energy strategy.

[5] The three "Energy Packages" from the First (1996) that sparked energy market liberalization up to the Third (2009), providing for the complete integration of national markets by 2014. For further information please see: https://ec.europa.eu/energy/en/topics/markets-and-consumers/market-legislation

In the past twenty years, the Commission, with Acer and CEER (the Agency and the Council of European Energy Regulators), has gradually embarked on a complex path that passed from the harmonization of national rules to the implementation of shared European rules. Granted, it may be argued that this process has been characterized by extenuating bureaucratic procedures, which could no doubt benefit from substantial rationalization; however, by the same token, similar difficulties were faced in a comparable experience from across the Atlantic. Indeed, an analogous process aimed at the creation of an integrated domestic energy market started in the United States in the 1970s. and it took many decades before even a partial integration of local markets was achieved. The steps, similar to this case, were the definition of common rules and the development of transnational infrastructure. The process continued into the dawn of the 21st century, spanning over three decades,.

More specifically, European regulatory legislation has involved three types of interventions, the first being the definition of the so-called "network codes" to guarantee that access to grids and pipelines occur according to both the principles of non-discrimination and transparency[6], at the national and cross-border levels.

Secondly, rules to promote European exchange platforms and market coupling initiatives, first developed at the regional level[7], were defined to facilitate the convergence of wholesale energy prices in Member States. In this sense, price-convergence and levels of liquidity on the wholesale energy markets have both registered unexpected results[8]. Lastly, the recent regulation "Remit" (EU Regulation No 1227/2011 of the European Parliament and of the Council on wholesale Energy Market Integrity and Transparency) aims at guaranteeing market integrity and monitoring of financial tools for the exchange of wholesale energy products following the MIFID reform in the financial sector.

[6] These principles are enforced by Unbundling and Third Party access rules. Unbundling, the process by which a large company with several different lines of business retains one or more core businesses and sells off the remaining assets, product/service lines, divisions, or subsidiaries, was gradually introduced in the energy sector to indicate the separation of energy supply and generation from the operation of transmission networks. Under the third package, unbundling must take place in one of three ways, depending on the preferences of individual EU countries: Ownership Unbundling, where all integrated energy companies sell off their gas and electricity networks and no supply or production company is allowed to hold a majority share or interfere in the work of a transmission system operator; Independent System Operator, where energy supply companies may still formally own gas or electricity transmission networks but must leave the entire operation, maintenance, and investment in the grid to an independent company; and Independent Transmission System Operator, where energy supply companies may still own and operate gas or electricity networks but must do so through a subsidiary. All important decisions must be taken independent of the parent company.

Third party access rules apply to electricity and gas transmission system operators (TSOs) as well as to operators of storage or LNG facilities. According to these rules, these operators are required to grant energy companies non-discriminatory access to their infrastructure. They must offer the same service to different users under identical contractual conditions.

[7] Market Coupling optimizes the allocation process of cross-border capacities thanks to a coordinated calculation of prices and flows between countries. The market coupling process began in November 2006 and concerns two main segments of the wholesale energy markets: the day-ahead and the intraday. For the day-ahead timeframe, market coupling is based on a target model that simultaneously determines volumes and prices in all relevant zones based on the marginal pricing principle. In more detail, Market Coupling uses so-called implicit auctions in which players do not actually receive allocations of cross-border capacity themselves but just bid for energy on their Exchange. The Exchanges then use the available cross-border transmission capacity to minimize the price difference between two or more areas.

The intraday target model, as explained in the ACER CACM FG, is an evolution of continuous intraday trading, to include intraday capacity recalculation, capacity pricing reflecting congestion, and the capability to trade sophisticated products. In both cases, the North-West Europe (NWE) region intraday and day-ahead projects are seen as European pilot projects for the implementation of the respective target models.

[8] As highlighted in the ACER "Multi Regional Coupling (MRC) Project Regulatory Report" for Q4, an important example of this convergence in the electricity sector is the launch on 24 February 2015 of MRC on Italian borders. In the gas sector, according to Eurostat, EU wholesale gas prices have been gradually converging since 2011 as a consequence of the gas regulatory reform in Italy.

Concerning the hardware, or rather the cross-border infrastructure necessary[9] for the completion of the internal energy market, the implementation is more difficult since the development of new infrastructure requires investments. In a time of financial difficulties, both in the public and private sectors, budget crisis is summed to the losses in income faced by operators due to sharp decreases in energy demand registered in the past five years. Energy consumption in Europe has shrunk, first because of the economic crisis itself, but also due to the on-going technological transformations in the electricity sector, stemming from environmental objectives (in particular, due to the unexpected diffusion of greatly incentivized renewable sources) and targets for greater energy efficiency[10]. The combined effects of these elements require radical reorganization and changes in the strategies of large EU utilities leading to even less room for investments in cross-border infrastructure.

Hence, the financial resources represent a weak point for integration, whether it concerns cost sharing among countries (defined on the basis of cost benefit analysis of the planned infrastructures), or the allocation of European funds pre-established for the purpose ("*Connecting facilities*"), or, finally, the remarkably complex authorization procedures for admission to the list of Projects of Common Interest (PCI). Not even the Juncker Plan, based, as it is, more on the strengthening of bank guarantees than the availability of new funds, offers adequate support for these investments.

The most advanced European efforts to overcome these difficulties on a regulatory level were reached in the CEER's *Blueprint on Incremental Capacity*, which defines effective paths for promoting public-private co-financing. In this framework, financial commitments for new investments are defined through public calls for tenders (open season); market operators who plan to utilize the new, as yet unrealized infrastructures are willing to contribute to the construction costs in exchange for a share of their future use (for example, gas transportation capacity).

Similar to what has occurred historically, when plans to connect distant regions through major infrastructure require large investment, e.g., transportation or communication, the success of these projects is greatly undermined when public economic intervention is lacking. In this case, the necessary financial support would require the issuing of specific European bonds or a dedicated European budget chapter. These, however, obviously require much work for the future and a further transfer of economic sovereignty of Member States to Brussels.

3. *The governance: steps forward towards a supranational institutional framework*

The Energy Union project has induced Europe to take several steps forward also in the critical field of governance, without the need to modify the existing Treaties and in accordance with the constitutional balance defined in Lisbon.

It is well recognized, as highlighted thoroughly in the literature,[11] that EU institutions suffer from a difficult constitutional compromise due to the dual approach established in Maastricht, and later confirmed with the Treaties of Lisbon. This governance model is based upon supranational institutions (the Commission, the Parliament, and the ECB) on the one hand

[9] Projects of Common Interest (PCIs) are considered an essential infrastructure for the completion of the European internal energy market. As such, they may benefit from accelerated permit granting, improved regulatory conditions, and access to financial support totaling €5.35 billion from the Connecting Europe Facility (CEF). The funding is intended to speed-up project implementation and attract private investors.

[10] Please refer to IEA 2015 WEO.

[11] S. Fabbrini, *Which European Union?* Cambridge University Press 2015; see also Torvola P.D., Vai L. *What Government for European Union?* Documenti IAI, Sept. 2015

and by intergovernmental institutions (the Council of the Heads of State, the Council of Ministers, and Ecofin) on the other.

In this framework, the European energy strategy is addressed at both levels: on one hand, energy policies, still under the domain of national Governments, are managed on the intergovernmental level (by the Council of the Heads of State and the Council of Responsible Ministers); on the other hand, the market framework and the rules of the sector, as defined in coordination with the European Agency for the Cooperation of Energy Regulators (Acer), are addressed at the European supranational level by the Commission and the Parliament. It is interesting to highlight that, within the Energy Union process, Acer itself is currently under review with respect to strengthening supranational governance.

By proposing the Energy Union, the Commission took on a proactive role and is progressively increasing the importance of supranational institutions in this field. This relevance is reflected in subsequent Energy Union strategy proposals, as will be analysed below. Internally, the Energy Union defines new relations between Member States and the Commission, while it externally establishes common energy policy relations with third Countries (i.e. the second guiding dimension on energy security). Of course the political path towards a common energy strategy at the European level is paved with difficulties; however, the pragmatism of a regional approach, together with Commissioner Sefcovic's unwavering commitment, provide useful tools for integration in this sector.

First of all, with reference to internal relations, although energy policies and choices concerning the energy mix remain a prerogative of National Governments, who are responsible for organizing respective National Energy Plans, the Commission now has the tools to be involved in national energy policies. Indeed, on 26 November 2015, the European Council when defining the *governance* of the Energy Union[12] entrusted the Commission with specific tasks that impact national energy strategies. The Commission's functions now range from checking *ex ante* National Energy Plans to assess their consistency with European targets, to *ex post* monitoring to verify the ultimate compatibility of the employed tools. Functions, tools, and procedures to implement this strategy were approved in detail in the Council's conclusions.

With reference to relations with Non-EU Countries, for the first time, the energy security strategy is on the front line of foreign affairs, falling within the sphere of the High Representative for Foreign Affairs (Vice President Mogherini) thanks to the recent coordination between the two Vice-Presidents—Sefcovich and Mogherini—that ultimately established an Energy Diplomacy program, whose first example of significant coordination was the political mediation on gas between Russia and Ukraine. This course of action traces the steps of post-WWII American energy strategy, whereby energy was placed at the core of the Federal Government's security strategies. The possible abandoning of the fossil-fuel economy, of course, would dramatically impact this equilibrium. The potential of speaking with a common and unified voice are unprecedented, though much will depend on the political support of the national Governments.

The new approach to governance will soon be put to test as the Commission addresses the bilateral agreements entered into by Russia and Germany for the construction of a second natural gas pipeline, *Nord Stream 2*[13]. The pipeline, by transporting Russian gas directly to

[12] Council of the EU, *Council Conclusions on the Governance System of the energy Union*, doc 869/15, 26/11/2015

[13] Nine Member States, including Slovakia, Poland, the Czech Republic, Hungary, Romania, Estonia, Latvia, Lithuania, and Greece, wrote a letter to President Tusk on this issue, expressing their objection to the project. Italy has joined the petition.

Gazprom owns a 50% share of *Nord Stream 2*, and the remaining capital is equally divided among Bast, E.On, Omv, Shell, and recently Engle, each with a 10% share.

German shores without passing through Ukraine, would almost totally satisfy the European appetite for Russian gas (about ¾ of total forecasted imports would be covered by increasing transport capacity from 55 bcm to 110 bcm). This agreement, however, is clearly at odds with the course of action defined by the energy security strategy of the Energy Union, which aims at diversifying sources and corridors, as, in ten years' time, the natural gas pipeline *Nord Stream* 2 would make Germany the sole hub of Russian gas in Europe. It would also make the South corridors for alternative gas resources from the Caucasus and the South-East Mediterranean redundant. Ironically, recent forecasts predict a decline in EU gas consumption in the next 20-30 years and a consequent oversupply; this trend is further exaggerated by increases in LNG supplies[14].

The Commission is currently in the process of drafting an internal dossier in order to define its position in relation to *Nord Stream 2*. In 2014 the Commission's opposition to the natural gas pipeline *South Stream* was based on the regulations of the Third Energy Package and ultimately clashed with the bilateral negotiations that Putin had initiated with the countries of transit—Romania, Slovakia, Hungary, and Bulgaria in particular—as well as the temptation of *free riding* that emerged among the single Member States. For *Nord Stream 2*, the opposition would be more complex since the Russian-German agreement eludes the regulations of the Third Package as it provides for the direct connection between two countries, a non-EU producer with an EU consumer, with no on-shore transits. The legal response will reflect the political strength of the supranational dimension of the Energy Union.

4. Conclusions and Italy's active role

Given the above, it is evident that the Energy Union contributes to EU integration. Nonetheless, it is clear that, if the Heads of Government do not promote a single EU policy, it will be difficult for the Member States to overcome their historical differences and national strategies in the field of energy policy.

Moreover, today's global markets are benefitting from a favourable economic situation. This, however, will not last forever. Thus, changes in the political steps is ever more urgent. The discovery of relevant natural gas reserves in the Mediterranean basin (from Egypt to Israel), for example, offers the EU the possibility of diversifying imports and, at the same time, offers Italy an opportunity to assert its strategic role in Europe, thanks to its geographical position and technological readiness to transport gas throughout Europe via new routes.

Undeniably, the Energy Union should promote balanced European policies if it wishes to guarantee economic sustainability for the EU as a whole and support individual Member States. An example from the gas sector are the South corridors. In order to transport the new gas resources from the Mediterranean and the Caucasus through Italy, Greece, and the Balkans, they will have to be enhanced to become complementary to the Northern routes, which will see Germany and the northern countries as the primary hub for Russian gas. This enhancement, however, requires a European long-term vision and a political alliance among the Member States of the Mediterranean basin—from Spain to the Balkans—that may in turn benefit from the USA's support. Italy should take advantage of these dynamics and of the Energy Union strategy of diversifying gas imports, as the transit of Mediterranean gas offers a unique opportunity to integrate Southern economic growth into the broader European strategy.

[14] See IEA WEO, 2015

Italy has given and continues to give a relevant and constructive contribution in this direction. It is a forerunner, acknowledged in the European debate, and has contributed to the definition of European rules and standards aimed at promoting the integration of energy markets and the accompanying energy transition. In this setting, it actively supports and contributes to the approach of regional convergence introduced with the Energy Union, making its political voice heard within European fora in support of sustainable policies and facilitating the proactive role of its main industrial subjects, who in turn have promptly conformed and rendered compliant their respective networks and company policies. It is also important to highlight the positive results achieved by the Italian policy to promote renewable energy sources, despite the debatable form and nature of its incentives. Today, Italy is a pioneer among Member States for the generation of electricity from renewable sources (representing a 43% share of all electricity production). Lastly, Italy is involved in advanced research on energy conservation (batteries and chargers), smart grid and smart metering devices, both at Ispra's laboratories and in niche research carried out by individual industrial subjects.

An European energy strategy indeed requires both infrastructure capable of guaranteeing market integration and common standards and rules in order to make the interoperability of the national systems fluid, creating a *continuum* in the energy systems of the different EU regions. However, it especially requires a common and shared political commitment by the political leaders of the Member States in relations with Third Countries. The recent experience with Russia highlights how difficult it is for Member States to assume a long-lasting geopolitical dimension. Overcoming the near-sightedness of conflicting national energy strategies and embracing a shared long-term vision, one based on the perception of the common good, which in turn entails a sharing of risks, implies accepting principles of trust and reciprocity, both on an economic and political level. For this reason, it is crucial for Member States to promptly fight the temptation to activate unilateral *free riding* policies that, in the long-run, will inevitably cause backlash and weaken the EU. On the contrary, Member States have much to gain by abiding by two key principles found in the Energy Union: "solidarity and trust".