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Energy policy of the EU and the role of Turkey in Energy Supply Security

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Abstract: *All the nations define strategies and develop policies on national and international levels to eliminate risks against energy security. The aim of this paper is to define the energy policy of the European Union and identify the potential of Turkey in securing energy supply to the European Union. To achieve this end, after explaining the policy frame of the European Union and that of Turkey in energy related matters, the existing and planned energy routes expanding from the Russian Federation, Caspian Sea and the Middle East to the European Continent are mapped, and the role assigned to Turkey as an energy hub is exemplified with reference to its accession process. It is concluded that Turkey's membership is to enrich the European Union and contribute to its energy supply security.*

Kew-words**:** *Energy Policy, Energy Supply Security, the European Union, Turkey*

1. Introduction

Driven by a rise in population and economic growth, energy consumption is expected to increase by 34% between 2014-2035, emerging countries taking the leading position in energy demand (BP, 2016). In meeting the energy demand, fossil fuels seem to remain the dominant source powering the global economy and accounting for almost 80% of the total energy supply in 2035 (BP, 2016). As the World is embarking on a transition to a lower-carbon energy system as defined by

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Paris Agreement, renewable energy options gain prominence in alternative energy supply scenarios.

Whatever the option is, all the countries seek ways for securing the supply of energy. Defined by the European Commission (2000: 2) as *"… the uninterrupted physical availability of energy products on the market, at a price which is affordable for all consumers (private and industrial), while respecting environmental concerns and looking towards sustainable development"*, energy security is of utmost importance for any country or group of countries having goals to the future. All the nations define strategies and develop policies on national and international levels to eliminate risks against energy security. These risks may arise in the forms of physical, economic, political, regulatory, social and environmental risks reminding of threats like human intervention, equipment failure and extreme weather conditions (Kocaslan, 2014, p. 735; Labandeira ve Manzano, 2012, p. 8; European Commission, 2000, pp. 76-77).

In this context, the aim of this paper is to define the energy policy of the European Union (EU) and to identify the potential of Turkey in securing energy supply to the EU. To achieve this end, after explaining the policy frame of the EU and that of Turkey in energy related matters, the existing and planned energy routes expanding from the Russian Federation, Caspian Sea and the Middle East to the European Continent are drafted, and the role assigned to Turkey as an energy hub is exemplified with reference to its accession process.

2. Energy policy of the EU: Examining the achievements, shortcomings and ways forward of the European Energy Union

2.1. An overview

Article 4(2)t of the Treaty on the Functioning of the European Union -signed at Lisbon in 2007 (the Lisbon Treaty)- conferred competence to the EU which shall be shared by the Member States in the energy domain. The broad policy on energy is defined by article 194 of the Lisbon Treaty, yet referred to in many other articles defining interconnected policy areas such as economic policy (especially in article 122), trans-European Networks (articles 170-172), and in protocols (i.e. Protocol No 31 concerning imports into the EU of petroleum products refined in the Netherlands Antilles) and declarations (Declaration on article 194 of the Treaty on the Functioning of the EU) annexed.

Article 194(1) of the Lisbon Treaty stipulates that (European Union, 2010);

> *In the context of the establishment and functioning of the internal market and with regard for the need to preserve and improve the environment, Union policy on energy shall aim, in a spirit of solidarity between Member States, to:*
>
> *(a) ensure the functioning of the energy market;*
>
> *(b) ensure security of energy supply in the Union;*
>
> *(c) promote energy efficiency and energy saving and the development of new and renewable forms of energy; and*
>
> *(d) promote the interconnection of energy networks.*

Article 194(2) further envisages that ordinary legislative procedure will apply in establishing the measures necessary for achieving the above-mentioned objectives. However, such measures shall not jeopardise the Member State's right to determine the conditions for exploiting its energy sources and the general structure of its energy supply. However, according to article 194(3) of the Lisbon Treaty, any measure having a dimension of fiscal nature will require derogation from the ordinary legislative procedure to seek for an unanimous vote by the Council after consulting the European Parliament.

The European Union energy policy has a clear strategy tackling today's pressing problems: rising energy demand, disruptions to supply, volatile prices and environmental impact of the energy sector. They stay at the bottom of the three main goals of the EU energy policy: a) security of supply; b) competitiveness and c) sustainability.

The plan of an energy union launched by the European Commission intends to ensure that Europe will have a secure, affordable and climate friendly energy. Wiser energy use, while fighting climate change, represents both a spur for new jobs and economic growth and an investment in Europe's future. The energy union can considerably boost the European economy, intending the diversification of Europe's sources of energy, a more efficient use of the energy produced within the EU and a fully integrated internal energy market.

The policy areas of the EU's Energy Union are presented in Figure 1. The following sections aim at discussing and analyzing each of the policy areas of the EU's Energy Union, highlighting both the achievements and issues where further efforts are needed for this recently launched European initiative in 2015, which will require a fundamental transformation of Europe's energy system (European Commission, 2015c).

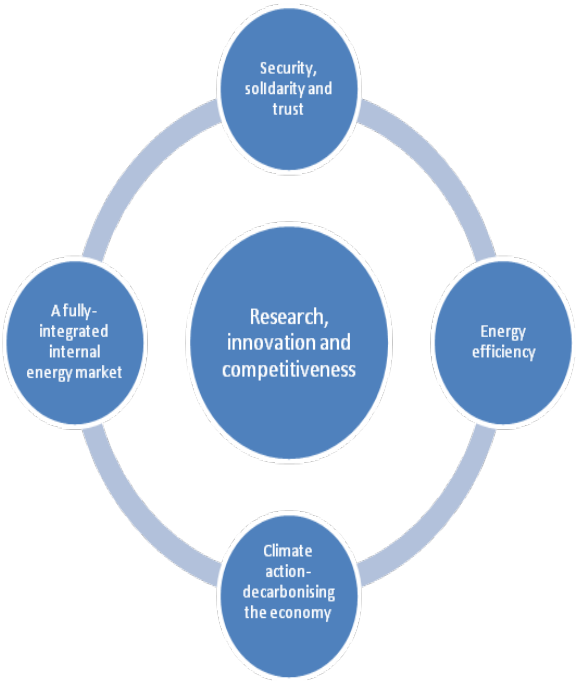

Fig. 1. *The five policy areas of the EU's Energy Union.*
Source: *Own elaboration from ec.europa.eu/priorities/energy-union-and-climate accessed between 23-27 January 2017*

2.2. Security, Solidarity and Trust: Diversifying Europe's sources of energy and ensuring energy security through solidarity and cooperation between member states

The Communication from the European Commission's (2015a) vision is of an Energy Union where member states see that they depend on each other to deliver secure energy to their citizens, based on true solidarity and trust, and of an Energy Union that speaks with one voice in global affairs. With the words of the European Commission's vice-president responsible for Energy Union, Maroš Šefčovič (European Commission, 2016a):

The Energy Union Strategy, launched one year ago, promised to provide all Europeans with energy which is secure, sustainable and competitive. Today's package focuses on the security of our supply, but touches upon all three overarching goals. By reducing our energy demand and better managing our supply from external sources we are delivering on our promise and enhancing the stability of Europe's energy market.

Nevertheless, the solidarity is only a long-term goal and it still operates too loosely. As stated by Hadfield (2016), member states remain firmly committed to retaining choice over their national energy mix, suppliers, methods of delivery and payment. At the same time, the foreign policy decisions foregrounding the energy choices have been taken by each member state in a manner largely independently of each other rather than collectively or even in a coordinated fashion. Sometimes, national policies do not sufficiently take into consideration the security of supply in their neighbouring countries. In these conditions, the necessity of a better coordination between member states becomes obvious, in order to allow a more accurate assessment of common risks, possible simultaneous crises and available resources.

2.3. A Fully-integrated Internal Energy Market: Enabling a free flow of energy throughout the EU through adequate infrastructure and without any technical or regulatory barriers – an efficient way to secure supply and give consumers the best energy deal

Between 1996 and 2009, three legislative packages of measures were adopted, addressing market access, transparency and regulation, consumer protection, supporting interconnection and adequate levels of supply. The main goal was to harmonize and liberalize the EU's internal energy market. The first legislative package contained Directives 96/92/EC concerning common rules for the internal market in electricity and 98/30/EC on common rules for the internal market in natural gas. In 2003 a second legislative package enabled new gas and electricity suppliers to enter member states' markets, and consumers (industrial consumers from 1 July 2004 and domestic consumers from 1 July 2007) to choose their own gas and electricity suppliers. The third legislative package adopted in April 2009 amended the second one, trying to further liberalize the internal electricity and gas market. It was made up of Directives on electricity (2009/72/EC) and gas (2009/73/EC).

However, in order to realize completion of the EU's internal market in the energy sector some actions are still to be worked on: the removal of numerous obstacles and trade barriers; the approximation of tax and pricing policies and measures in respect of norms and standards; and environmental and safety regulations. The European Council set the objective of completing the internal energy market by 2014, but there is still a need to complete the range of regulations and directives and, at the same time, the infrastructure across the EU.

2.4. Energy Efficiency: Reducing dependence on energy imports, reducing emissions and driving jobs and growth.

First of all, energy efficiency can contribute to the moderation of energy demand. A more efficient use of energy could allow Europeans to lower their energy bills, reduce the reliance on external suppliers of oil and gas and help protect the environment. The EU has set a 29% energy savings target by 2020 when compared to the projected use of energy in 2020 – roughly equivalent to turning off 400 power stations. There is also an energy efficiency target for 2030, proposed by the European Commission on 30 November 2016. This is a binding target of 30% for the EU and is part of the Commission's proposal to update the Energy Efficiency Directive of 2012.

Energy efficiency is closely linked to renewable energy use, which creates jobs in Europe and requires new skills and investments. The Communication from the Commission – State of the Energy Union (European Commission, 2015a) reveals some shortages of the energy efficiency in the EU: the electricity and gas markets are still not performing as they should. For the transition towards a low-carbon economy and society to be successful and socially fair, citizens should take more ownership, benefit from new technologies and more competition to reduce their bills, and participate more actively in the market.

The report on progress in implementing the 2020 energy efficiency target of 20% by 2020 (European Commission, 2015b) shows that, despite some progress made so far, collective efforts of member states correspond to only 17.6% primary energy savings compared to projections for 2020. In these conditions, the EU member states should be more ambitious in creating an investment environment for improving European energy efficiency.

2.5. Climate Action: Decarbonising the economy

Actions regarding climate policy include the EU Emissions Trading System (EU ETS), strong but fair national targets for sectors outside the ETS to cut greenhouse gas emissions, a roadmap towards low-emission mobility and energy policy which makes the EU a world leader in renewable energy. The EU position regarding climate action was expressed by the quick ratification of the Paris Agreement – an ambitious new global climate change agreement approved in Paris in December 2015 and entered into force on 4 November 2016. Embracing the Paris Agreement is of a paramount importance because it is a historically significant landmark in the global fight against climate change, steering the world towards a global clean energy transition.

In the realm of decarbonising the economy, the EU is at present the most carbon-efficient major economy in the world. It has been successful in decoupling economic growth and greenhouse gas emissions. According to the European

Commission (2015a), between 1990 and 2014, the combined gross domestic product of the EU grew by 46%, while total greenhouse gas emissions decreased by 23%. The EU is one of only three major economies (the others being Brazil and Canada) that generate more than half of its electricity without producing greenhouse gases.

However, the transition to a low-carbon economy will continue to need important investments, notably in power grids, generation, energy efficiency and innovation. Further bold action at local level is also required in order to reach the assumed targets, to bring down transport emissions and air pollutants. De-carbonization incentives should also be accompanied by a phasing out of fossil-fuel subsidies.

1.6. Research, Innovation and Competitiveness: Supporting breakthroughs in low-carbon and clean energy technologies by prioritizing research and innovation to drive the transition of the energy system and improve competitiveness.

Taken together, research, innovation and competitiveness constitute the message of the European Energy Union, rather than its *modus operandi* (Hadfield, 2016). They are indeed at the heart of the European Energy Union, as represented in Figure 1 and of paramount importance to accelerate the EU transition towards clean, renewable energy.

The EU framework programme for research and innovation is represented by HORIZON 2020 – the biggest EU research programme with nearly € 80 billion of funding available over 7 years (2014 to 2020) – in addition to the private investment that this money will attract. It promises more breakthroughs, discoveries and world-firsts by taking great ideas from the lab to the market. The Investment Plan for Europe and the European Fund for Strategic Investment (EFSI) are also important funding instruments of the European Commission and the European Investment Bank.

The European scientific research and innovation is well positioned at the global level. There are some member states like Austria, Denmark, Finland, France, Germany and the United Kingdom, who significantly contribute to promote innovation and business opportunities in energy efficiency and low-carbon technology. There is however a gap between Western EU countries and Central and Eastern new EU members as regards the research and innovation results. According to Havas *et al.* (2015), in the Innovation Index, the best performers among the ten Central and Eastern countries[4] are Slovenia, Estonia and the Czech Republic. The remaining 7 countries take the bottom 7 positions at EU level (Hungary, Slovakia, Lithuania, Poland, Romania, Latvia and Bulgaria). In these countries there is also an unexploited potential of creating employment in the renewable energy sector.

[4] Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia.

3. The role of Turkey in energy supply security

3.1. Energy policy of Turkey and its role as energy hub

The energy sector is the key to the achievement of Turkey's ambitious goal of becoming "*a country of information society, growing in stability, sharing more equitably, globally competitive and fully completed her coherence with the European Union*" by 2023 (State Planning Organisation, 2006, p.13). The primary goal of Turkey's energy policy is "*to establish a competitive energy market capable of realizing economic growth and sustainable development by maintaining steady flow of reliable, cost effective and environmentally friendly forms of energy sources"* (Ministry for EU Affairs, accessed on 11 March 2017 at http://www.ab.gov.tr/_80_en.html). Turkey aspires to become not only a transit country between energy producing and consuming countries by making efficient use of its existing geo-strategic location, but also a regional actor in securing energy supply by diversifying both energy sources and origin countries (State Planning Organisation, 2006; Ministry of Development, 2013). In this respect, energy actions of Turkey are geared towards four priorities overlapping almost with those of the EU (Ministry for EU Affairs, accessed on 11 March 2017 at http://www.ab.gov.tr/_80_en.html):

(1) diversifying its energy supply routes and sources,
(2) increasing the share of renewable energy and the nuclear energy in its energy portfolio,
(3) taking relevant measures to increase energy efficiency,
(4) contributing to Europe's energy security.

Given the fact that total primary energy demand of Turkey is estimated to reach 218 Mtoe by 2023 from the current level of 125 Mtoe (of which 35% is met by natural gas, 28,5% by coal, 27% by oil, 7% by hydro, and 2,5% by other renewable energy), and that Turkey's electricity power demand is expected to reach at 416 TWh in 2023, Turkey seeks for regional cooperation to cover its energy deficit by now and then (Ministry of Foreign Affairs, accessed on 11 March 2017 at http://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa). Figure 2 shows Turkey's geo-strategic location having the potential of becoming an energy hub. Turkey is located between countries that are in possession of 75% of the world's oil and gas reserve. The East-West gas pipeline projects, envisaged to bring gas from Caspian Sea to Europe through Turkey, are referred to as Southern Gas Corridor (SGC) passing through 21 cities[5] in Turkey. South Caucasus Pipeline (SCP), Baku-Tbilisi-

[5] These are Ardahan, Kars, Erzurum, Erzincan, Bayburt, Gümüşhane, Giresun, Sivas, Yozgat, Kırşehir, Kırıkkale, Ankara, Eskişehir, Bilecik, Kütahya, Bursa, Balıkesir, Çanakkale, Edirne, Tekirdağ ve Kırklareli

Erzurum Natural Gas Pipeline (BTE), Turkey-Greece Interconnector (ITG) are existing pipelines, while the Trans-Anatolian Natural Gas Pipeline (TANAP) and the Trans-Adriatic-Pipeline (TAP) connecting Greece-Albania-Italy are planned projects within the context of Southern Gas Corridor. Replacing the Nabucco Pipeline, Turkey-Bulgaria Interconnector (ITB) is viable by Connecting Europe Facility (CEF) fund. The South Gas Corridor also has the potential to carry gas from Russia and Iran through further inter-connections.

According to the Ministry of Foreign Affairs, the delivery of gas to Turkey through TANAP will start in 2018 and to Europe in 2020. TANAP is foreseen to carry 16 bcm of natural gas to be produced from Shah Deniz Phase II, of which 6 bcm will be distributed within the Turkish domestic market, while the remaining 10 bcm will be exported to the European internal market. The capacity of the pipeline is foreseen to reach 23 bcm by 2023 and 31 bcm by 2026, justifying the overarching goal for the centenary year of the republic (Ministry of Foreign Affairs, accessed on 11 March 2017 at http://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa).

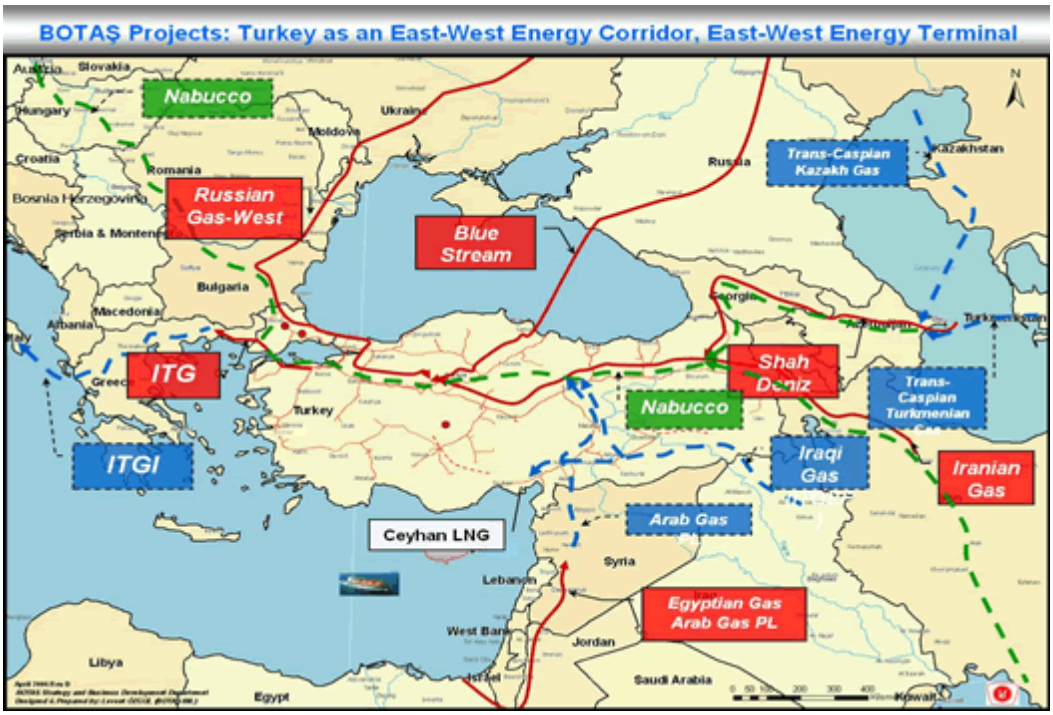

Fig. 2. *Turkey's Geo-strategic Location, Brenner M. (no date). The Geopolitics of Energy. Accessed on 11 March 2017at https://energy.utexas.edu/the-geo-politics-of-energy/*

The establishment of Energy Exchange Istanbul (EXIST) in 2015 obviously contributed to the overarching goal of becoming an energy trade hub and an acumen in energy diplomacy on behalf of Turkey. EXIST is currently administrating electricity exchange market, yet its operations are expected to expand to cover natural gas, oil and derivatives in the near future enabling trade and price fixing in these commodities. A long-term agreement between Turkish Electricity Transmission Company (TEİAŞ) and the European Network of Transmission System Operators for Electricity (ENTSO-E) signed in 2015, paved the way for integration of the Turkish and the EU electricity markets (Ministry of Foreign Affairs, accessed on 11 March 2017 at http://www.mfa.gov.tr/turkeys-energy-strategy.en.mfa). What is left behind for the integration of energy markets to the full sense is Turkey's alignment with the Acquis Communautaire which is on track as given below.

3.2. Alignment with the Acquis Communautaire

After being granted the status of *"a candidate country"* at the Helsinki European Council of December 1999, Turkey put its first national program into effect for adopting the *Acquis Communautaire* in 2001, soon updated in 2003 and once more in 2008. As agreed at the European Council in December 2004, accession negotiations launched in 2005 with the adoption of the Negotiation Framework by the Council of the EU in which the energy policy has been dealt under chapter 15. Though the screening process for all negotiation chapters had been completed in one year, the accession talks were suspended due to conflicting issues arisen between Turkey and a number of member states i.e. Cyprus and France. Nevertheless, adopting a positive attitude, Turkish Government asserted its willingness to proceed with the alignment process. Anchoring her obligations arisen by the Negotiation Framework and the National Programme, Turkey has been restructuring its energy market with the aim of establishing a competitive and transparent market structure, having the potential of contributing to the energy supply security of the EU.

No matter the Screening Report for Chapter 15 on Energy has not been officially communicated – nu se înțelege to Turkey and cannot be opened to negotiations due to political blockage by Cyprus, Turkey realized most of its obligations and has newly updated its National Action Plan for EU Accession as summarized in Table 1. The action plan envisages amendment of the two of the already existing legislations – i.e. By-law on Electricity Market Grid and Natural Gas Transmission Network Operation Regulations – while inserting a total of seven legislation projects into the corpus of energy law in Turkey in order to meet the requirements of the alignment process.

As proposed in the National Action Plan for EU Accession spanning over the period 2016-2019, a Strategy Document on Energy Market Development and an Action Plan for Energy Efficieny have been developed. The aim of the former is fivefold: (i) to provide sufficient, good quality, continuous, low cost and environment-

friendly electricity to consumers; (ii) to establish a competitive, stable and transparent energy market; (iii) to launch a real-time electricity market within Energy Markets Operation Joint Stock Company (EPİAŞ); (iv) to expand the scope of Mechanism to Support Renewable Energy Sources (YEKDEM) including the open sea, wind, current and wave technologies; (v) to increase the responsibilities of distribution and retail companies with respect to energy efficiency and establishing monitoring systems. And, the latter aims at further aligning the energy efficiency infrastructure in Turkey with the EU and setting measurable, tangible and quantitative targets that can be monitored (Ministry of EU Affairs, 2016, pp. 118-119).

Primary and Secondary Legislation Enacted or Amended	Overall Goal and the Corresponding Acquis
Nuclear Energy Law	It aims at aligning with CNS provisions concerning establishment of an independent nuclear regulatory authority and complying with Joint Convention provisions concerning spent fuel and radioactive waste management along with their disposal. It complies with i) Convention on Nuclear Safety Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste; ii) Convention on the Physical Protection of Nuclear Material Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management; iii) Council Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installanitons; Council Directive 2014/87/Euratom of 8 July 2014 amending Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installations.
Law on Third Party Liability in the Field of Nuclear Energy	- It aims at aligning with provisions of 2004 Amendment to the Paris Convention on third party liability in the field of nuclear energy. - It complies with 2004/294/EC Council Decision of 8 March 2004 authorising the Member States which are Contracting Parties to the Paris Convention of 29 July 1960 on Third Party Liability in the Field of Nuclear Energy to ratify, in the interest of the European Community, the Protocol amending that Convention, or to accede to it.

Primary and Secondary Legislation Enacted or Amended	Overall Goal and the Corresponding Acquis
Law on the Fuel Market	- It aims at regulating market operations under a single legislation with inclusion of LNG and CNG that are used as fuels in the system alongside oil and LPG and ensuring security of supply through creation of complementary stocks. - It complies with Council Directive 2009/119/EC of 14 September 2009 imposing an obligation on Member States to maintain minimum stocks of crude oil and/or petroleum products.
Communiqué on Energy Labelling of Products Sold on the Internet	- It aims at aligning with the relevant EU legislation on energy labelling of products sold on the internet within the scope of the implementation of the By-law on indication by labelling and standard product information of the consumption of energy and other resources by energy- related products. - It complies with Commission Delegated Regulation (EU) No 518/2014 of 5 March 2014 amending Commission Delegated Regulations (EU) No 1059/2010, (EU) No 1060/2010, (EU) No 1061/2010, (EU) No 1062/2010, (EU) No 626/2011, (EU) No 392/2012, (EU) No 874/2012, (EU) No 665/2013, (EU) No 811/2013, (EU) No 812/2013 with regard to labelling of energy-related products on the internet.
Communiqué on Eco-design Requirements for Space Heaters and Combination Heaters	- It aims at aligning the eco-design requirements for space heaters and combination heaters within the scope of implementing the By-law on eco-design requirements for energy related products. - It complies with Commission Regulation (EU) No 813/2013 of 2 August 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to eco-design requirements for space heaters and combination heaters.
By-law on Electricity Market Grid (Official Gazette: 28.05.2014/29013)	- It aims at aligning with Network Codes ENTSO-E which is required to prepare in accordance with Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity and in accordance with Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity. - It complies with ENTSO-E Manual of Procedures and ENTSO-E Grid Regulations.

Primary and Secondary Legislation Enacted or Amended	Overall Goal and the Corresponding Acquis
By-Law on Radiation Protection for Nuclear Installations	- It aims at regulating procedures and principles governing basic safety standards for protection against the dangers arising from exposure to ionising radiation. - It complies with Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom.
By-Law on Supervision and Control of Shipments of Radioactive Waste and Spent Fuel	- It aims at regulation procedures and principles governing supervision and control of shipments of radioactive waste and spent fuel. - It complies with Council Directive 2006/117/Euratom of 20 November 2006 on the supervision and control of shipments of radioactive waste and spent fuel.
Natural Gas Transmission Network Operation Regulations (Board Decision: 09.12.2003/4763 and 13.03.2014/4913-11)	- It aims at aligning with balancing, congestion management and capacity allocation network codes. - It complies with Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No1775/2005.

Table 1. *The Primary and Secondary Legislation Enacted or Amended to Align with the "Acquis Communautaire"*

Source: *Ministry of EU Affairs (2016). National Action Plan for EU Accession (January 2016 – December 2019). Ankara, pp.113-118.*

Much has been done since opening the accession talks, yet there is still room for improvement. As put by the European Commission (2016b) in its report on Turkey;

> *… Good progress continued in the area of security of supply, electricity and the renewable energy sector. Turkey is at an advanced stage of alignment in the electricity sector. In the coming year, Turkey should in particular:*
> *→ complete the gas market reform in line with the acquis in the gas sector, by setting out a legally binding plan and a timetable, including third party access to the transit network and the unbundling of activities;*
> *→ adopt its nuclear energy law in line with the Euratom acquis, including restructuring of the nuclear energy regulator (TAEK) to separate its operating functions and guarantee its full independence from any entity concerned with the development of nuclear energy;*
> *→ make progress on transparent, cost-reflective and non-discriminatory tariffs for electricity and gas.*

4. Conclusion

The very idea of creating a roadmap for an energy union was an implicit acknowledgement of EU's past inconsistencies and failures in the area, namely in limiting the EU's dependence on Russian natural gas, bringing down energy prices and reducing greenhouse gas emissions. In the aftermath of the Ukrainian crisis, energy became a policy area requiring not only technical expertise but a comprehensive, political and strategic approach.

Examining the five policy areas of the European Energy Union led to the following concluding remarks: As regards the energy security through solidarity and cooperation between member states, despite strong commitment of the European Commission representatives, solidarity still does not operate adequately . Like in other European policy areas -i.e. EU foreign and security policy-, member states do not act in a coordinated manner and prefer to retain prerogatives both in choosing their national energy mix and foreign policy foregrounding energy choices. A way forward is a better cooperation between member states in order to tackle common risks or crises. In realizing an integrated energy market a lot has happened in interconnecting electricity lines and gas pipelines in the EU. But more interconnections are still needed in specific regions and actions at the European level should address different infrastructure challenges and numerous obstacles and trade barriers. Member states have made improved efforts to implement the EU energy efficiency legislation, the European Commission being optimistic that the 20% target will be achieved. However member states must give a better consideration of the energy efficiency in their own policies and their citizens should be more active in taking ownership and benefiting from new technology in order to reduce their bills. The objective of decarbonising the economy was very attentively followed, the EU being at present the most carbon-efficient major economy in the world. This is explained by the fact that the energy and climate policy represents indeed a policy area where the EU maintains a high level of political coherence and a real diplomacy outreach. Nevertheless, greater investment efforts are still necessary for assuming the transition to a low-carbon economy. In order to stimulate research, innovation and competitiveness, the EU promoted the Horizon 2020 projects and other important funding instruments. Even though the European scientific research is very well represented at the international level, there are significant gaps between the Western and Central-Eastern EU members. The latter should apply more actively and successfully to EU projects and even allocate more from their national budgets for education and research. Overall, the European Energy Union needs integrated national climate and energy plans. Such plans are necessary for a more strategic planning across the whole Energy Union spectrum. In this way, the national contributions will be guided by the objective to collectively deliver the EU-level 2030 targets for renewables and energy efficiency.

Turkey's energy policy is shaped not only by its geo-strategic location, but also by its engagement with the EU and the historical ties with energy exporting states located at the brick of the Caspian Sea. Turkey aims at establishing a competitive energy

market capable of realizing economic growth and sustainable development by maintaining steady flow of reliable, cost effective and environmentally friendly forms of energy sources. Relying on the fact that a properly functioning international and local market is the recipe for energy security and diversification is a pre-requisite, with its diverse suppliers and relatively liberalized market structure, Turkey will surely contribute to the energy supply security.

Turkey has set out ambitious goals of becoming a regional energy trading hub to serve energy markets at the crossroads between Asia, the Middle East and Europe. Regional integration has advanced to a great deal by the installation of east-west and north-south pipelines of gas and oil, as well as by the synchronisation with ENTSO-E in the electricity trade. Turkey has renewed its long-term gas contracts with Azerbaijan, Iran, Algeria, Nigeria and Russia. Obviously, Turkey has strong prospects for growth and increased liberalization provides opportunities for new entrants and partnerships. Furthermore, with its historical and cultural connections with the states in the Caspian region it has the potential to apply soft power in critical issues.

Negotiations with the EU is the main driving force for Turkey in the formulation of all policies geared towards liberalisation of markets and integration with the global economy. However, Turkey contended itself with "observer status" instead of fully joining the Energy Community Treaty with the fear of being deceived by a "priviledged partnership" in the energy field. In this respect, Cyprus's alienating stance towards Turkey and its political blockage on the energy chapter pose against a fully realized European Energy Union.

It is clear that so as to establish a competitive, content, diverse and cost-effective energy market TANAP and TAP are of great importance for the EU. Inter-dependence between supplier, consumer and transit countries stipulate that they all apply the same norms and *Acquis Communautaire* should better prevail in the market. In this sense, accession talks with Turkey should be resumed, and its membership to the EU should be assessed on the basis of potential contributions to the regional energy market. It should be noted that integration of energy markets in the Eurasia and the Middle East will not only increase security of the energy supply, but also provide business opportunities for all parties, therefore contributing to peace, stability and wealth in the region.

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