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George Nastos

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European Union's Energy Security in the Aftermath of Russia's War in Ukraine: From Dependence to Independence¹

George Nastos²

Abstract

The war in Ukraine and the ensuing consequences for the energy supply of Europe, creates a turning point in external energy relations and the energy policy of the European Union. This turning point forces the revision of the EU relations with Russia and a shift in external energy policy in geopolitical and energy security terms. By examining energy relations with Russia and within the framework of energy security, this article attempts to formulate concise policy proposals in this new emerging environment. These policies are based on 3 axes: a) increasing energy autonomy through energy diversification, b) creating alternative routes of energy supply and c) protecting society from the consequences of the current energy crisis.

Keywords: energy security; energy dependence; energy policy; energy crisis; renewable energy sources.

Introduction

The high dependence on energy imports and the huge gap between energy consumption and energy production capacity makes the European Union (EU) vulnerable to crises in energy markets (Gökgöz and Güvercin, 2018). In 2020, the EU imported 57.5% of its total energy needs, rising to 97% for oil and 84% for natural gas (Eurostat, 2022).

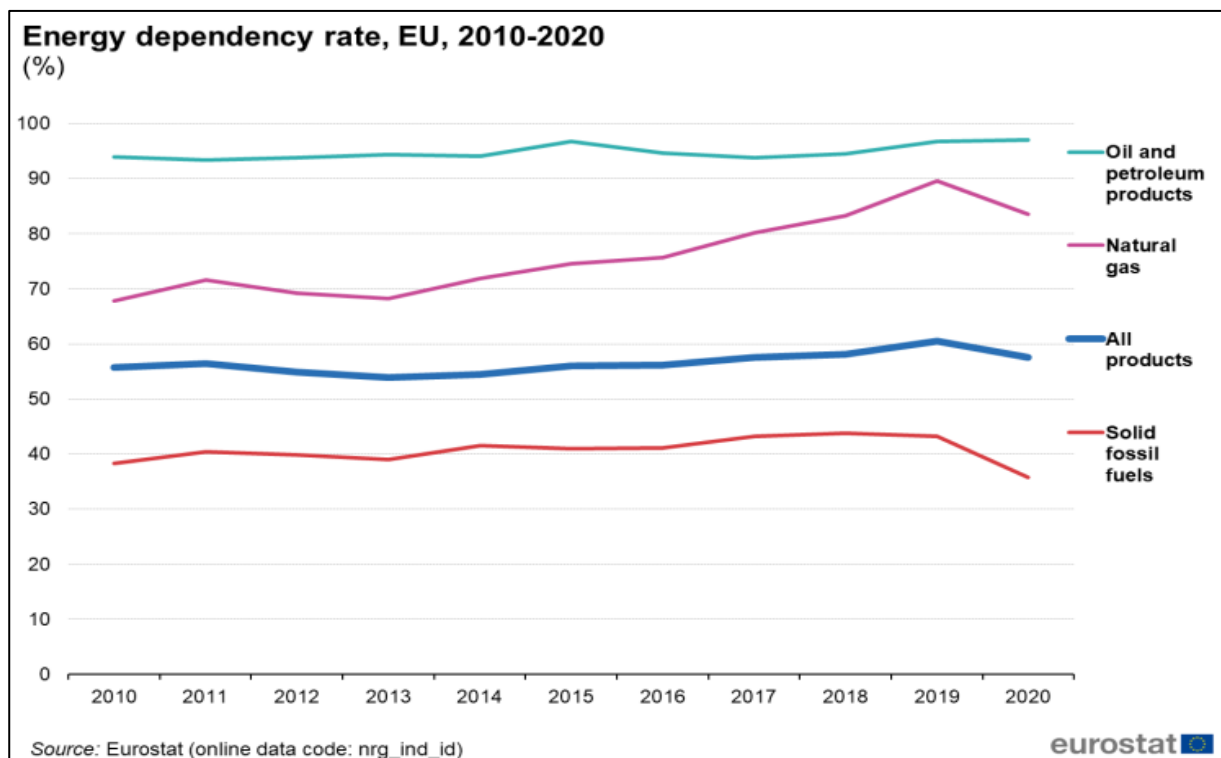
This increased energy dependence has led to high politicisation of the energy issue, particularly in relation to the EU's major supplier, Russia. The mainstream perception in terms of foreign policy sees the EU as a liberal actor in foreign energy policy, while Russia is primarily seen as a geopolitical actor or player driven by Realpolitik (Siddi, 2018). But not all member states are equally dependent on the supply of Russian energy. Vulnerability varies greatly within the EU, a fact which makes it difficult to formulate a common European energy policy.

Through a brief examination of EU–Russia energy relations in terms of energy security, this article attempts to map the new emerging environment following Russia's invasion of Ukraine and the rupture in EU–Russia relations, in an effort to formulate concise policy proposals as a basis for discussion on dealing with the energy crisis and increasing the energy security and autonomy of the European Union.

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² Political Scientist BA, MA, PhD(c). University of Crete, Greece.

Figure 1: Energy dependency rate, EU, 2010-2020 (% of net imports in gross available energy, based on terajoules)



Despite the difficulties brought about by this new crisis, the EU has the potential to enhance already existing policies for dealing with climate change, by framing them not only in environmental terms but in combination with energy security issues.


EU – Russia Energy Relations: Interdependence or Dependence?

Russia is considered to be the main energy source of Europe. Pipelines are not only a means of transportation for natural gas, but they also play a critical role related to geopolitical and energy security. Russia is the largest exporter of oil, natural gas and coal to the European Union. Russia's share of the EU's natural gas imports (including liquefied natural gas) between 2010 and 2020 increased from 30.6% to 38.2% (Eurostat, 2022), while according to the European Commission in the third quarter of 2021 Russia via pipelines covered 41% of total natural gas imports to the EU (European Commission, 2022). Since the Russian invasion of Ukraine, energy dependence on Russia has been highlighted as a major geopolitical risk for Europe as well as a factor that assists the financing of Russian aggression (Wilson, 2022).

Figure 2: Main origin of primary energy imports, EU, 2010-2020 (% of extra EU imports)

Main origin of primary energy imports, EU, 2010-2020 (% of EU imports)											
	Hard coal (based on tonnes)										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Russia	22.4	21.9	20.2	23.9	25.1	26.4	28.7	35.4	39.5	43.5	49.1
United States	15.3	16.6	20.7	18.5	17.0	12.4	11.9	14.8	17.3	16.8	15.2
Australia	9.6	8.2	8.0	8.8	7.5	11.1	15.3	10.8	11.0	13.1	13.5
Colombia	15.4	18.6	19.1	16.4	17.0	19.3	18.7	15.9	12.6	7.7	5.4
Canada	1.9	2.3	1.9	2.1	3.1	1.6	2.3	2.4	2.4	2.2	2.3
Kazakhstan	0.2	0.3	0.3	0.3	0.7	0.5	0.6	0.6	0.9	2.1	1.8
South Africa	9.6	8.6	7.4	7.1	9.1	7.7	5.1	4.7	2.7	2.7	1.2
United Kingdom	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9	0.7	1.0	1.1
Mozambique	0.0	0.1	0.0	0.2	0.3	0.5	0.7	1.2	1.6	1.5	0.8
Others	25.5	23.2	22.2	22.6	20.0	20.3	16.7	13.2	11.2	9.5	9.3
	Crude oil (based on tonnes)										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Russia	34.7	35.1	33.9	34.5	31.4	29.7	32.4	30.7	29.6	26.8	25.7
Norway	7.7	7.2	6.8	8.1	9.2	8.4	7.9	7.7	7.2	6.9	8.7
Kazakhstan	5.6	5.9	5.3	6.0	6.7	6.8	7.0	7.6	7.1	7.3	8.4
United States	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.9	2.4	5.2	8.1
Saudi Arabia	6.0	8.3	9.1	8.7	9.0	7.9	7.7	6.5	7.4	7.7	7.8
Nigeria	3.8	5.6	7.2	7.2	8.3	7.7	5.2	5.8	7.0	7.8	7.7
Iraq	3.3	3.7	4.3	3.8	4.8	7.8	8.5	8.4	8.6	8.9	6.6
United Kingdom	5.6	4.5	4.4	4.2	4.2	4.0	4.1	4.1	3.9	4.9	5.6
Azerbaijan	4.5	5.1	4.0	5.0	4.6	5.3	4.6	4.6	4.6	4.5	4.6
Others	28.8	24.5	24.9	22.5	21.8	22.4	22.0	23.6	22.4	20.0	16.7
	Natural and liquefied natural gas (based on terajoule (gross calorific value - GCV))										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Russia	30.6	32.2	31.9	36.6	33.3	33.6	39.6	38.4	37.9	38.0	38.2
Norway	19.3	19.4	21.1	19.0	21.0	20.7	16.3	16.6	16.1	14.7	18.5
Algeria	13.1	12.2	12.1	11.1	10.5	9.5	12.3	10.5	10.8	7.2	7.5
Qatar	5.4	5.1	3.9	3.4	3.0	3.3	3.0	3.8	4.2	5.0	4.2
United States	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.6	2.9	4.0
United Kingdom	3.3	3.6	2.9	2.5	2.7	3.4	2.5	2.3	2.2	2.5	3.4
Nigeria	3.8	3.8	2.9	1.5	1.3	1.8	2.0	2.5	2.6	3.3	3.0
Libya	2.6	0.6	1.7	1.5	1.9	1.9	1.3	1.1	1.1	1.3	1.1
Others	22.0	23.1	23.3	24.4	26.3	25.9	23.0	24.5	24.6	25.1	20.1

Source: Eurostat (online data codes: nrg_ti_sff, nrg_ti_oil and nrg_ti_gas)

eurostat 

“Russia seeks ways to secure demand presented by the EU market. The EU needs Russian resources for its energy security. There is a clear interdependence” (European Commission, 2006). For decades, the perception that the EU-Russia energy relationship is not a matter of energy security and that it is essentially a relationship of interdependence rather than dependence has prevailed within the EU. The reasoning behind this notion of supply and demand is that, despite the fact that the EU was dependent on Russia as a supplier for its energy supply, Russia is economically dependent on the EU as the main buyer of its energy resources. Many authors perceived this relationship at worst as an asymmetric interdependence but not as a dependency or an energy security matter, assuming that Russia would not use energy as a weapon against the EU (e.g. Proedrou, 2007; Casier, 2011; Stent, 2008). On the other hand, despite the fact that Russia has been a reliable supplier of energy to Europe for decades, other analysts expressed concern that this is a dependency- relationship through which Russia could use interruptions or the threat of interruption of energy supplies to advance its foreign policy goals (Baran, 2007; Collins, 2017; Smith Stegen, 2011). The ongoing war in Ukraine and the

energy crisis in the EU seem to be shattering the perception of energy interdependence that would prevent Russia from using energy as a weapon.

Energy dependence on Russian energy imports varies significantly among EU member states. Russia's political influence in gas recipient states is linked to its ability to negotiate bilaterally with individual members on gas exports. Russia, following a strategy of divide and conquer through bilateral agreements with member states, deliberately exploited this lack of cohesion to achieve favourable energy deals and increase European dependence on Russian supplies (Baran, 2007). Thus, the use of energy as a weapon by Russia is connected with the EU's fragmented foreign energy policy and the different attitudes of the member states towards it (Harsem & Harald Claes, 2013).

Energy security is broadly defined as the continuous and uninterrupted availability of energy supplies at affordable prices (Deese, 1979; Yergin, 2006; International Energy Agency). As Siddi (2018) notes, Russia's perception of energy security as an energy supplier of fossil fuel exports, is framed around securing demand. On the other hand, the EU approaches external energy policy mainly from a liberal market perspective, which is based on the attractiveness of the large European market and the establishment of legislation to stimulate competition. In recent years, and especially after the annexation of Crimea by Russia, this dominant approach in the EU began to shift to a more geopolitical perspective.

Stegen (2011) mentions four conditions in which a state could use energy supply as a weapon: a) the state must accumulate and control the country's energy resources, b) it must gain control over transit routes, c) when a state has the ability to use the energy resources in an effort to advance its own political goals by punishing or rewarding a targeted client state and d) when it has the ability to use that energy dependence for directing policy formulation or changing policies of the dependent state. In the present Ukrainian war, Russia adheres to the first three conditions, which allows her to use its energy sources as a weapon, but not the fourth. Russian energy supremacy did not determine the attitude of the EU and its member states towards Putin's decision to invade Ukraine, nor did it prevent the imposition of sanctions against Russia by the EU.

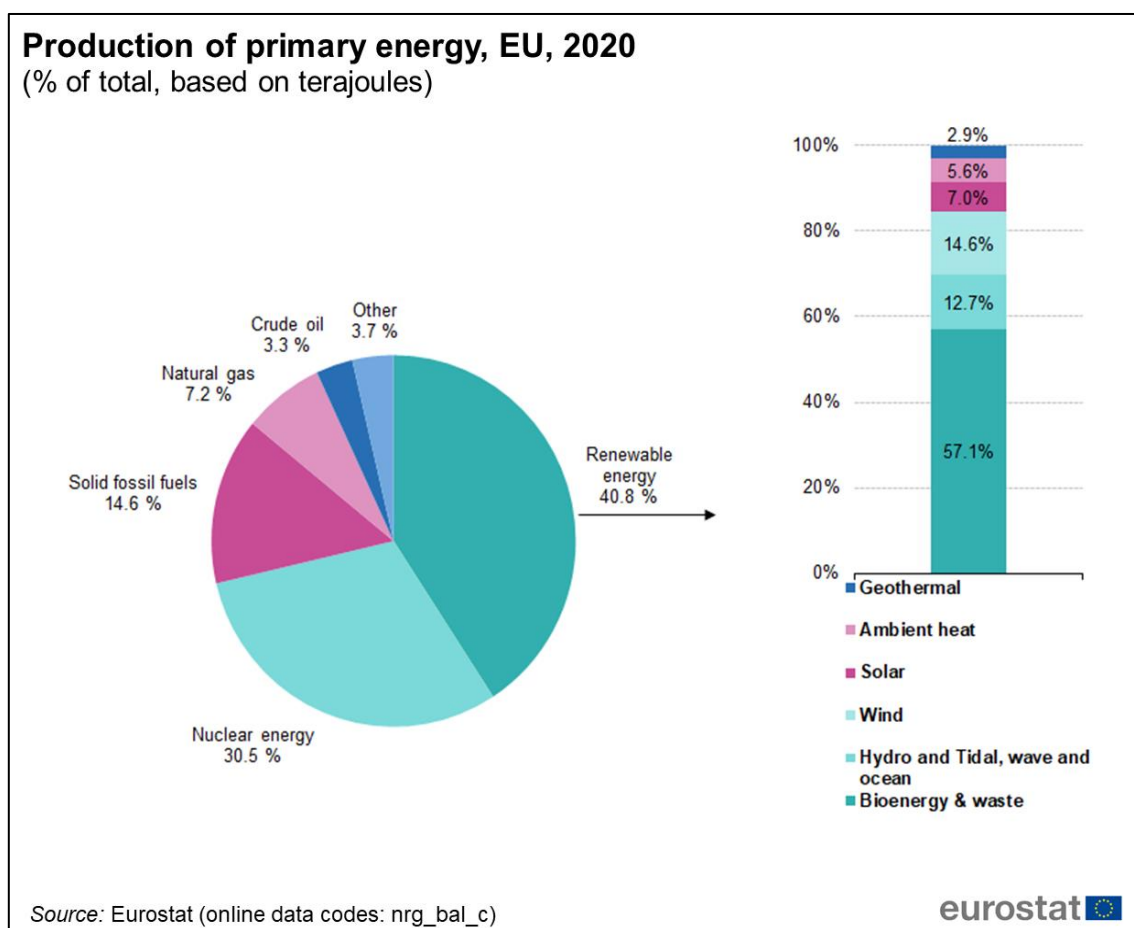
Energy policy and energy transition

A common energy policy allows EU member states to have a well-connected market in order to avoid possible supply disruptions. Article 194 TFEU makes certain areas of energy policy a common competence, signalling a move towards a common energy policy. However, each member state retains its right to *“determine the conditions for exploiting its energy resources, its choice between*

different energy sources and the general structure of its energy supply” (Article 194, paragraph 2). Member States are therefore primarily responsible for ensuring security of supply in their territory.

With the Green Deal (2019) and the European Climate Law (2021), the European Union has taken serious steps both towards a more common energy policy as well as addressing the challenges of climate change and reducing its energy dependence. Climate policies and energy security go hand in hand and coordinated actions to support one will strengthen the other (Wilson, 2022). For economic and environmental reasons, natural gas was considered to be the most suitable energy source to act as a bridge in this energy transition. That made the EU more dependent on natural gas imports over the years.

Figure 3: Production of primary energy, EU, 2020 (% of total, based on terajoules)



Renewable Energy Sources (RES) have been developing rapidly in recent years. Cost reductions and the use of advanced technologies have allowed countries to produce some of their energy efficiently and economically. EU targets for 2030 include 32% of energy consumption to come from renewable

sources (European Commission, 2019). RES technologies are an alternative solution for electricity production and the subsequent reduction of energy dependence on supplier countries. However, it is pointed out that there is a considerable distance to be covered in terms of development and commercialization of energy storage technologies regarding renewable energy production (Wilson, 2022).

The debate on energy diversification through the promotion of RES mainly concerns issues of economic development, protection of the environment but focuses less on matters of energy security. The relationship between RES development and energy security within the EU has been documented in studies such as Marques, Fuinhas & Pires Manso, (2010) and Gökgöz & Güvercin (2018). The war in Ukraine and the energy crisis brings to the fore the development of RES not only as a means of cheap and clean energy, but also as a tool of energy security, especially for the more energy-dependent states.

RES combines the elements of the energy transition towards clean forms of energy to address climate change with those of energy security. The replacement of fossil fuels by RES reduces the need of EU countries for energy dependency via imports and increases energy security of both the member states and the EU as a whole (Gökgöz & Güvercin, 2018). However, each EU country has a unique energy regime and implements different RES promotion policies, which have resulted in different RES performance. The transition to renewable energy sources is proceeding at different speeds among EU Member States, a fact that reflects their divergent national energy security interests and leads to different energy policy strategies, affecting the EU's energy relations and energy security (Mata Pérez et al., 2019).

Conclusions and Recommendations

The ongoing energy crisis does not seem to confirm the view of interdependence in the EU-Russia energy relationship. The belief that this relationship would lead to avoiding major crises and maintaining the status quo, regardless of political and geopolitical aspirations has not been verified. The war in Ukraine and the instrumentalization of energy as a weapon by Russia creates the need to revise the energy policy of the member states and that of the EU as a whole. This new environment reshapes both geopolitical relations and balances as well as policies aiming at the EU's energy independence, policies that go alongside energy diversification and transition to clean energy, in order to address the issue of climate change. RES technologies, besides the economic and environmental advantages they have, can also be included in the framework of energy independence and energy security.

Many times crises present opportunities for policy change that under normal circumstances would not be implemented or would take much longer to implement. The policy strategy for dealing with the energy crisis, the energy autonomy of the EU and the new balances formed after Russia's invasion of Ukraine should be based on 3 axes: a) energy independence, sufficiency and green transition, b) alternative routes of energy supply and c) dealing with the ongoing energy crisis.

The first axis refers to policy proposals for faster transition to renewable energy sources. As pointed out by Yergin (2006), diversification of energy sources remains the fundamental starting principle of energy security. These policies include the need to revise the goals of energy diversification by increasing the share of RES in energy production in the years to come, create more incentives for citizens and businesses to switch to RES and funding research into RES technologies to achieve better energy efficiency.

The second axis is related to the energy sufficiency and security of the European Union in the intermediate stage of this energy transition. Proposed policies here include the search for new energy sources and routes outside Russian territory and influence, such as upgraded energy agreements with current reliable suppliers as well as the acceleration of processes for the exploitation of new gas sources in the south-eastern Mediterranean and the creation of new pipelines, such as the East-Med project. Furthermore, investing in more LNG storage stations within the EU will provide greater energy sufficiency.

The third axis, which is related to dealing with the current energy crisis, includes adopting policies to support society, citizens, vulnerable households and businesses. As in the case of the pandemic, the issue of joint bonds by the EU to finance energy costs and support societies during the energy crisis could be a useful tool for all the member states.

All the above proposals go hand in hand with the need to intensify efforts for a common energy security policy in the EU. Among the goals of this common energy policy should be the creation of well-interconnected European networks for a more integrated internal energy market, a common stance on external relations with energy producers and the reduction of fragmentation now apparent in energy dependence and energy transition between the Member States.

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