By János Matuz

Poland has consistently opposed the Nord Stream projects, viewing them as contrary to its national interests, while Hungary has maintained a neutral stance. Due to the current geopolitical climate, including sanctions on Russia, it is unlikely that the pipelines will be recommissioned anytime soon. The article highlights wider concerns about the loss of Europe's global competitiveness, especially compared to the US and China, to which high energy prices are unfortunately a major contributor. Both Poland and Hungary are urged to diversify their energy sources and expand renewable energy and nuclear power capacities in response to the present challenges.

Nord Stream

Poland has always opposed the construction of the Nord Stream 1 and 2 pipelines linking Germany to Russia and, as Rafał Libera summarizes in his study of 11 September 2024[1], would consider it contrary to Polish interests to restart them: "The recommissioning of the Nord Stream gas pipelines poses significant strategic risks that outweigh any potential short-term economic benefits."

Hungary has always taken a neutral position on the construction and operation of the Nord Stream pipelines. Germany has the right to decide on its energy mix and the sources (domestic production or imports) of its energy mix, of course taking into account its international commitments, most importantly the sanctions against Russia. Subsection 2 of Article 194 of the Treaty on the Functioning of the European Union (TFEU) declares that it is the Member State's right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply.

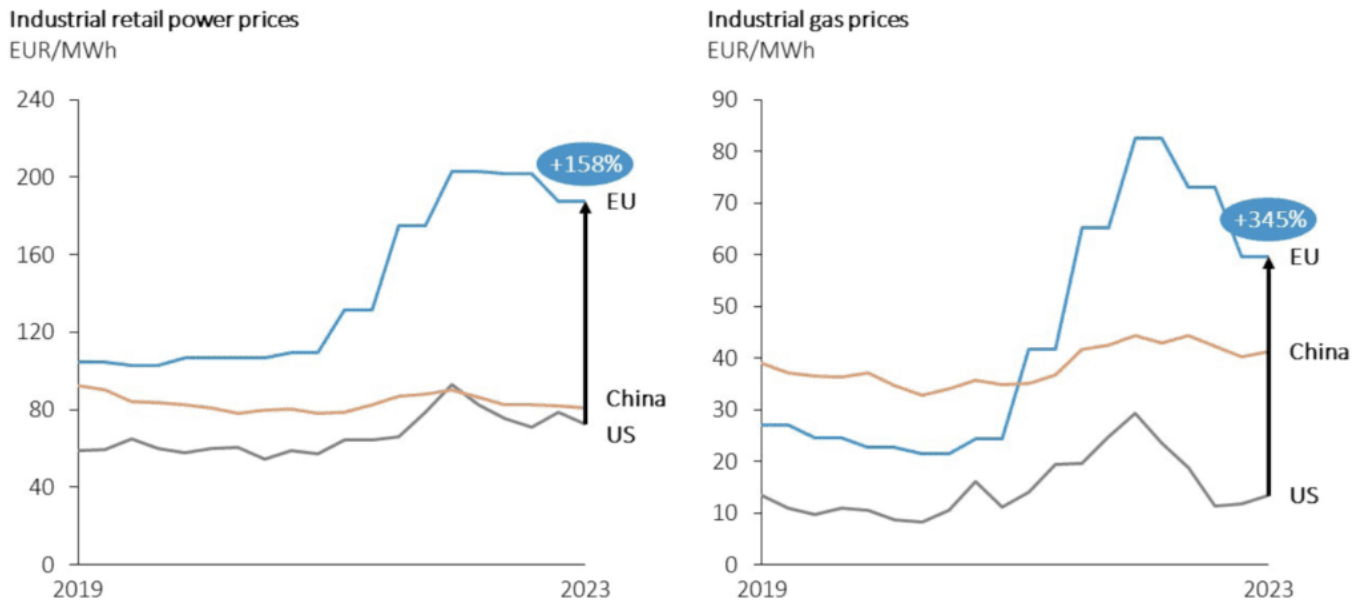
I do not think that in the current environment of sanctions, the recommissioning of the Nord Stream pipelines could be on the agenda in the foreseeable future. This would require significant changes in the war in Ukraine, in the international landscape and in the sanction packages currently in place. Hungary has always taken a cautious stance on sanctions against Russia but has not blocked their adoption, and Hungary also voted for them. Hungary have defended and are defending its energy security, and its position is that the EU should not adopt sanctions that would punish the EU primarily for its own sake and would not contribute in any meaningful way to ending the war.

I do not think that Poland, or even the V4 countries together, would have a significant influence on the recommissioning of the Nord Stream pipelines, just as Poland did not have

a significant influence on the construction and operation of them. However, a recommissioning is a theoretical issue in the foreseeable future and a lot should be changed in the World to get it on the agenda.

It is obvious that the blowing up of the Nord Stream pipelines has caused legal, financial, political, reputation, and in every other aspect damage to Germany in the first place. Looking at the graph of energy prices, it is also obvious that the war in Ukraine and the replacement of Russian pipeline gas with LNG gas has caused enormous damage to the European Union as a whole. As Mr. Mario Draghi, the former president of the ECB worded in his Report, which was published in September 2024: "But this source of relatively cheap energy has now disappeared at huge cost to Europe. The EU has lost more than a year of GDP growth while having to re-direct massive fiscal resources to energy subsidies and building new infrastructure for importing liquefied natural gas"[2].

Electricity prices are 1.58 times those in the US and China, natural gas prices are 3.45 times higher in the EU than in the US and we are happy that the prices have fallen significantly from their peaks.



Source: European Commission, 2024. Based on Eurostat (EU), EIA (US) and CEIC (China), 2024 (Mario Draghi: The future of European competitiveness, September 2024)

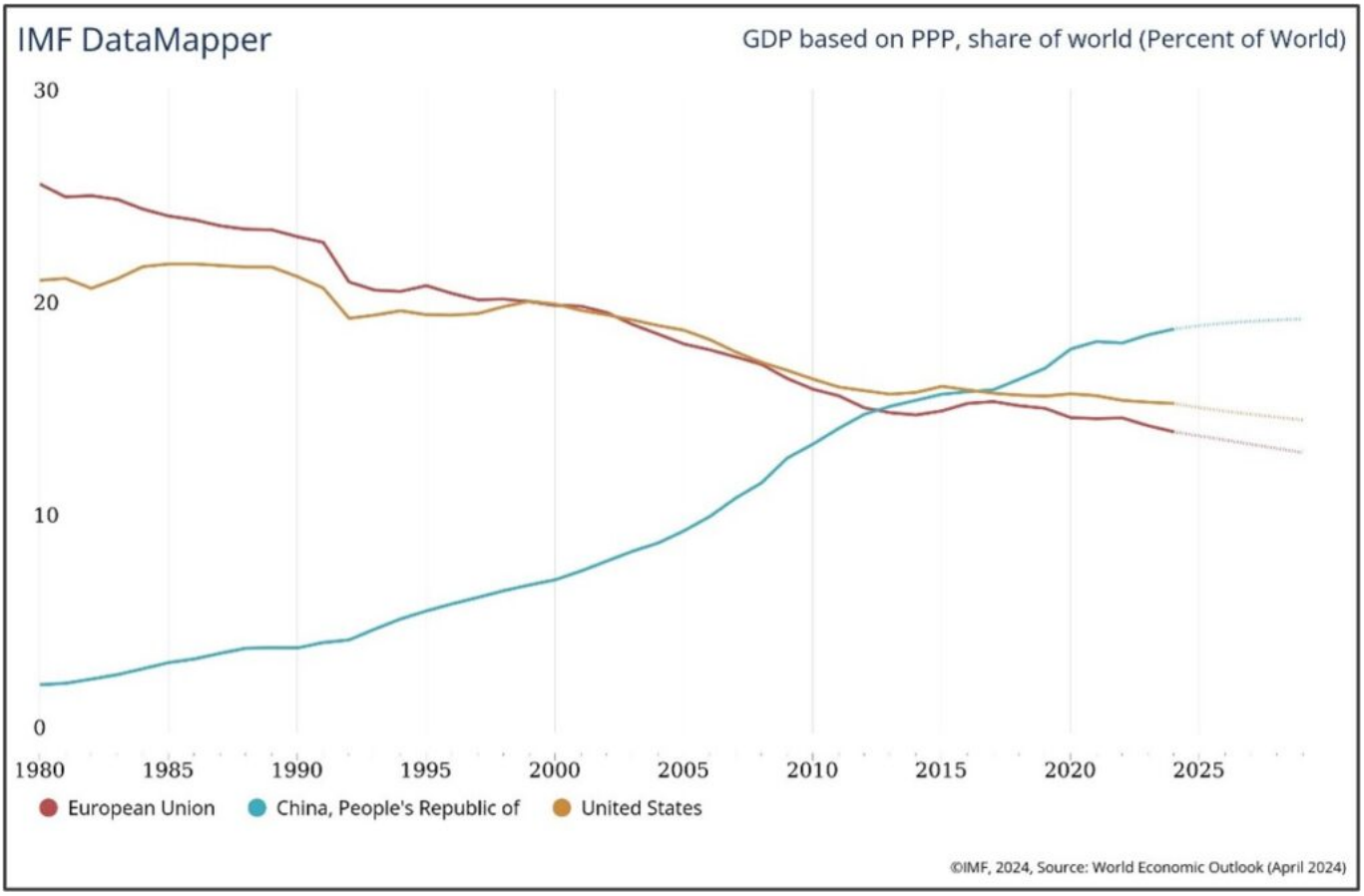
Therefore, unfortunately, it is not the future of the Nord Stream pipelines (over which we have no real impact) that we need to worry about, but the future of Europe! It is in the interest of Poland, Hungary and all Member States to have a strong Europe. Unfortunately,

today the opposite is true: Europe has perhaps never been so weak. And unfortunately, the trend is also very negative: Europe is getting weaker every day, while our competitors, the United States and China, are getting stronger!

Falling competitiveness and productivity in Europe

"Across different metrics, a wide gap in GDP has opened up between the EU and the US, driven mainly by a more pronounced slowdown in productivity growth in Europe. Europe's households have paid the price in foregone living standards. On a per capita basis, real disposable income has grown almost twice as much in the US as in the EU since 2000[3]". Mr. Draghi in his Report sounded the alarm: we are lagging behind and need to improve our competitiveness mainly by raising productivity! He prescribed three "remedies for the prescription": (i) Europe shall accelerate innovation and find new growth engines; (ii) Europe must bring down high energy prices while continuing to decarbonize and shift to a circular economy; (iii) Europe can no longer rely on others for its security. He is right in this respect, but we are at least two decades too late, and we need to catch up now!

The largest economy in the world today is China with about 19.01% of world GDP. The United States is the second largest, with 15.5% of world GDP. The EU was in third place, with 14.7%. (Based on PPP standard.). In 1980 the EU was the largest economy with its 25.84% share, the US was the second with 21.31% and China had 2.26% share.[4] China passed us in 2017, and all future estimates indicate the growing share of China in the world GDP. And, unfortunately not only in GDP but in many other areas the Chinese share is growing such as research and innovation, commerce and defense. Neither the Member States, nor the EU is able to defend itself, we all rely on NATO, and within NATO primarily the US military forces. This fact in itself raises the question of the sovereignty of the Member States and the EU, but this topic is beyond the scope of this article. At this point, it should be noted that Poland spends the most on defense as a proportion of GDP in NATO, 4.12%, but still one quarter of the 32 NATO Members are below the expected 2% defense spending[5].



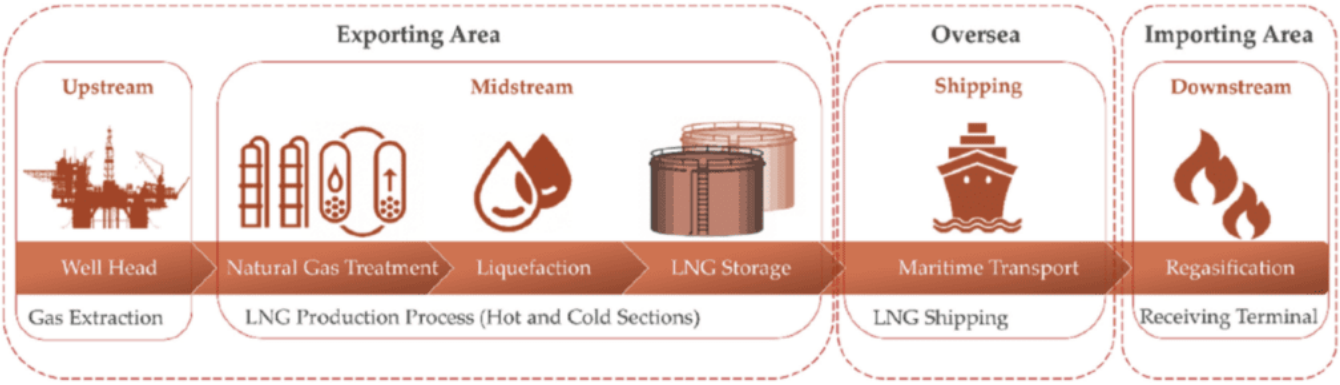
High energy prices are hindering economic growth and investment, increasing the exodus of Energy-intensive industries (EIIs) (chemicals, basic metals, non-metallic minerals and paper), which can lead to a vicious circle.

The EU' Green Deal is far more ambitious than the non-binding aims of the US and China, which results higher investment costs in the EU than in the US and China and naturally these higher investment costs burden mainly EU companies. Additionally, the EU is the only major player, who applies significant CO2 price. As a result, the EU must focus more than ever on balancing its decarbonization goals with competitiveness.

Environmental examination of LNG vs pipeline natural gas

The EU is the biggest global gas and Liquified Natural Gas (LNG) importer but a systematic review for the sustainability of LNG has not been in focus unfortunately in the Western Hemisphere. There is no holistic life cycle environmental, economic, and social impact assessment for the LNG industry considering the entire value chain activities from gas extraction/processing to final consumption[6]. In 2022, US LNG shipments were around

50% more expensive than average pipeline gas imported into the EU, but we do not know the environmental impact difference between the US LNG shipments and the Russian pipeline natural gas import. Mitigating methane emissions is vital in meeting global climate targets, but there is a lack of understanding of emissions and abatement opportunities to enable this. The natural gas supply chain is a key emission source, where methane emissions from liquefied natural gas (LNG) shipping have been just started to be measured[7].



Source: Hussein Al-Yafei, Saleh Aseel, Murat Kucukvar, Nuri C. Onat, Ahmed Al-Sulaiti, Abdulla Al-Hajri: A systematic review for sustainability of global liquified natural gas, Energy Strategy Reviews, 2021

Nuclear energy

Nuclear energy contributes both to the energy sovereignty of the EU and its climate goals. These two factors gave a new impetus to the nuclear industry in the EU in the recent years, which it deserved a lot. There are 100 reactor units in twelve Member States with an average age of 38-years[8]. In 2023 the nuclear reactors contributed 23% of the electricity production in the EU, while in 2004 they produced 34% of the electricity. Out of the 100 there are 56 reactors in France, while the last three nuclear power plants were shut down on 15 April 2023[9] in the largest economy of the EU, in Germany. France intends to increase its nuclear power plant fleet in the future, while Germany has chosen to cover its energy needs with the increase of the capacity of renewables. There are 59 nuclear reactors under construction in the World, 25 are built in China and only three in Europe (France, Slovakia and Hungary). There are serious plans to build new reactors in Poland but we have to note that the average time to build nuclear power plants was over 10 years in 2023 and construction periods are continuously growing.

Key factors in energy policy

Whether a country has access to the sea or not is (also) a key factor in energy policy. Hungary is one of the five EU Member States (along with Austria, the Czech Republic, Slovakia and Luxembourg) that does not have one. This is obviously a serious disadvantage in terms of energy sovereignty. Poland has an LNG terminal in Świnoujście since 2015 and it plans to finish its floating FSRU (Floating Storage Regasification Unit) in the Gdańsk region in 2027/2028. In addition to the LNG terminals provided by the seaports, Poland has access to the North Sea gas fields through the Baltic Pipe with a capacity of 10 bcm per year since 27 September 2022, one day after the explosions of Nord Stream 1 and 2. The Baltic Pipe Project was recognised as a Project of Common Interest of the European Union. With this successful diversification, Poland is able to import natural gas from Norway and Russia through Baltic Pipe and Yamal and from any LNG exporter in the World.

In terms of energy policy, Hungary has the advantage of being in the middle of Europe and having seven neighbours. Hungary has bidirectional interconnection points with Slovakia, Ukraine, Romania, Croatia, and Serbia, as well as a unidirectional entry point from Austria. Our disadvantage is the existing limits of capacities. To develop interconnectors and establish new capacities, the expansion of both the Hungary-Slovakia and the Romania-Hungary interconnectors became part of the latest, fifth edition European Union list of Projects of Common Interest (PCI). Regarding the Romania-Hungary interconnector, expansion of its existing capacity in the direction Romania-Hungary increased to 2.6 bcma in 2023. Upgrading to a level of 4.4 bcma could make a significant contribution to Hungarian supply source diversification efforts, since in the mid-term either Romanian Black Sea gas, gas from Azerbaijan, or Greek and Turkish LNG may arrive in Hungary via this route. Slovenia is Hungary’s only neighboring country without a direct natural gas interconnector to Hungary. Negotiations on the Hungary-Slovenia project for a new Hungary-Slovenia interconnection are ongoing between the two countries[10].

The energy mix of Poland and Hungary is very different from each other. The share of natural gas is more than double of Poland's, while Poland has the highest solid fuels ratio in the EU.

Share of energy products in total final energy consumption, 2021 (in %) Source: Eurostat[11]

	Poland	Hungary	EU
Total petroleum products	35.3%	30.4%	34.6%
Electricity	16.7%	19.1%	22.8%
Natural gas	15.1%	32.6%	23.3%
Renewable energy	12.1%	10.9%	11.8%
Derived heat	8.1%	5.7%	4.9%
Solid fuels	12.7%	1.4%	2.6%

Hungary produces most of its electricity from its nuclear power plant (44.3%), while Poland makes it via fossil fuels (82.5%). Since Hungary is a landlocked country in the Carpathian

Basin its wind energy potential is relatively low, while wind is the strongest renewable energy source in Poland. Poland has also become a frontrunner of solar energy in the CEE region, it made huge investments in solar energy and through the first seven months of 2023, solar-powered electricity generation in Poland was 11.3 Terawatt hours (TWh) and was 5.8 TWh in Hungary[12]).

Production of electricity by source, 2021 (in %) Source: Eurostat[13]

	Poland	Hungary	EU
Fossil fuels	82.5%	35.5%	36.5%
Nuclear	0.0%	44.3%	25.3%
Wind	9.1%	1.8%	13.4%
Hydro	1.3%	0.6%	12.1%
Biofuels	4.3%	5.7%	5.3%
Solar	2.2%	10.5%	5.7%
Other	0.6%	1.6%	1.8%

Both countries are making serious efforts to increase their renewable energy sources. Poland plans to build nuclear power plants for 2035, Hungary works on the lifetime extension of its Paks Nuclear Power Plant 1 and intends to build Paks Nuclear Power Plant 2 for 2033/2034. However, a country's energy mix cannot be changed overnight, but persistent and consistent professional work and a broad social consensus, regardless of changes of government, can change it substantially in the long term. Now the big question how quickly, we can do the change? As Mr. Draghi emphasized – and I agree with him in this respect – the EU face with an existential challenge now. And in order to raise productivity, which is the key to success, „Europe must bring down high energy prices". Therefore Poland, Hungary and all other Member States shall do everything to bring down the high energy prices to handle the existential challange we are facing.

Conclusion and recommendations

Neither the V4 together, nor the V4 individually, have any meaningful influence on the Nord Stream project, nor did they have any when it was built and put into operation. Moreover, I do not consider its relaunch a realistic option in the current international context. On the other hand, Europe's competitiveness gap with the US and China is very worrying and Draghi's expression of an existential challenge is not at all an overstatement. At current European energy prices, it is not possible to produce competitively and the longer they stay with us, the worse the consequence will be. Therefore, reducing energy prices is in the

interest of all Member States including Poland and Hungary.

The primary interests of both Poland and Hungary are (i) to expand all their energy networks and their capacities to diversify supply and to increase the security of supply; (ii) to increase the share of renewable energy sources; (iii) to develop their national energy networks; (iv) to develop their nuclear power plants. On these issues, there is a need for a regular exchange of views among decision-makers, experts and academics.

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[2] Mario Draghi: The future of European competitiveness, September 2024

[3] Mario Draghi: The future of European competitiveness, September 2024

[4] Data source: IMF Datamapper

[5] Defence Expenditure of NATO Countries (2014-2024), Press Release, NATO, 12 June 2024

[6] Hussein Al-Yafei, Saleh Aseel, Murat Kucukvar, Nuri C. Onat, Ahmed Al-Sulaiti, Abdulla Al-Hajri: A systematic review for sustainability of global liquified natural gas, Energy Strategy Reviews, 2021

[7] Paul Balcombe, Dalia A. Heggo, and Matthew Harrison: Total Methane and CO2 Emissions from Liquefied Natural Gas, Carrier Ships: The First Primary Measurements, Environmental Science and Technology, 2022

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[10] Natural Gas Transmission – Natural Gas Transmission – Our Businesses – MOLGroup

[11] Shedding light on energy in the EU – 2023 edition – Eurostat (europa.eu)

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The article was created as part of the project entitled "Dual voices of experts in international affairs: Poland and Hungary" implemented by the Sobieski Institute, grant no.: DOF-K/IF/RD12/15/2024. The grantee is the Waclaw Felczak Institute for Polish-Hungarian Cooperation.

The publication reflects only the views of the author(s) and cannot be associated with the

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