

# Energy Interconnections Demands Leadership From European Union

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**Abstract:** Europe is facing a growing demand for energy, with volatile prices and with serious disruptions in the energy supply. In 2014, the EU's energy dependency was 53.4%, which meant that the EU bloc had to import more than half of the energy it consumed. To address these issues, a clear European energy strategy is needed, that is why the European Union has adopted a Democratic or participatory way of leadership.

Leadership is a complex and dynamic process that has been defined in many different ways. Leadership has been described as autocratic, democratic, situational, transformational, and free rein. Democratic or participatory leadership style involves consultation with group members on actions and decisions, and encourages and rewards involvement in the process. These leaders make decisions and set goals with the approval and full participation of the members.

That is why today Europe has common rules and Member States put their efforts together to access sufficient energy at affordable prices, keeping pollution to a minimum.

**Keywords:** European Union policy, energy dependence, leadership, energy strategy, interconnection, energy security, energy market, affordable electricity prices.

**JEL Classification:** F15, F21, F42, F5, F6, L11, Q4

## 1.Introduction

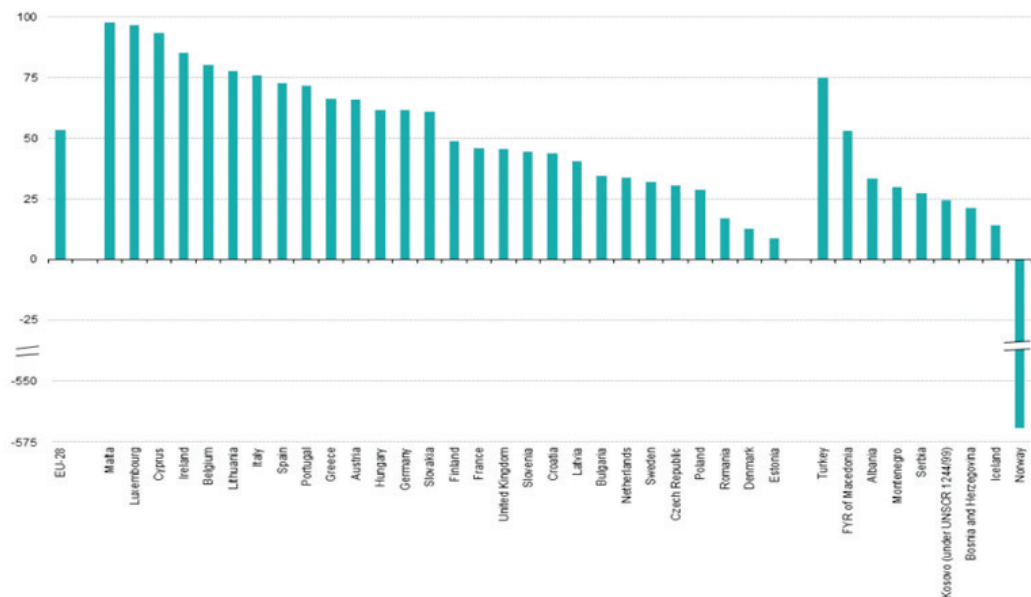
Light, heat, transport, industrial production: energy is primordial for everyday essential services, indispensable for both citizens and businesses. However, Europe's fossil fuel reserves (oil, natural gas, coal) are not inexhaustible. That is why we need to manage them carefully and, at the same time, try to find alternative resources. Europe is consuming and importing more and more energy. Member States have understood the need for coherent action in this area of particular strategic importance. That is why today, Europe has common rules and Member States put their efforts together to access sufficient energy at affordable prices, keeping pollution to a minimum.

The dependence of the European Union (EU) on energy imports, especially oil and, more recently, gas, is the basis for energy policy concerns related to the security of energy supply. This article refers to primary

energy production in the EU and, given the discrepancy between production and consumption, to the increasing dependence of the EU on energy imports from third countries. Indeed, in 2014, more than half (53.5%) of EU-28 gross domestic energy consumption came from imports.

The decline in primary production of coal, lignite, crude oil, natural gas and, more recently, nuclear energy has led to a situation where the EU has become increasingly dependent on primary energy imports to meet demand, even though this situation has stabilized after the financial and economic crisis. Primary energy imports in the EU-28 exceeded exports by about 881 million tons of oil in 2014.

You can see in the below figure the energy dependency rate in 2014 (% of net imports in gross inland consumption, based on tonnes of oil equivalent):



Source: EUROSTAT

The security of EU primary energy supply can be threatened if a large share of imports comes from a relatively small number of partners. Over two-thirds (69.1%) of EU-28 natural gas imports from 2014, came from Russia or Norway - there was, therefore, a stronger concentration of imports than in 2010, given that the same two countries have represented in a proportion of 59.6% the source of natural gas imports. A similar analysis shows that 43.5% of the EU-28 crude oil imports came from Russia and Norway in 2014 (a significant part from Nigeria, Saudi Arabia and Kazakhstan), while 70.7% of the imports of solid fuels of EU-28 came from Russia, Colombia and the United States. There were some clues regarding the emergence of new partner countries between 2004 and 2014. This was particularly the case for crude oil imports from Nigeria, Kazakhstan, Azerbaijan and Iraq or for natural gas imports from Qatar and Libya.

## 2. Energy security

Over half of EU-28 energy comes from non-EU countries, and this share has generally followed an upward trajectory over the past ten years (although some evidence indicates that dependency rates have stabilized in recent years). Much of the energy imported by the EU comes from Russia, whose disputes with transit countries have threatened to disturb supply in recent years. Concerns regarding the supply security from Russia have been emphasized by the conflict in Ukraine.

Following the Russian-Ukrainian Gas Crisis in January 2009, the legislative framework on the security of supply has been revised, and in September 2009 the Council of

the European Union adopted the Directive 2009/119 / EC requiring that Member States have minimum reserves of crude oil and / or petroleum products. These measures on the oil and gas markets were designed to ensure effective action by all parties to prevent and mitigate the consequences of possible supply disruptions, while creating mechanisms to allow Member States to collaborate effectively in any situation where major disruptions to oil or gas supply would occur; a co-ordination mechanism has been set up to allow for an immediate reaction of Member States in an emergency case.

In November 2010, the initiative "Energy 2020 - A strategy for competitive, sustainable and secure energy" was adopted by the European Commission. This strategy defines the energy priorities for a period of 10 years and proposes measures that can be taken to address a range of challenges, including delivering a competitive and secure supply market, strengthening the leadership position in technology and an effective negotiation with the international partners. One of the priorities is to continue with the good relations with the EU's external energy suppliers and energy transit countries. This work will be continued through an Energy Strategy for 2030 that provides a climate and energy policy framework for 2030, and a 2050 energy roadmap setting a long-term EU greenhouse gas emission reduction target by 80-95% by 2050.

Through the Energy Community portal, the EU is also trying to integrate neighboring countries into the internal energy market. The wide variety of sources of energy and the diversity of suppliers, transport routes and transport mechanisms can each play an important role in ensuring the supply of energy.

Building reliable partnerships with suppliers, transit and consumer countries is seen as a way to reduce the risks associated with EU energy dependency, and in September 2011, the European Commission adopted the Communication entitled "EU energy policy: engaging in relations with partners outside our borders".

There are a number of ongoing initiatives aimed at building gas pipes between Europe and its eastern and southern neighbors. These include Nord Stream (between Russia and the EU via the Baltic Sea), which became operational in November 2011, and the Trans-Adriatic gas pipeline (between Turkey and Italy, Greece and Albania to bring gas from the Caspian region to the EU).

As a result of the ongoing concerns about the EU's dependence on energy imports, in May 2014 the European Commission presented the Energy Security Strategy aimed at ensuring a stable and abundant supply of energy. As well as short-term measures addressing the impact of a stoppage of Russian gas imports or an interruption of imports via Ukraine, the strategy addressed the challenges of long-term security of supply and suggested taking action in five areas, including: energy production in the EU and diversification of supplying countries and routes, as well as reaching a consensus on external energy policy.

### 3. The internal energy market

In order to harmonize and relax the internal energy market in the EU, three successive legislative packages were adopted between 1996 and 2009; these packages deal with market access, transparency and regulation, consumer protection, interconnection

support and appropriate supply levels. As a result of these measures, new gas and electricity suppliers have access to the Member States' markets, and industrial and domestic consumers now have the freedom to choose their supplier. Other EU policies related to the internal energy market address the security of electricity, gas and oil supply, as well as the development of trans-European networks for the transport of electricity and gas.

In the energy sector, the completion of the EU internal market implies: the elimination of many obstacles and trade barriers, the approximation of fiscal and pricing policies, pricing rules and standards, and the adoption of environmental and safety regulations. The objective is to ensure a functioning market characterized by fair market access and a high level of consumer protection, as well as appropriate levels of interconnection and production capacity. The European Council has set as deadline 2014 for the completion of the internal energy market. Although this deadline has not been fully respected, progress has been made in diversifying energy suppliers and cross-border energy trade.

The European Union has made intense efforts to build the most integrated, competitive and sustainable common energy market in the world. The integration of energy markets in the EU gives concrete results: wholesale electricity prices have fallen by one third; consumers have more options, as energy suppliers compete to offer lower prices and better services; and the legal framework has improved competition within the sector.

Still, there are many more things to do. An interconnected European electricity grid is vital for Europe's energy security in order to increase competition in the internal market, leading to more competitive prices

and achieving the reduction of carbon emissions and climate policy objectives, that the European Union pledged to reach. An interconnected network will contribute to achieving the fundamental objective of the Energy Union, namely to ensure safe and sustainable energy at affordable prices as well as growth and jobs across the EU. Interconnection links are missing from several countries. Building these interconnections will require urgent mobilization of all efforts at all levels, in order to achieve the common goal of a fully functional and connected internal energy market.

The interconnection of isolated national electricity systems and the creation of a genuine European electricity system will generate important benefits for the European Union and its Member States.

Electric interconnections will enhance security of Europe's supply. They will improve the reliability of the power system, thus enhancing service quality, reducing power outages and productivity losses in the commercial and industrial sectors. Establishing ambitious levels of electricity interconnection will help reduce Europe's dependence, thanks to the optimization of the system, which will lead to a reduction in fuel imports, generating more opportunities for Europe in terms of investment, growth and job creation. In addition, interconnections facilitate instantaneous assistance amongst transport systems operators (TSOs), providing a greater degree of cooperation and solidarity between them.

An interconnected network allows for more affordable prices in the internal market by enhancing competition and efficiency, in addition to better and more cost-effective use of available resources. Interconnections imply better integration of the European market, allow for a larger market size and increased levels of competition, as well as

greater market efficiency.

A more integrated interconnection market also reduces the need for investment in high-capacity storage and production capacities, since the power plants of each country are not needed at the same time. This would result in substantial economic and political benefits for the Member States as a result of reducing capital investment and reducing the environmental impact of plants that would no longer have to be built. Lower production costs and / or low investment in production as well as avoidance of fuel costs by interconnecting electricity grids, translate into more competitive electricity prices for businesses and households.

A well interconnected network is essential for the sustainable development and reduction of carbon emissions, as it allows the grid to receive more and more energy from different renewable sources in a safer and more cost-effective manner. Increasing the share of energy from renewable sources in the production mix contributes to meeting the EU's climate change objectives by reducing CO<sub>2</sub> emissions and, in addition, by increasing security of the energy supply. A greater degree of interconnection is also essential to achieving the EU's ambitious goal of being a world leader in renewable energy, which is not only a matter of responsible climate change policy but also an imperative of industrial policy.

Being aware of the benefits of energy interconnections, Member States have increased their interconnection capacities over the past decades. However, 12 Member States, particularly in peripheral regions of the EU, remain below the 10% threshold of electricity interconnection and are therefore isolated from the internal electricity market.

The interconnection levels for electricity in 2014:

Member State	
<b>Member States above 10% interconnection</b>	
AT	29%
BE	17%
BG	11%
CZ	17%
DE	10%
DK	44%
FI	30%
FR	10%
GR	11%
HR	69%
HU	29%
LU	245%
NL	17%
SI	65%
SE	26%
SK	61%
<b>Member States below 10% interconnection</b>	
IE	9%
IT	7%
RO	7%
PT	7%
EE*	4%
LT*	4%
LV*	4%
UK	6%
ES	3%
PL	2%
CY	0%
MT	0%

Source: ENTSO-E, *Scenario Outlook and Adequacy Forecast 2014*

The TEN-E 5 Regulation, adopted in 2013, together with the 6 European Interconnection Mechanism (MIE), creates a stable European instrument designed to identify and ensure the timely implementation of the projects that Europe needs, at the level of 12 corridors and priority areas. These tools, together with the introduction of projects of common interest (PIC), the improvement of the regulatory treatment and the acceleration of the authorization process are an important step forward.

As pointed out by the European Council, the interconnection objective should be achieved mainly through the implementation of projects of common interest. The first list of PICs of the European Union was adopted in 2013 and consists of 248 projects, of which 137 are in the electricity sector, including 52 electrical interconnections and a project with forward-looking investments for

future interconnections, 37 of which involve Member States which currently have a level of interconnection of less than 10%.

#### 4. Conclusions

The European Union must achieve an electrical interconnection of 10% up to 2020 as a step towards creating a resilient energy union with a prospective policy on the climate. It is clear that Europe needs to step up its efforts to respond the energy and climate policy challenges.

In conclusion, several interconnections will help to achieve more affordable electricity prices in the long run, due to increased market efficiency, increased safety, reliability and quality of electricity supply, aspects that are essential for economic and social activities, ensuring at the same time a high level of environmental protection.



These developments will also contribute to reducing our energy dependency, by reducing the consumption of imported fuels and facilitating new investments in Europe, due to more competitive electricity prices and improved levels of competition for European industries.

Several electricity interconnections will also lead to: lower environmental impact due to the fact that some power plants will no longer be built and that CO<sub>2</sub> emissions will be reduced; and to increasing the capacity

to integrate energy from renewable sources; capitalizing on the potential higher growth for the European renewable energy sector and ensuring the world's leading position in the renewable energy industry in Europe; and thus a greater job-creation capacity of this sector at European level, resulting in a net job creation in Europe. For these reasons, the interconnection of electricity markets must be a political priority for the European Union at all levels in the coming years.

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