

ECOSOC

(Economic and Social Council)

Achieving Europe's energy sovereignty



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Introduction

Energy has become one of the major issues in power struggles and influence among states during the 20th century, but also among a certain number of private actors (firms and markets, lobbies, armed groups, criminal gangs, ...). In the context of climate emergency, energy, especially coming from fossil fuels, is at the heart of debates as they are the main cause of global warming. The IPCC (Intergovernmental Panel on Climate Change) has shown that 90% of global CO₂ emissions come from fossil fuels. Despite repeated commitments from the international community to reduce dependence on fossil fuels, these measures will not be enough to stop global warming. Coal, oil, and gas production in 2030 is expected to exceed twice the quantity stated in the Paris Agreement (2015). Moreover, the war in Ukraine reminds us of the strategic importance of energy, which has been used as a lever for economic development or an instrument of independence in some countries, but also as a weapon against others threats.

Definition of Key Terms

Energy :

There are two types of energy sources: renewable ones and fossil fuels. Fossil fuels, the main ones being coal, oil, and gas, currently account for about 80% of global energy consumption.

Energy Dependence :

Situation in which a country or region heavily relies on imports to meet its needs for electricity, fuel, or other forms of energy. This dependence can have dire consequences : shortage of domestic energy resources, inability to meet domestic demand.



Energy Geopolitics :

The issues in energy geopolitics include competition for access, control and transport of resources (such as oil, natural gas, coal, etc.); geopolitical tensions related to pipelines, shipping routes, and critical energy infrastructure.

Energy Sovereignty :

Capacity of a country to meet its energy needs autonomously, primarily in terms of gas and electricity.

Energy Transition :

Refers to all transformations in energy production, distribution, and consumption with the intention of transitioning from fossil energy to renewable sources such as : hydropower, nuclear, wind, solar, and geothermal energy. However, several factors make this process complex: dependency on fossil fuels, the cost of renewable energy sources, or risks induced by nuclear energy.

OPEC :

Organization of the Petroleum Exporting Countries. Group of oil-producing countries that cooperate to influence crude oil prices and production. Some of its current key members include Saudi Arabia, Iran, Iraq, the United Arab Emirates, and Venezuela.

General Overview

Overall, Europe is heavily dependent on external energy supplies. Without a truly common strategy, EU member states' policies are doomed to diverge, caught in the contradictions of environmental risk, the prospect of global fossil fuel resource depletion, and their rapid economic growth since the beginning of the 21st century. Hence, while some countries are enacting moratoriums on nuclear energy (such as Italy and Germany), others deem it safer to push for more nuclear energy (like Finland and France) through new-generation reactors (EPR technology).

Energy Security

In its primary sense, energy dependence is the situation of a state forced to import part of its energy sources (oil, gas, uranium, electricity, etc).

Energy plays a major role as a means of pressure: if energy security is so important, it's because energy dependence makes a country vulnerable to coercion by its suppliers. However, vulnerability goes both ways as a producing country needs customers and markets. Russia threatened the energy security of the EU, notably in terms of gas and oil, by invading Ukraine in 2022; but in response, European sanctions deprived Russia of its main market. Energy thus becomes a central point of negotiation in case of conflict (think of the "oil for food" program).

Environmental Impact

With the imperatives of energy transition related to climate urgency, energy dependence can also mean dependence on fossil fuels. In this sense, it is a "path dependency," meaning the difficulty is challenging past choices and diverging from them. The struggle in initiating an energy transition arises from the fact that the sequence of choices made by societies since the beginning of the industrial age, and even before, has continually reinforced



the role of fossil fuels in the entire system. The existing infrastructures, technologies, and even habits, hold back change.

As a conclusion

More broadly, one could say that the EU has made relatively little progress in coordinating and securing its energy supplies. National strategies still prevail over common interest, and member states have struggled to find common ground in their relationships with their key suppliers such as Russia for gas. There's still no integrated electrical platform with cross-border interconnections, as needed pylons and high-voltage lines have not been built .

While the EU strives to reduce its energy consumption and promote renewable energy sources, its dependence on external fossil fuel suppliers is increasing, mostly because its own oil and gas reserves are dwindling. **The EU is the world's largest energy importer and second-largest energy consumer.** Already reliant on Russia, Norway, and Algeria; which together supply nearly half of its gas (the least polluting of fossil fuels), the EU, without radical measures, will need to import 92% of the oil and 81% of the gas it consumes by 2030 (compared to 73% and 44% in 2007), in a context of rapidly growing global demand.

Energy sovereignty in Europe is becoming an increasingly critical concern, as the continent seeks to ensure a reliable energy supply while reducing its dependence on imports and maintaining economic autonomy.

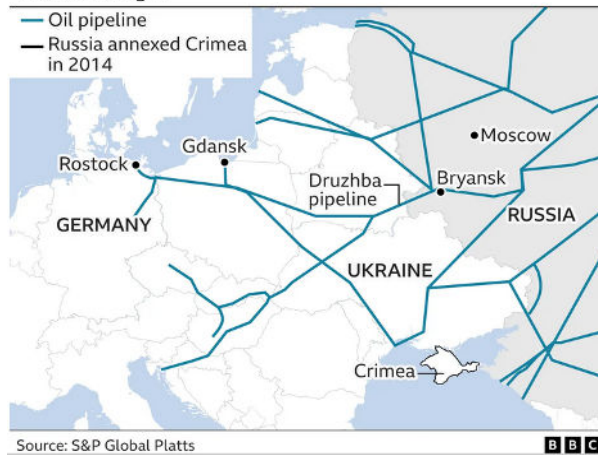
How can Europe achieve its energy sovereignty? How can it reduce its dependence on fossil fuels and Russia? What solutions should be adopted? Which actors will play a role in this economic transformation?

Main Energies

Coal : Coal is the most polluting fossil fuel on the planet, with its combustion responsible for a quarter of the CO₂ emissions in the atmosphere. Over the past decade, its use had been declining in Europe due to various European Union action plans in the context of climate urgency. The coal market is dominated by Russia and the USA. Since 2020, coal use is on the rise again. The primary reason for this increase isn't the war in Ukraine, but rather the low cost of coal. The Russian invasion of Ukraine further accelerated this trend, as sanctions against Russia multiplied, drastically reducing imports from Russia.

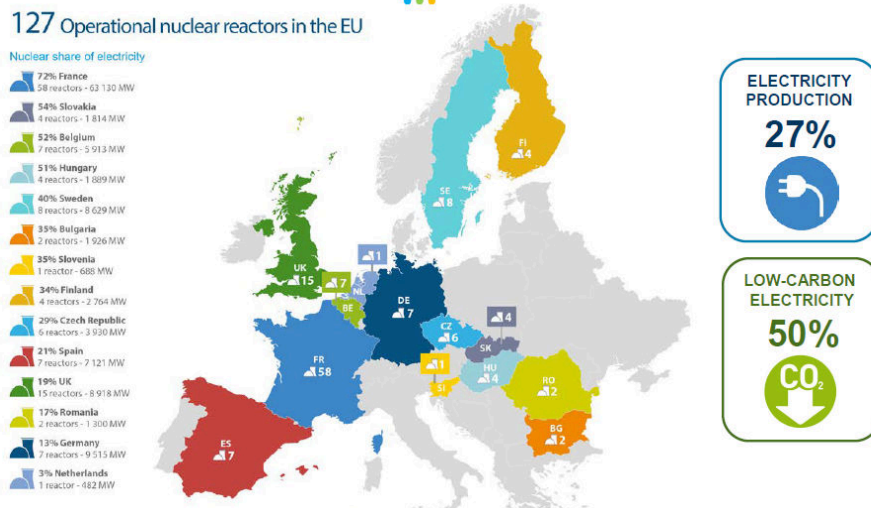
Gas : Russia is one of the principal suppliers of natural gas to Europe, accounting for about 40% of the continent's total gas demand. Russian gas' exports to Europe are mainly delivered through pipelines, which represent crucial arteries for Europe's energy supply but are also sources of political and strategic concern. Over the past decade, Europe has diversified its natural gas supply sources to reduce its dependence on Russia. Nonetheless, they remain the dominant actor, with companies like Gazprom controlling a significant portion of Europe's gas infrastructure. This dependence on Russian gas has significant political implications. Geopolitical conflicts and economic sanctions imposed on Russia have led European countries to seek alternatives. For instance, the EU has invested in Liquefied Natural Gas (LNG) terminals to diversify its supply sources and strengthen its energy security. By 2023, Europe's dependence on Russian gas had decreased but remained significant.

Main oil pipelines between Russia and Europe



Nuclear Power : The EU has a complex relationship with nuclear energy. In 2019, nuclear energy represented about 26% of total electricity production in the EU. Despite its significant production of low-carbon electricity, nuclear energy remains a controversial topic. At the EU level, nuclear policy is mainly governed by the Euratom treaty, which allows member states to have specific competences in this field. Nuclear issues are addressed by the European Energy Agency (EEA), and intergovernmental decisions by the European Council. However, the Russian invasion of Ukraine in 2022 highlighted the EU's reliance on the Russian nuclear industry. Despite the conflict, imports of Russian nuclear fuel and technology increased in 2022.

Nuclear energy in the EU – current status



Sustainable energies : Green energy has become a major focus for Europe as it is transitioning towards a more sustainable economy that relies less on fossil fuels. In 2019, about 18% of the energy consumed in the EU came from renewable sources such as wind, solar, hydroelectric, and biomass energies. The EU's goal is to increase this share to 32% by 2030, in line with the Paris Agreement on climate change.



Major Parties Involved

The European Union :

The bloc develops a strategy for the transition towards a more sustainable energy. However, the energy mix of the different member countries can vary a lot. This means that the 27 member countries do not always have a common position on energy. The EU has however developed a plan “**REPowerEU**” (see below).

Iceland :

As an island nation, Iceland is a global leader in renewable energy. Its entire electricity mix is renewable. Besides hydroelectric power, Iceland also leverages geothermal energy, tapping into underground heat for power generation. The country sits on volcanic land, which facilitates geothermal exploitation. Thus, Iceland is self-sufficient in energy production.

Germany :

Germany plays a central role in Europe's energy crisis regarding its dependency on Russia due to its status as Europe's largest economy and its influence on the European Union's energy policies. Germany is involved in the Nord Stream project, a controversial gas pipeline that connects Russia directly to Germany, bypassing Central and Eastern European countries. This project divides Europe, with some countries seeing it as a source of energy security while others view it as an increased dependence on Russia. Regarding energy policy.

Norway :

The country is endowed with numerous waterfalls and rivers, allowing it to generate hydroelectric power. 95% of Norwegian electricity comes from the source aforementioned, enabling Norway to export close to 80% of its electricity. Additionally, Norway benefits from oil and natural gas deposits on its territory, making it an exporter, especially to France. These energy resources ensure Norway's energy independence and fund their exports.

The Russian Federation :

Russia is a major player in global energy geopolitics with massive reserves of various energy sources, exceeding even the total potential of the Middle East and Gulf region. It uses these resources as a lever of global influence.

Main Action by the European Union : REPowerEU

REPowerEU is an ambitious initiative by the European Union intended to accelerate the transition toward renewable energy and strengthen Europe's energy autonomy. It sets ambitious targets for the deployment of renewable energy across the European Union : achieve a 32% share of renewable energy in its total energy consumption by 2030, in line with the Paris Climate Agreement. Some member countries have also set more ambitious national goals.



Investments in renewable energy:

REPowerEU calls for massive investments in renewable energy infrastructures and technology. According to the European Commission, the EU should invest around 500 billion euros in renewable energy by 2030 to meet its climate and energy goals (onshore and offshore wind farms, solar power plants, hydroelectric projects, and biomass; smart grids).

Job creation and economic growth:

The initiative also presents an opportunity to boost economic growth and create jobs in the renewable energy sector. The transition to renewable energy could create up to 900,000 additional jobs by 2030 in the EU.

Reduction in greenhouse gas emissions:

A key goal of REPowerEU is to reduce greenhouse gas emissions and combat climate change. By gradually replacing fossil fuels with clean and renewable energy sources, the EU aims to achieve carbon neutrality by 2050, conforming to the Paris Agreement's objectives.

Possible Solutions

Diversification of suppliers

Calling for greater diversification of supply sources. The approach should encourage the importation of liquefied natural gas (LNG) from various countries such as the United States, Qatar, and Australia, thereby reducing reliance on Russian gas pipelines and strengthening Europe's energy security.

Seeking new suppliers such as Qatar or Saudi Arabia to distance Europe from Russia and for multiple reasons: the current War in Ukraine, economic pressure, and ethical concerns. Such measures would become a leverage point for European countries.

Multiplication of european interconnections

Advocating for a united Europe based on independence, cohesion, and ecological values; as well as promoting the enhancement of energy interconnections by investing in transnational infrastructures to create a more integrated and resilient energy network. This would allow better energy flow between European countries, reducing reliance on individual supply sources and increasing flexibility in the event of disruptions.

Increase of sustainable energy

Improving energy efficiency across all sectors, including buildings, industry, and transport, by creating policies. Paired with a reduction of energy consumption, this measure would decrease Europe's dependence on imports while saving costs and reducing greenhouse gas emissions.

Also, committing to increase energy production from renewable sources such as wind, solar, hydroelectricity, and biomass; so as to develop these domestic energy sources, would reduce dependency on fossil fuel imports and strengthen energy security.



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