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# <u>"MINISTER'S COUNCIL OF ENERGY</u> <u>AND ECOLOGICAL TRANSITION"</u>

What solutions are available to provide the EU with a sustainable, independent energy supply, while its traditional model of sourcing is being challenged?

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### I. Introduction

Every EU citizen's life is deeply ruled by energy. Every part of our daily life is driven by energy consumption: from basic living (to heat and cook per example), to moving (daily commuting), to working life (be it for manufacturing activities or service activities). Energy is everywhere. During the last decade, it has been a significant component of economic growth.

Sustainability is nevertheless a major challenge for Europe. The consequences for the continent of unsustainable growth linked to climate change are numerous: EU citizen's health, immigration, cost of energy, damage to natural capital to name a few.



### 1. Why is energetic transition a key subject of concern for Europe?

Most mineral and soil resources used to provide energy in Europe are sourced from external countries, since the continent is not self dependent for the current mix of its energy consumption. Share of EU energy production by source, 2017

Additionally, on the one hand, energy is becoming a geopolitical weapon, and the level of tension is increasing around the world with energy producing countries (such as Russia and other countries with mineral resources). On the other hand traditional supplies of mineral and soil resources for some European countries are subject to more competition (entry of China and Russia in Africa).



### 2. Why is ecological transition essential for the EU?

Based on scenarios of IPCC, Europe will be one of the regions most impacted by climate change by 2050. Temperatures are indeed set to rise more quickly than the global average. The cost of climate related catastrophic events is also planned to hamper EU's economy and increase climate related immigration, amplifying already existent concerns amongst EU citizens.

The Ministers' Council of Energy and Ecological Transition is therefore essential as it deals with these two major subjects. The EU promotes the transition to a low-carbon society, and sets rules or laws to facilitate this move to sustainable energy. Furthermore, the EU has been paving the way for some of the most stringent environmental standards in order to protect its citizens. Most of these initiatives have objectives of where to be by 2050 thanks to new legislation, new research and funding programmes. Due to the current geopolitical context, this council meets on a more regular basis.



More than the ecological issue itself, the most worrying aspect for every EU citizen is the energy crisis, with the rise of fossil and electric energy prices. The prices are concerning for european energy, which is highly dependent on russian gas.

## II. Historical and Political context

The EU has, throughout the last few years, defined a consistent framework to achieve its energetic and ecological goals:

#### 1. ACER (Agency for the Cooperation of Energy Regulators)

This agency was established in March 2011 by the Third Energy Package legislation as an independent body to foster the integration and completion of the European Internal Energy Market for electricity and natural gas. It helps ensure the single European market in gas and electricity functions properly. It assists national regulatory authorities in performing their function at European level and coordinating their work.

#### 2. <u>Fit for 55</u>

The Fit for 55 package is a set of proposals to revise, update EU legislation and implement new initiatives with the aim of ensuring that EU policies are in line with the climate goals. Its target is to reduce net greenhouse gas emissions by at least 55% by 2030. It covers a wide range of policy areas including climate, energy, transport and taxation.

#### 3. <u>COP 26</u>

The conference of the parties (COP) which doesn't target only the EU, follows the United Nations convention on climate change signed in 1992 and meets annually on a different continent. Its main objective is to reinforce the commitments and evaluate the level of implication of each member country. During the COP 3, Kyoto's Protocol was signed and set goals for greenhouse gas emissions (limits and reductions) in accordance with agreed individual targets.

#### 4. European Green Deal

The European Green Deal was set in 2019 to provide an action plan to boost the efficient use of resources by moving to a clean, circular economy, as well as to restore biodiversity and cut pollution. The EU aims to be climate-neutral by 2050. The Commission has proposed a European Climate Law to turn this political commitment into a legal obligation.





Energy enables the smooth functioning of all economic sectors, from business and industry to agriculture. The EU still relies heavily on fossil fuels for its energy and faces a number of challenges to securing affordable, reliable and sustainable energy supplies. Increasing energy efficiency, improving energy productivity and

reducing total consumption, while at the same time ensuring security of supply, competitiveness and access to affordable energy for all its citizens, are some of the ways the EU can improve its energy system.

The energy union strategy aims at building an energy union that gives EU consumers households and businesses - secure, sustainable, competitive and affordable energy. The amount of energy produced and used has never stopped growing since the 18th century because they have helped not only Europe but the entire world to evolve at rapid rates.



The issue is, using such a quantity of energy has not only had a positive impact on the world. Pollution and climate change are two major concerns that Europe is facing and progressively trying to resolve. However, because these sources have permitted us to change cities into more modern ones, we have grown completely dependent on them.

The hardest part of all, is finding one or various green methods to produce energy for everyone while keeping our Carbon footprint impact to the lowest reaching towards none at all.

#### Imports and exports

The decrease in primary energy production in the EU over the past decades resulted in increased imports of primary energy and energy products. This increase slowed down in 2020 due to a weaker demand caused by the COVID-19 pandemic. Nevertheless, the quantity of imported natural gas more than doubled over the period 1990-2020, while the EU energy import dependency rate stood at 57.5% in 2020.

### **III. Challenges**

# 1. The war between Ukraine & Russia

This graph shows in percentage how dependent Europe is on the energy imported from Russia. Because these percentages of importation are so elevated, if Russia suddenly decided to cut the all its exportation, everyone in Europe would be facing a more serious life threat.

The EU imports 90% of its needs in natural gas: (41%) from Russia. The EU

#### EU energy import dependency from Russia Share of total import



is the largest importer of natural gas in the world and it is also dependent on Russia for its imports of oil and coal: 27% of oil imports and 46% of coal imports are from Russia.

Today, because of the war between Russia and Ukraine, Russia has decided to limit its energy exportation to Europe to show its anger against them. The partial shutoff of gas deliveries is already affecting European growth, and a full shutdown could be substantially more severe.

Overall, three types of sanctions were imposed: ban on provision of technology for oil and gas exploration, ban on provision of

credits to Russian oil companies and state banks, travel restrictions on the influential Russian citizens close to President Putin and involved in the annexation of Crimea Russia's invasion of Ukraine has further darkened the global growth outlook, with the European economy facing a serious setback given trade, investment, and financial links with the warring countries. Now, Europe is enduring a partial cutoff of natural gas exports from Russia, its largest energy supplier. The prospect of an unprecedented total shutoff is fueling concern about gas shortages, with even higher prices, and economic impacts. While policymakers are moving swiftly, they lack a blueprint, plan, to manage and minimize



impact. Three new IMF working papers examine these important issues. They examine how fragmented markets and delayed price pass-through can aggravate impacts, the role of the global liquefied natural gas market in moderating outcomes, and how such factors could play out in Germany, Europe's largest economy.

In some of the most-affected countries in Central and Eastern Europe—Hungary, the Slovak Republic and the Czech Republic—there is a risk of shortages of as much as 40 percent of gas consumption and of gross domestic product shrinking by up to 6 percent. The impacts, however, could be mitigated by securing alternative supplies and energy sources, easing infrastructure bottlenecks, encouraging energy savings while protecting vulnerable households, and expanding solidarity agreements to share gas across countries.

Overall, the consequences are: Inflation; the energy price increase will have a significant effect on inflation impacting all sectors of the economy / Foreign exchange effect and recession / Financial impacts and risk of reputational damage / Increased shipping rates / Energy policy developments on the energy mix and the promotion of renewable energy.

#### 2. Inflation / energy shortage

Europe is facing a deepening energy crisis as it prepares for a cold winter. Gas prices have reached record highs, and supplies are running low, stoking fears. But what exactly is currently happening?

The continent is struggling with record high energy prices as it gets closer to its winter season. One of the main causes is related to the Ukraine war. Russia has suspended the supplies of the natural gas that the continent used for years to run factories, generate electricity and heat homes. Russia supplied about 40 percent of the European Union's gas consumption by pipeline, and those exports have been cut by 75 percent.

As a result, European governments have tried to diversify supply by buying more liquified natural gas, as well as introducing measures to reduce demand and save energy. The EU's overall liquified natural gas import capacity is significant enough to meet around 40% of total current gas demand. However, bottlenecks and infrastructural limitations exist in some regions around Europe. The EU is the largest liquified natural gas importer in the world



"Europe doesn't have enough supplies of natural resources" ; "They decided that they are going to move away from fossil fuels and not drill out their own natural resources. Europe actually has a lot of gas, but they decided that they are not going to do that, and they became dependent on imported Russian gas and oil, and now that that's been cut off, they don't have a backup plan," explains a researcher from Columbia university. The EU imports about 80 % of its total gas needs, with domestic production halving in the past 10 years. Germany, which has gas deposits of its own, banned fracking, as did France and other countries.

Because Europe has hit extraordinary high records in the pricing of most of its primary sources of energy, this didn't only lead to higher pricing in electricity bills but also in a high range of other things. Food, clothes, electronics, machinery and many other goods have also risen in price in the last few months, to compensate for the more expensive bills companies had to deal with, although some others simply saw an opportunity to raise their price without any clear reason.



Prices have increased and resources have gotten more scarce, but how much worse will it get? Europe has managed to refill its storage facilities and has met a target to have them 80 percent full by November, according to reports. The continent is likely to have enough power-generation fuel

this winter. Other alternatives have been found such as for gas supplies (shipments of liquefied natural gas (LNG), and more pipeline gas from Norway and Azerbaijan). Governments have also approved measures to aid people in dealing with soaring prices.

"The worst-case scenario is a super cold winter in Europe," Pankratz said."[In this case,] the worst economic scenario is that the European economy goes into an absolute freefall ... because they can't produce anything, because it's too expensive ... and the government prioritizes sending gas for heating people's houses rather than industry," he said.

"The other worst-case scenario is that they actually run out of gas, and people can't heat their homes, but I don't foresee that probably happening," he said.

### 3. Transition to renewable energies

The international pannel on climate change states, "Future climate-related risks depend on the rate, peak and duration of warming." which has been scientifically proven to be accelerated by human activity. The EU holds strong engagements to control and limit the impact of climate change on its scale. In 2021 the 27 EU

countries were present at the COP 26, whose engagement is to limit heating to  $1,5^{\circ}$ C in comparison to preindustrial levels. And the agreement "Fit for 55" aims for a 55% reduction of the CO2 emissions by 2030.

By 2017 around 20 % of the energetic mix came from renewable energies (shown in the pie chart below). The EU encounters various difficulties in achieving an agreement on which renewable energy should be the priority, at a national scale as well as at the Union scale. Photovoltaic solar, wind energy , hydro powered energies are intermittent supply sources and need to be reinforced by fossil energies, today. For instance the efficiency of these sustainable energy sources is still low, as they are not capable of being constant producers and cannot adapt to the demand. The nuclear question is a good example of these cultural wars that have been going on for the last century. Other debates are also creating controversy in this tense social climate such as how wind energy is having a direct impact in the destruction of landscapes.



### 4. Non renewable energies / the EU's dependency

In the 2010s the European Union was the leader in sustainable development and in investments, whereas today, it is far behind some of the most powerful countries, as the United States or China . This is due to a decrease in its investments in long-term energy providers. In a globalized market context, the UE is highly dependent and at the mercy of other countries, which do not share the same sustainable engagements or general values , such as democracy.

Europe's geographical situation does not provide considerable sources of oil nor natural gas , which are vital to our industrial and domestic needs. Of course as the president of France said in 2022 " It is the end of abundance" but the reality is that the European Union's citizens are not at a mental phase where they have to make huge sacrifices in their lifestyles, even though the understanding of the situation is higher than at a global scale. In an ultra competitive market Europe's power resides , partly, in the construction of a prosperous economy. The reality is that Europe's energetic plan has demonstrated , since the invasion of Ukraine, to be really fragile. Europe's vulnerability resides in the huge part of imports spending 350 billion euros per year , 58% in 2022, depending on an uncontrollable number of factors . We are now facing the biggest energetic crisis since the 1970s.

The EU's energy mix is 10% reliant on Russia's natural gas. The proposal of the European Commission on the 7th of september of 2022 to put a roof on gas prices was not realistic towards Russia's interests which has the power to totally cut off its exports.

In addition, as we can see in the graphic, oil has the biggest part of our energy mix, which is principally imported .



Source: Eurostat Energy Balances

## **IV. Solutions**

To cope with two unprecedented crises at the same time, both energetic and environmental, the EU needs to come up with short term solutions to be able to heat our homes this winter, as well as long term, to prevent what has been described by the UN as a "lethal threat to humanity": climate change.

In response to the hardships and global energy market disruption caused by Russia's invasion of Ukraine, the European Commission presented the REPowerEU Plan.

REPowerEU is a plan aiming to save energy, produce cleaner energy, and diversify our energy supplies.

It plans a 210 billion investment in the sector by 2027. Furthermore the EU takes long term measures : by 2030 their will be an increase in European renewables target for 2030 from 40% to 45%, a rise in ambition on energy savings by increasing the EU-wide target on efficiency from 9% to 13%, regulatory measures to increase energy efficiency in the transport sector, investments in biomethan a "green hydrogen". To sum up, the 27 aim to accelerate clean energy production and to achieve an energetic and environmental transition.

As EU's Russian gas imports have been reduced by 3 from 2021 to 2022, the EU is

being forced to turn to alternative providers of oil in the middle east, such as Iraq.Saudi Arabia, or the United States. Diversifying our supply sources comes as an imminent priority.

The 27 member states have doubled their LNG (liquified natural gas) imports as a short term solution to the sanctions to Russia. However this has a big impact on our environment, LNG requires a long transportation process and the United States schistes deposits, a specific gas deposit, have catastrophic consequences on its surroundings because of its high methane releases. Between 2 to 8% of the gas , highly composed of methane, is released during its extraction and contaminates the water table. Financially , big companies have taken advantage of the opportunity, buying LNG is too expensive to be a long term solution. The EU is under-equipped in infrastructures needed to de-liquify the freezed gas, since there are only 26 LNG terminals.

In the short term the Union aims to continue to sanction R roll out solar and wind energy, increase fundings on renewables and to coordinate a demand reduction in a savings perspective : all of these measures should help soften the impact of the crisis.

This requires a collective effort , big social campaigns are being carried out : the "Save Energy Communication" gives recommendations to citizens on how they can save about 17 billion cubic meters of gas.

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