

EU: Refuse of Russian Gas. Status and prospects



April 2022

Summary

The EU imported 155 bcm of natural gas from Russia in 2021, which is about 45% of total gas imports and almost 40% of total gas consumption. Of this volume, about 140 bcm are pipeline supplies (380 million cubic meters per day) and about 15 bcm in the form of LNG.

Plan of IEA¹ to reduce the EU's reliance on Russian natural gas provides for measures to eliminate **50-80 bcm** of gas by the end of 2022. The EU has decided to reduce gas imports from Russia by 70%². But levels of dependence on Russian gas supplies in the EU vary widely.

Measures to replace Russian gas will require concerted action and continued political efforts in many sectors, and dialogue on energy security. Strengthening international cooperation with alternative exporters of pipeline gas and LNG will be critical.

It is necessary to **refrain from concluding new / prolonging contracts with Gazprom** for the import of Russian gas into the EU, given that a number of them expire. Total amounts of such contracts:

- more than 15 bcm per year - by the end of 2022 (~ 12%)
- about 40 bcm per year - until 2030.

Increase of gas supplies from non-Russian sources. The IEA believes that imports of pipeline gas from non-Russian sources - Norway and Azerbaijan - can increase by 10 bcma compared to 2021. This requires:

- use of free imported pipeline capacity
- improvement of the summer schedule of maintenance of gas pipelines,
- increase in quotas for gas production (especially in the Netherlands).

It is estimated that the **increase in LNG imports** is up to **60 bcm per year compared to 2021**. However, the IEA estimates that the increase in LNG imports to the EU by **20 bcm** next year is realistic, given the current forward prices and the balance of LNG supply and demand in the world market.

¹ IEA, a 10-Point Plan to Reduce the European Union's Reliance on Russian Natural Gas/3 March 2022, <https://www.iea.org/events/a-10-point-plan-to-reduce-the-european-union-s-reliance-on-russian-natural-gas>

² Interview with the EU Ambassador Matti Maasikas on April 4, 2022 (YouTube)

For reference: the EU has the capacity to receive and regasify LNG, which can produce more than 200 bcm of gas by sea. Although there are pipeline restrictions on the use of Spanish LNG terminals for imports to other European countries. New import contracts are needed for additional liquefied natural gas supplies, amid significant competition for the resource with Asia.

The dialogue with LNG producers is already intensifying.

On March 25, 2022, the United States and the European Commission announced that they were setting up a Joint Task Force³ to reduce Europe's dependence on Russian fossil fuels and strengthen energy security. It will work to ensure the energy security of the EU and Ukraine in preparation for the coming and next winters, supporting the EU's goal of ending its dependence on Russian fossil fuels.

The main goals of the Working Group:

- (i) diversification of LNG supplies;
- (ii) reduction in demand for natural gas.

In particular, the European Commission will work to meet, at least until 2030, the demand in the EU for an additional ~ **50 bcma** of American LNG. The United States will work to provide at least **15 bcm** of additional LNG for the EU market by 2022 with an expected increase in the future.

In 2022, **new solar photovoltaic and wind generation capacities** are planned, which will increase electricity production by 100 TWh (> 15% than in 2021). An additional 35 TWh of generation from new RES projects in 2023 (including a €3 billion grant program to install solar panels in households) will reduce gas consumption by **6 bcm per year**.

Maximization of nuclear and biogeneration.

In 2021, several reactors were decommissioned for maintenance and safety testing. Returning them to operation in 2022 together with a new reactor in Finland, will increase nuclear energy production in the EU to 20 TWh in 2022.

For reference⁴: In 2022, three nuclear power plants are planned to be shut down in Germany - in Brockdorf, Grond and Gundremmingen. The nuclear power plants will be shut down and decommissioned from December 31, with a complete dismantling expected to take two decades and cost 1.1 billion euros for each plant. Three other NPPs are due to complete work in 2023.

³ FACT SHEET: United States and European Commission Announce Task Force to Reduce Europe's Dependence on Russian Fossil Fuels; <https://cutt.ly/sS234fs>

⁴ <https://www.dw.com/uk/nimechchyna-zakryvaie-polovynu-aes/a-60307374>

The temporary postponement of the closure of nuclear power plants in Germany, according to IEA estimates, could reduce the demand for gas in the EU by almost 1 bcm per month or 12 bcm per year.

In 2021, the fleet of bioenergy power plants in the EU was operating at ~ 50% capacity. Creating appropriate incentives and stable bioenergy supplies will increase the efficiency of this generation, which will replace ~ 1 billion m³ / year of Russian gas.

Acceleration of the installation of heat pumps to replace gas boilers. Heat pumps are an efficient and cost-effective way to heat homes to replace boilers that use gas or other fossil fuels. Doubling the current installation of heat pumps in the EU would save an additional 2 billion m³ of gas per year. Such a program requires 15 billion euros of additional investment.

Energy efficiency of buildings and industry. Currently, only about 1% of the EU's construction stock is repaired each year. Increasing this figure from 1% to 1.7% will save more than 1 billion cubic meters. m of gas (IEA estimate). Together with other measures (smart regulation, etc.) energy efficiency will save 2 bcm per year.

Encourage to temporary reduce of regulated temperature in buildings.

There is a need in a campaign to inform the public, change the norms regarding the temperature of heating in offices and residential buildings. It is important to reduce the demand for gas for electricity production. In particular, at peak hours.

*For reference: According to the IEA, the average heating temperature in the EU is now above 22 ° C. Lowering this temperature by 1⁰C will reduce the use of gas from Gazprom by about **10 bcm per year**. Accordingly, a reduction of 2⁰C will save **20 bcm** of imported gas.*

Chemical Industry.

Reducing the use of gas as a raw material for industrial production - fertilizers and chemicals is limited due to the potential impact on the disruption of production chains, in particular in the food industry.

Temporary transition from natural gas to coal and petroleum products in electricity generation.

Such a replacement will allow for the rapid abandonment of large volumes of gas, but should be temporary, as it will increase emissions.

*For reference: The temporary transition from gas to coal / oil products, according to IEA estimates, could reduce the need for Russian gas to generate electricity **by 28 bcm**.*

The EU's plan to abandon Russian gas: Plan REPower.

The EU has adopted a plan to abandon Russian gas, which includes most of the positions listed above. It is expected to replace **100 billion cubic meters by the end of 2022**, or 2/3 of natural gas from Russia.

«By the end of this year, we can replace 100 bcm of gas imports from Russia. That is two-thirds of what we import from them. This will end our over-dependency and give us much needed room to maneuver. Two thirds by the end of this year»⁵ - said the Vice President of the European Commission during the presentation of the REPower plan.

The plan is based on 2 tracks:

1. Diversification of supply and attraction of more renewable gases.

- replace 60 billion m3 of Russian gas over the next 12 months due to increased imports of gas from other sources.
- replace 18 billion m3 by doubling biomethane production.
- increase the production and import of renewable hydrogen (20 million tons of hydrogen can replace 50 billion cubic meters of Russian gas).

2. Accelerate the transition to clean energy.

- millions of photovoltaic panels on the roofs of houses, businesses and farms.
- double the rate of installation of heat pumps over the next 5 years.
- new projects of wind and solar generation.

Thus, there is a plan to abandon the import of Russian gas, but it is general in nature, does not contain measures and actions that will have a rapid effect - the transition to coal and oil products in electricity generation, refusal to close nuclear power plants for this year and the next. According to the authoritative Polish expert, former Minister of Economy of Poland and Chairman of the Board of PGNiG Peter Wozniak, "statements we hear from EU officials that" by the end of 2022 the purchase of Russian gas will be reduced by two thirds, "these are just declarations." ⁶

Therefore, there is a need to put pressure on the European Commission, in particular from countries that have announced a refusal to import Russian energy resources (USA, Canada, Britain, Poland, the Baltic States), in order to persuade the EU and Germany and France as major EU economies. **First of all, we need a moratorium on the purchase of gas, oil and coal in Russia.**

⁵ Opening remarks by Executive Vice-President Timmermans, 8 Mar 2022,
https://ec.europa.eu/commission/presscorner/api/files/document/print/en/speech_22_1632/SPEECH_22_1632_EN.pdf ;
https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_22_1632

⁶ <https://www.epravda.com.ua/publications/2022/04/10/685511/>

As the Ambassador of Ukraine to Germany A. Melnyk argues⁷: “Germany can afford to at least impose a moratorium and not buy gas, oil or coal in Russia for a month or two and finance short-term work, such as BASF employees in Ludwigshafen. During the coronavirus pandemic, companies received billions in aid for almost two years, so why not for a few months to stop this war of annihilation? ”

At the same time, despite the imposition of a state of emergency in the German gas market, the government in Berlin did not decide to extend the use of nuclear generation. There is no consensus in the EU, so there is a need to intensify efforts within the US-EU Transatlantic Energy Partnership in order to create additional pressure on individual EU member states prone to schematosis.



⁷ <https://www.facebook.com/profile.php?id=100008721072441>

Forecasts for imports of gas from alternative sources and gas substitution in EU member states in 2022⁸, bcm



Poland is showing the greatest dynamics in terms of complete abandonment of Russian energy resources by the end of 2022. This is a consequence of the government's systematic and consistent policy in recent years aimed at independence from Russia in the field of energy.

Two countries in the EU – Germany and Italy – are rather unable to substitute in the short-term gas supplies from RU. The main reason for their dependency is political mistakes of early 2000s, promoting RU pipeline projects and failure of the EU requirements on diversification. Germany is able to ramp up deliveries of alternative gas through LNG-terminals in neighbouring countries but rejects due to higher costs in comparison to ongoing LTAs with Russian Gazprom. Italy is locked by restricted LNG-terminal capacities and over demand due to specificizes of domestic generation.

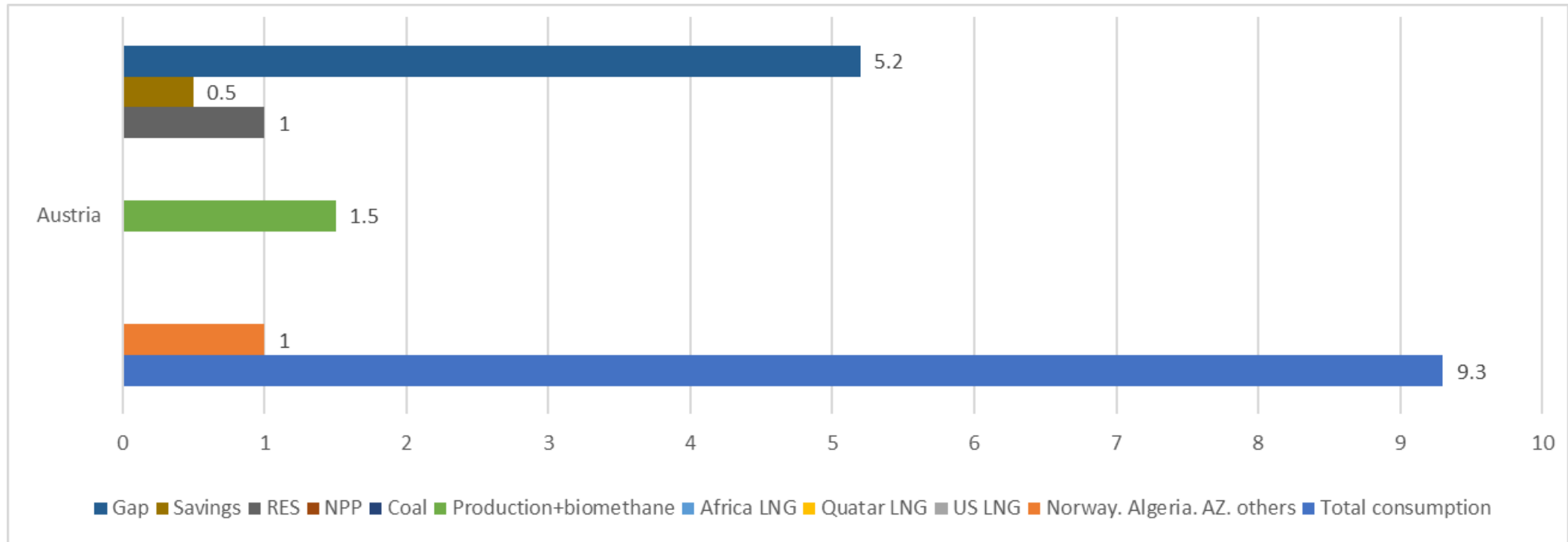
Austria and Hungary are land-locked gas consumers, reliant on RU pipeline gas, but in fact also not interested in other options. The most obstructive position on the rejection of Russian energy has the regime of V. Orban in Hungary with its servile policy towards the Kremlin.

Czechia and Slovakia is also land-locked with restricted access to alternative resources.

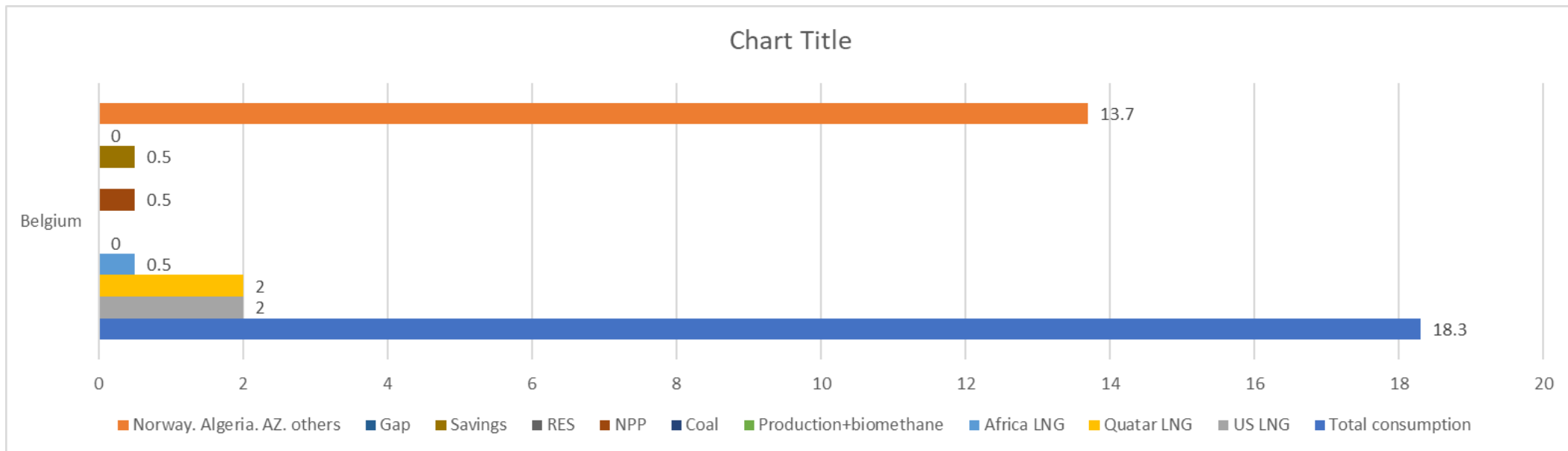
Germany is in fact a gas hub for many neighbours already and able through cooperation and solidarity approach to ensure inflow of alternative gas to internal market and further to CEE countries.

⁸ Based on Eurostat, ISIC, ENTSO-G, own calculations

The Baltic states, which were once among the most vulnerable to Russian gas weapons, were the first to make radical decisions to get rid of energy dependence on Russia once and for all.

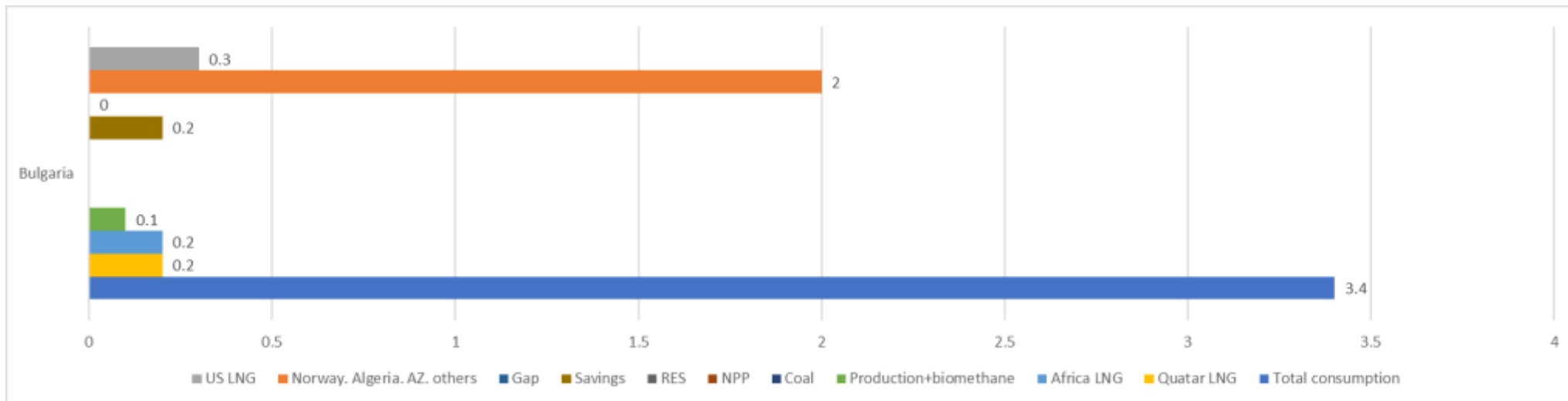


It seems that Austria does not provide so far negotiations to purchase LNG from global market, despite looming gas in case of RU gas cut off. Moreover, Austria, along with Germany and Hungary, are the most active lobbyists for not imposing the embargo on Russian gas and oil.

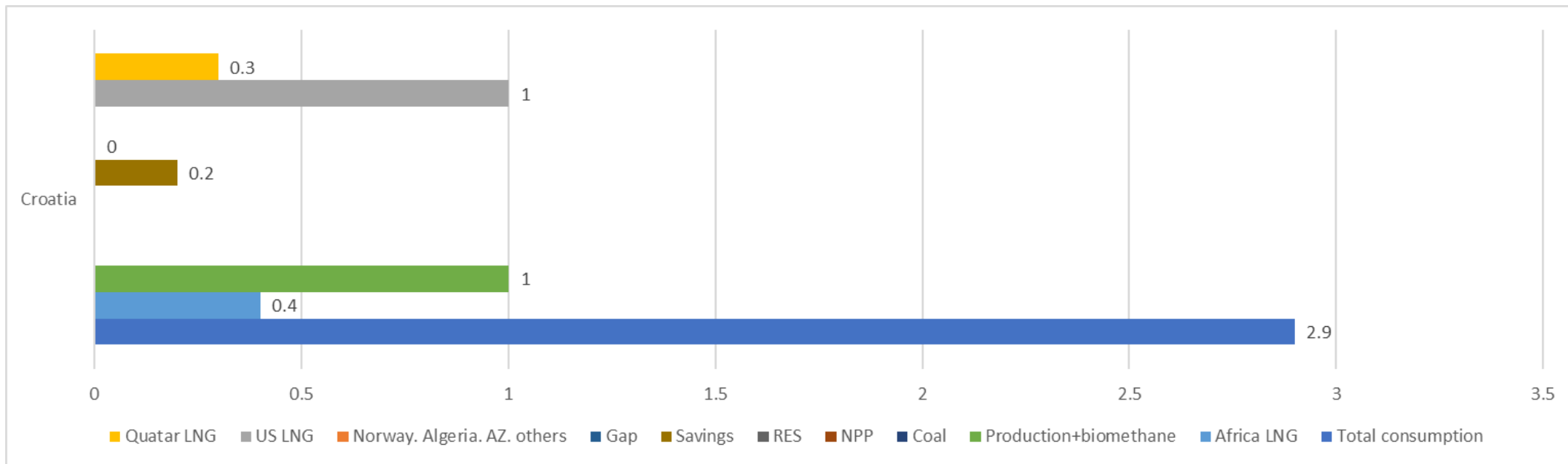


Belgium has the potential to import more gas than its own consumption, as it is part of an integrated North-West European market and could sell surplus volumes to neighboring countries. According to the government of Belgium, the Russian share in gas imports is around 4-6%. For many years, Belgium was heavily dependent on the Netherlands: about 33% of gas imports. Norway supplies almost 30% of Belgium's gas imports, and another 20% comes from Qatar⁹. Much of the gas is imported through pipelines, but Belgium also has a large LNG terminal in the port of Zeebrugge. The Flemish port also plays an important role in supplying gas to France. The LNG terminal offers great flexibility in the event that the EU needs to import more gas from the US or other sources. Qatar is seen as the best option to help compensate for the gas outage with Russia.

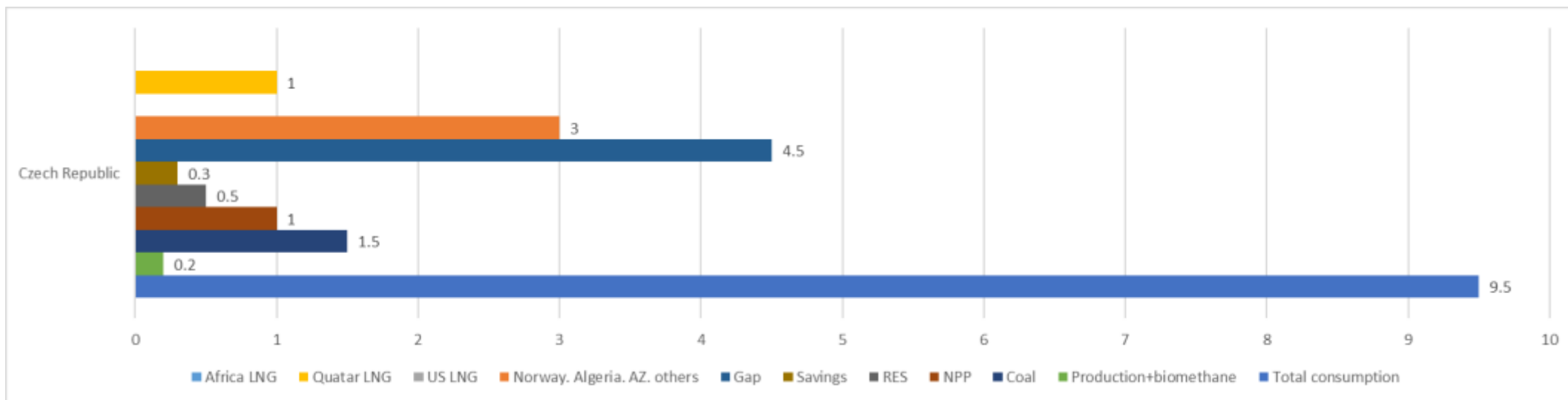
⁹ <https://www.vrt.be/vrtnws/en/2022/03/22/where-does-belgium-get-its-gas-and-what-are-the-alternatives/>
<https://www.brusselstimes.com/belgium-news/216570/explained-what-shutting-off-russian-gas-would-mean-for-belgium>



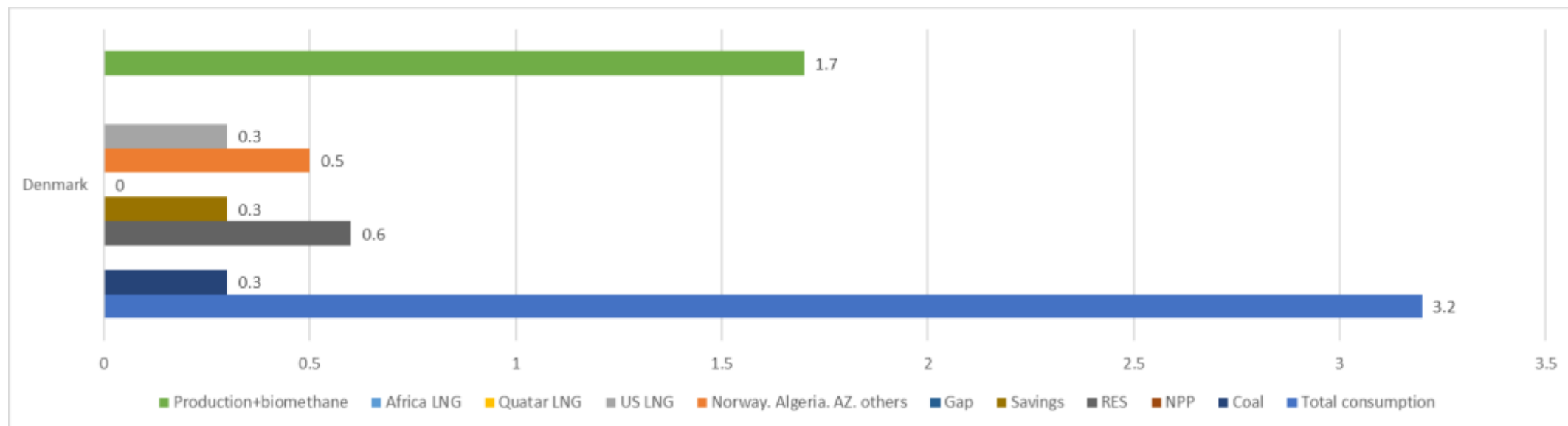
Bulgaria can rely on Azerbaijani gas supplies through a new interconnector with Greece, due to be commissioned in July this year. The Bulgarian government is working on a plan to replace Russian gas after the expiration of a long-term contract with Gazprom in late 2022. Despite the fact that the new Greece-Bulgaria interconnector has not yet been built, the capacity of the old interconnector from Greece to Bulgaria would be enough to cover natural gas consumption in Bulgaria. Also, the supply of liquefied gas from LNG terminals in Turkey could be a short-term solution.



Thanks to the launch of the LNG terminal on Krk Island that made it possible to import liquefied natural gas from Qatar and the United States, Croatia may stop consuming Russian gas.

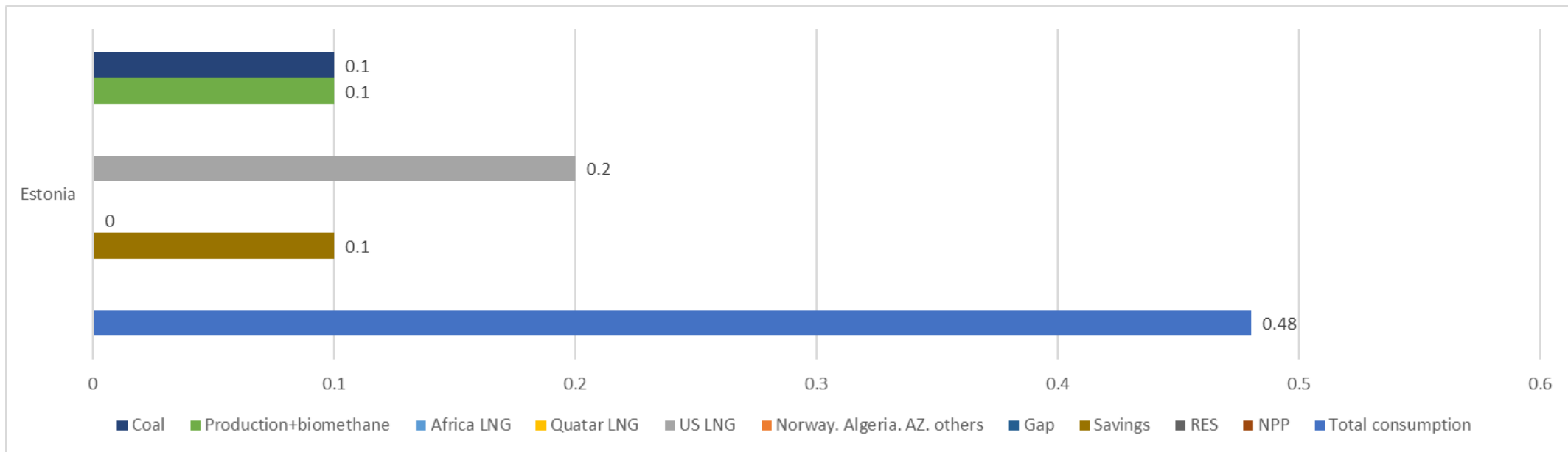


Czech Republic is reliant on east-west gas deliveries and can substitute only a part of Russian gas by Norwegian one through North German NETRA pipeline. The core risk is the lack of capacities in Germany to receive non-RU gas, in particular, through LNG-terminals. Gas from the North Sea has been flowing to the Czech Republic since May 1997 via the North German NETRA pipeline and the connecting link. The Czech operator Net4Gas is also working to connect the country to the Austrian gas system, which should be ready by 2028. In May this year talks with Qatar on additional gas volumes for the Czech Republic are planned¹⁰.

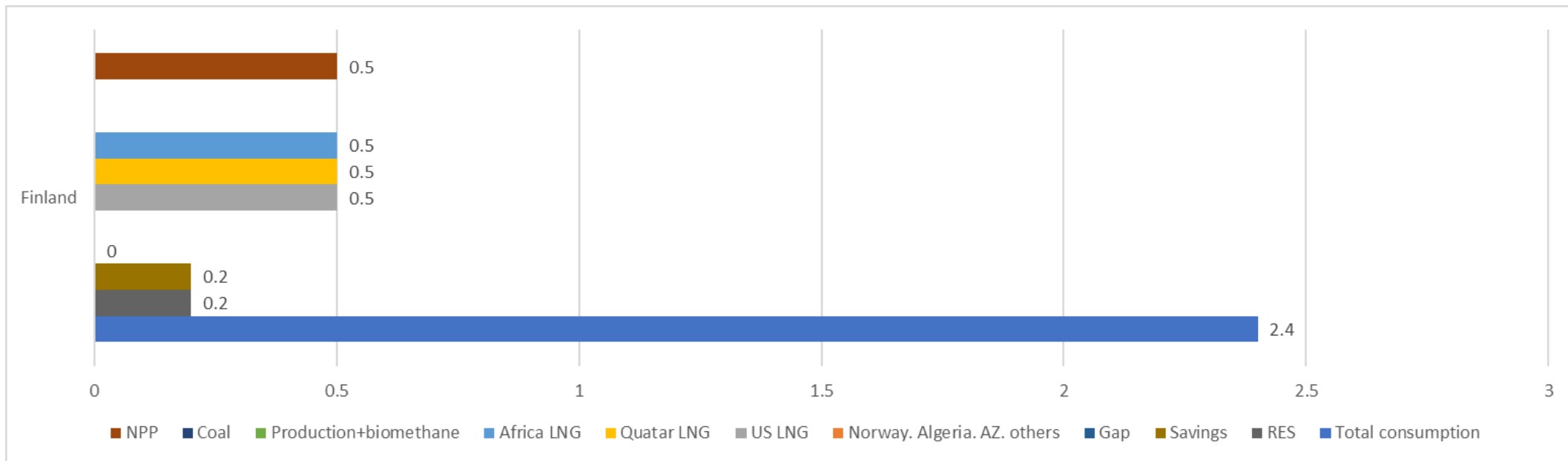


Denmark makes enormous progress in substituting gas through development of biomethane capacities. Consumption of natural gas is covered by own production. It does not depend on Russian gas.

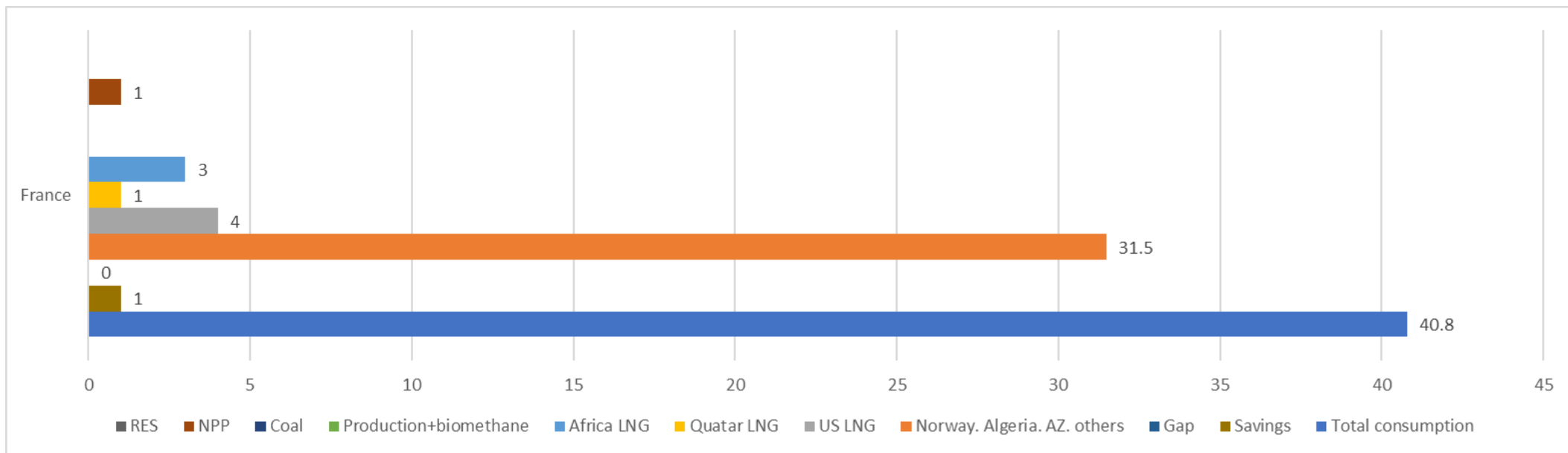
¹⁰ <https://english.radio.cz/czech-republic-bracing-potential-disruption-gas-supplies-russia-8746753>



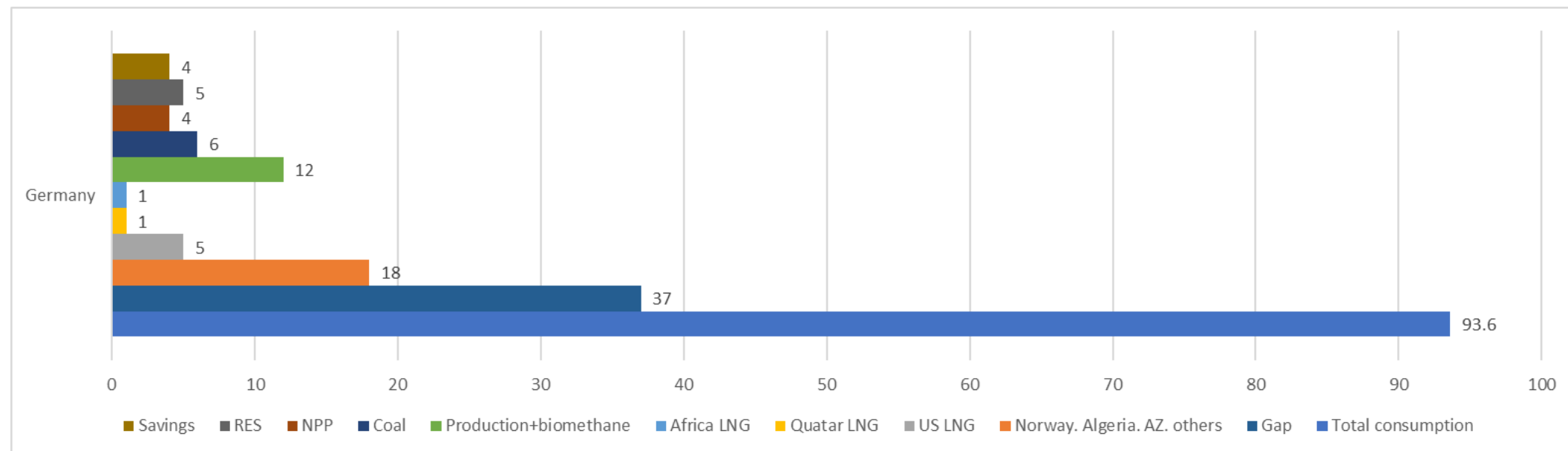
The Estonian government has decided in principle that the country will stop importing Russian gas in 2022. By the autumn, the port city of Paldiski will be able to receive liquefied natural gas, as well as a state gas reserve of 1 TWh.



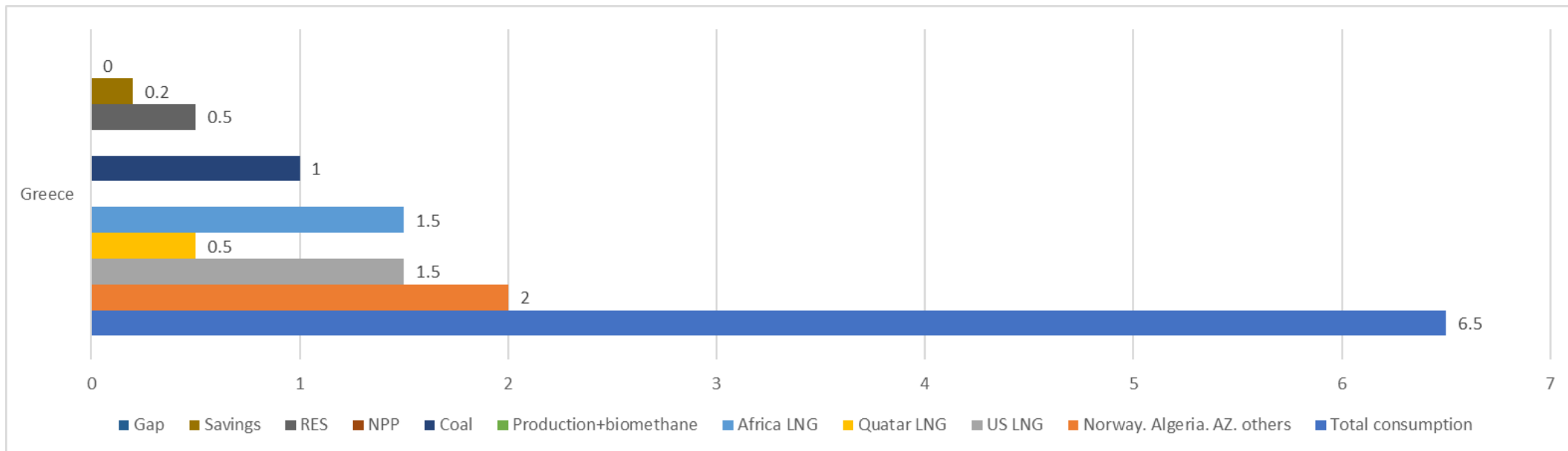
Finland can use Hamina LNG terminal+Balticconnector+NPP to get rid of RU gas until the end of 2022.



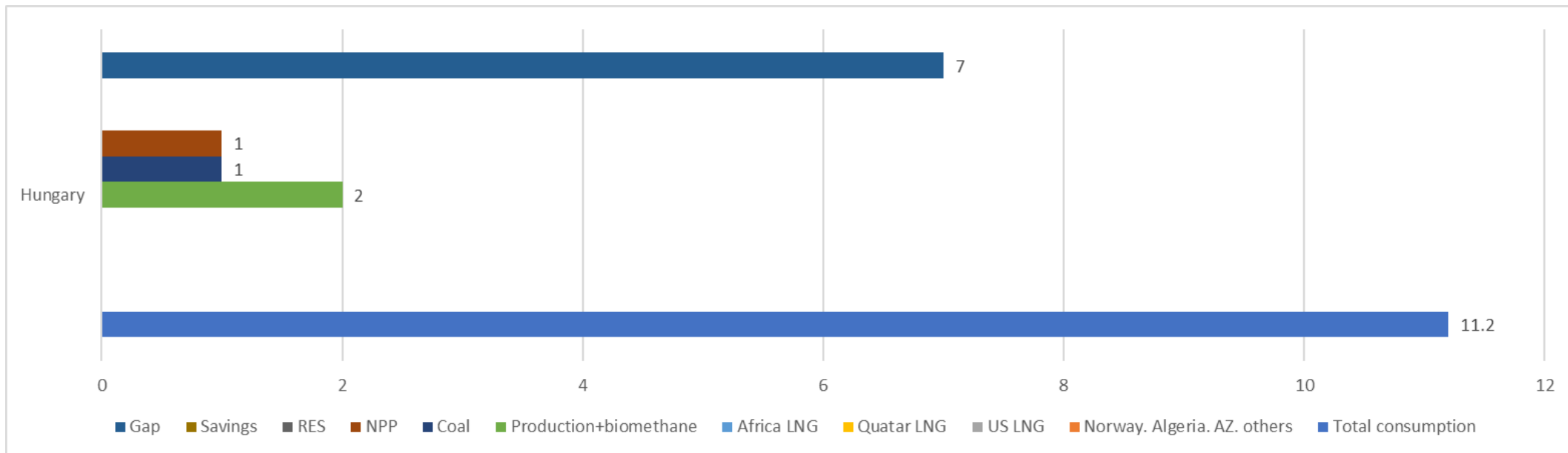
France increases utilization rate of LNG-terminals to receive more gas and has available spare capacities, which could be used by German companies. French TotalEnergies does not support the abandonment of Russian gas. The share of Russian gas in total natural gas imports in 2020 was 24%, according to Eurostat.



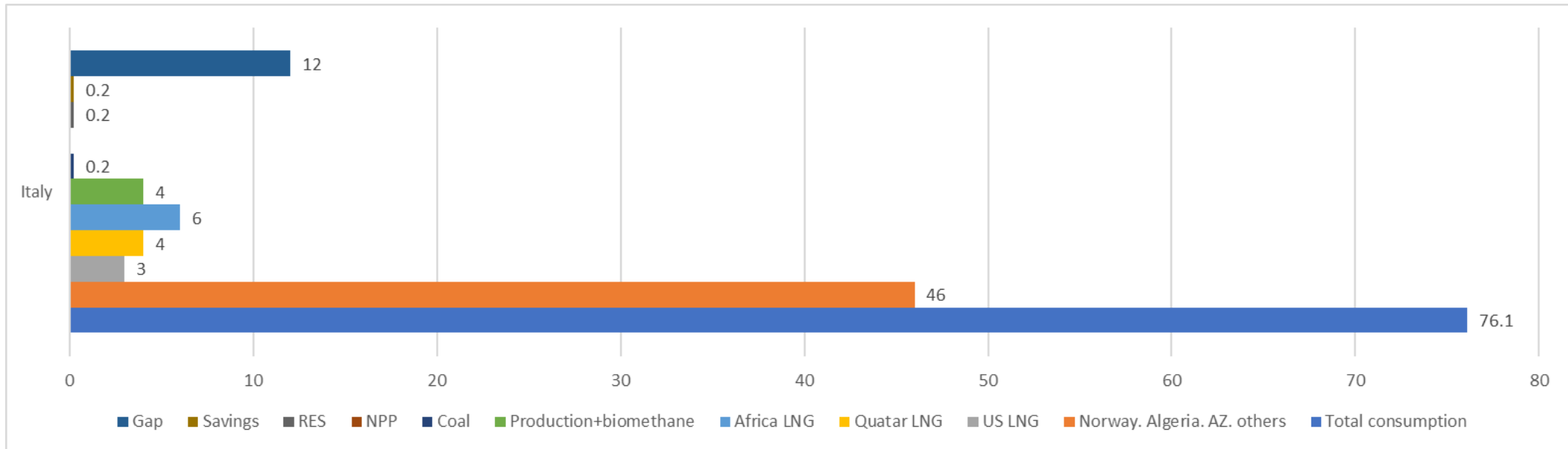
Germany has the biggest gap in gas supplies among all EU MSs. It can purchase more LNG through terminals in neighbouring countries, but German companies are reluctant to do it without political sanctions and significant financial benefits from current LTAs with Russian Gazprom. These benefits will go down in next quarters due to oil indexation, thus stimulating German wholesale traders to support floating LNG regasification facilities, due to be operational at the end of 2022.



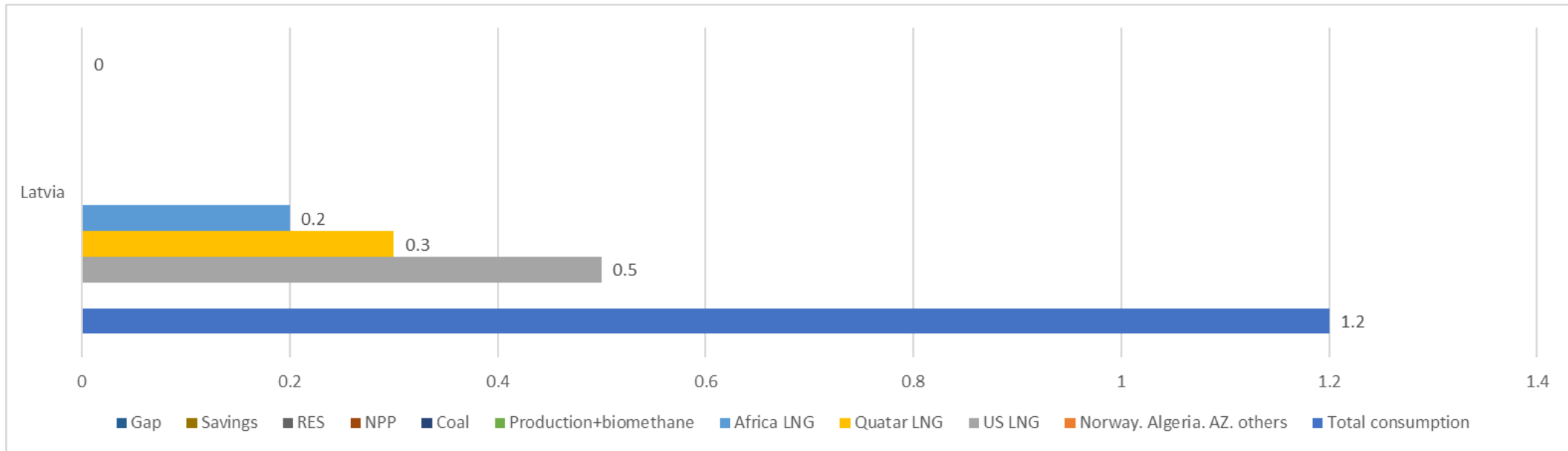
Greece has a chance to give up buying RU gas, if operating on full capacities its LNG terminal as well as developing relations with Azerbaijan and return to coal generation.



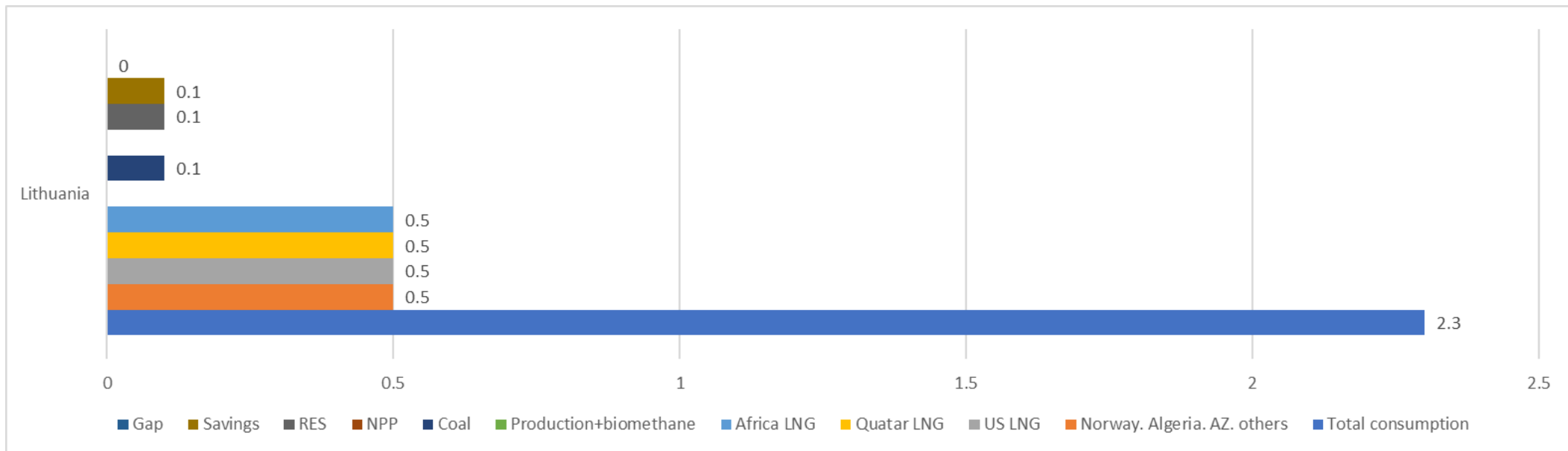
Hungary makes little to nothing for alternative gas supply and is so far one of the most vulnerable CEE countries in case of RU gas cut off. The Prime Minister of Hungary, Viktor Orbán, whose party recently won the election for the fourth time, stressed that blocking oil and gas from Russia is not in Hungary's interests. Here, it should be noted that traditionally part of Orban's election campaign is dedicated to cheap electricity prices.



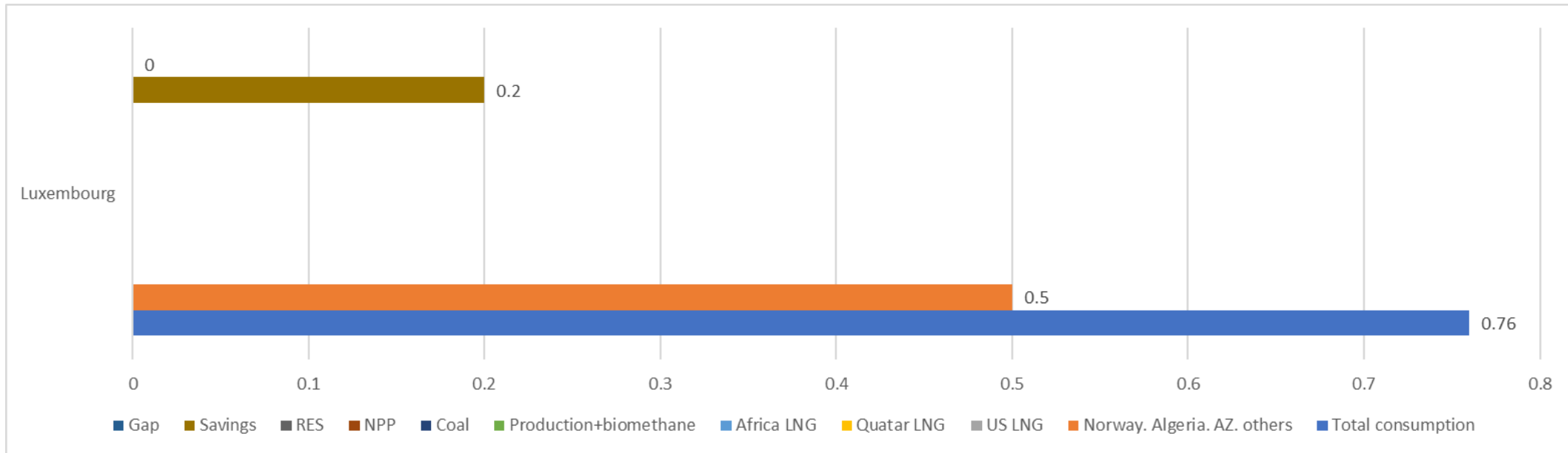
Italy has the second largest consumption of Russian gas in the EU after Germany, which can not be totally replaced by additional supplies from non-Russian sources. Existing LNG terminals do not have sufficient capacity. Italy, which has pipelines from Algeria, Libya and Azerbaijan, is seeking to increase LNG imports to reduce its dependence on Russia. The construction of the EastMed pipeline from the Eastern Mediterranean is being discussed. Italy buys about 30 bcma from Russia, which is 40% of its total natural gas consumption. Algeria is the country's second largest supplier, providing 21 bcma, or 31% of consumption. A spokesman for the Italian government said the Trans-Mediterranean gas pipeline, which transports gas from Algeria to Italy via Tunisia, operates at only two-thirds of its 33 billion cubic meters a year. This is what gives Italy the opportunity to immediately increase purchases from Algeria, as there is no need to build more pipelines or other new infrastructure. So, one third of Russia's gas supplied to Italy each year could be replaced by fast-growing imports from Algeria.



In early April this year Latvia has made a clear decision not to import Russian gas, so the country sees LNG supplies from the United States and Qatar as a very promising alternative to Russian gas.

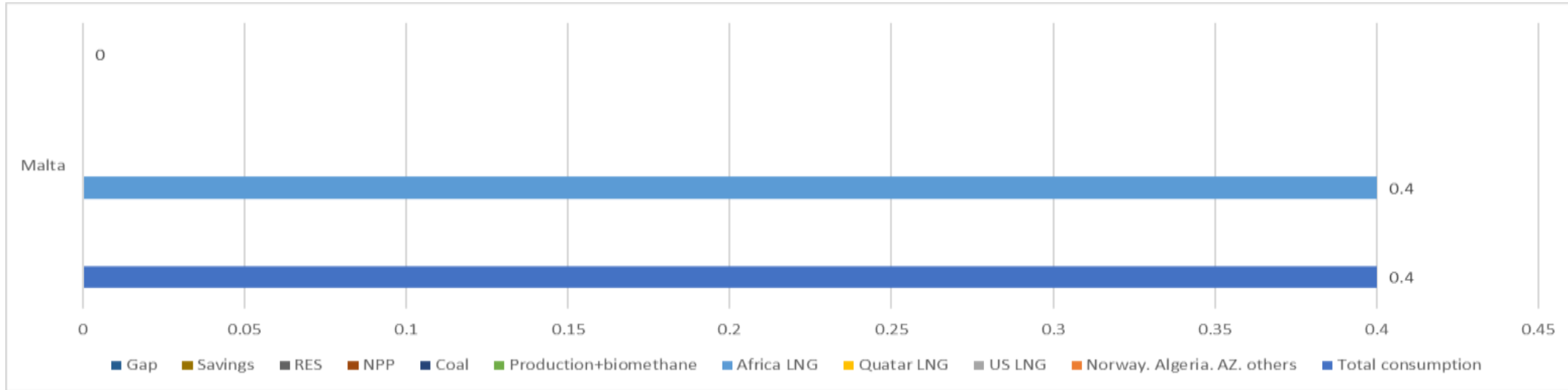


Lithuania has been the first EU country to completely abandon Russian gas imports since early April. According to the Ministry of Energy of Lithuania, from the beginning of April this year Lithuania's gas transmission system operates without Russian gas imports.



According to the Luxembourg Ministry of Energy¹¹, 25% of all gas consumed in the country came from Russia. 50% came from Norway or the Netherlands, and another 25% in the form of liquefied natural gas. Luxembourg is part of the Luxembourg-Belgian gas market, and in addition to pipelines delivering gas from Norway and the Netherlands, the Belgian port of Zeebrugge is one of the largest for LNG-tankers.

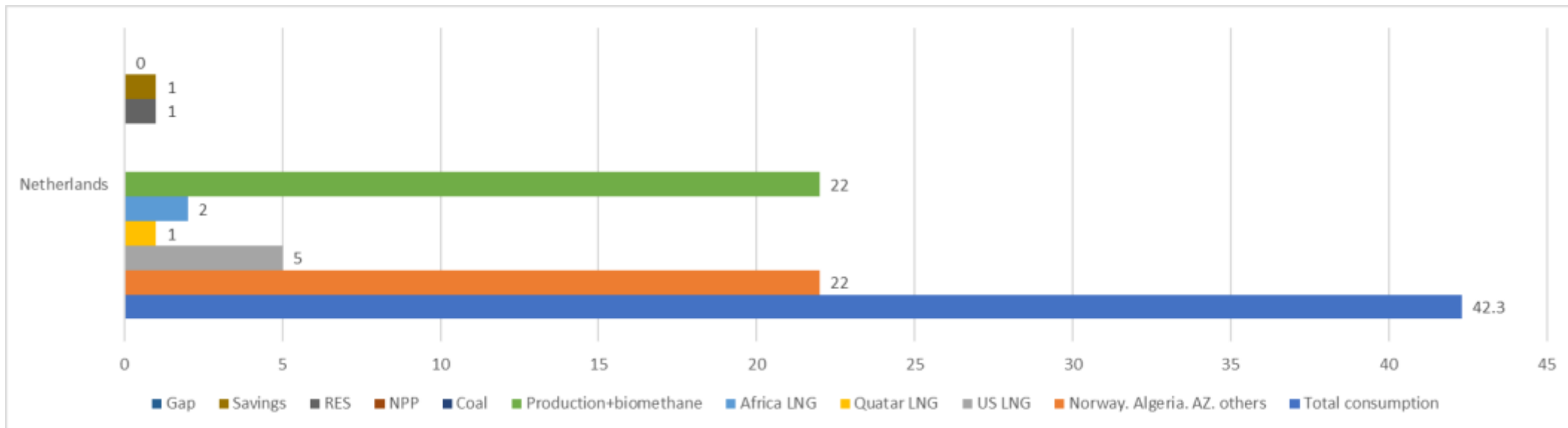
¹¹ <https://today.rtl.lu/news/luxembourg/a/1868814.html>



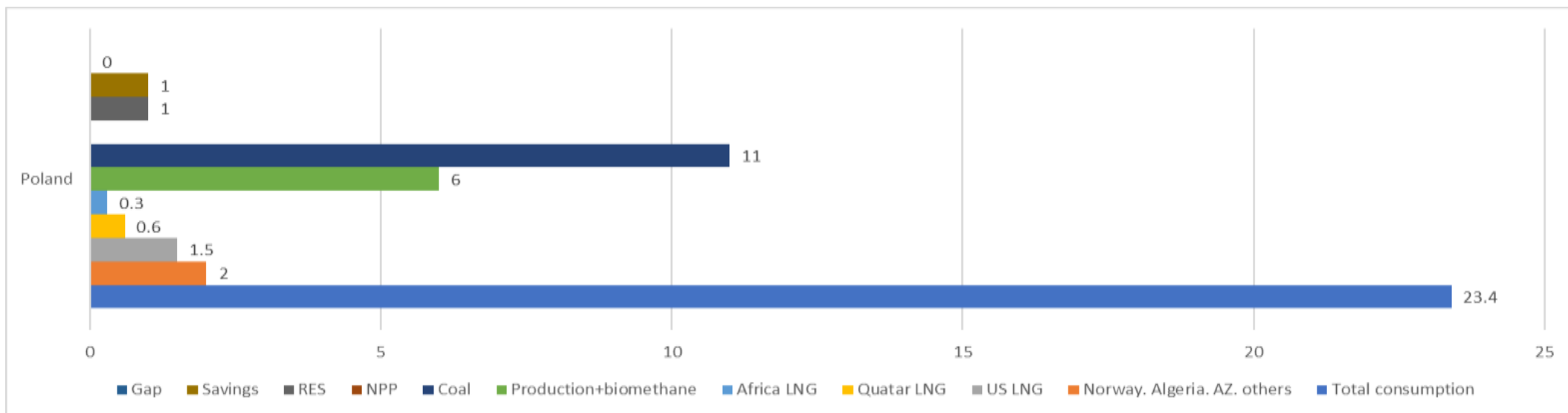
Malta is not dependent on Russian gas. According to the Ministry of Energy¹², the island produced 73.6% of electricity from gas power plants, due to LNG combustion obtained from Africa through the Azerbaijani state oil and gas company SOCAR as trader¹³, 16.7% of electricity comes from the European network through the Malta-Sicily interconnector and 9.7% from renewable sources.

¹² <https://timesofmalta.com/articles/view/malta-not-dependent-on-russian-gas-energy-minister.939906>

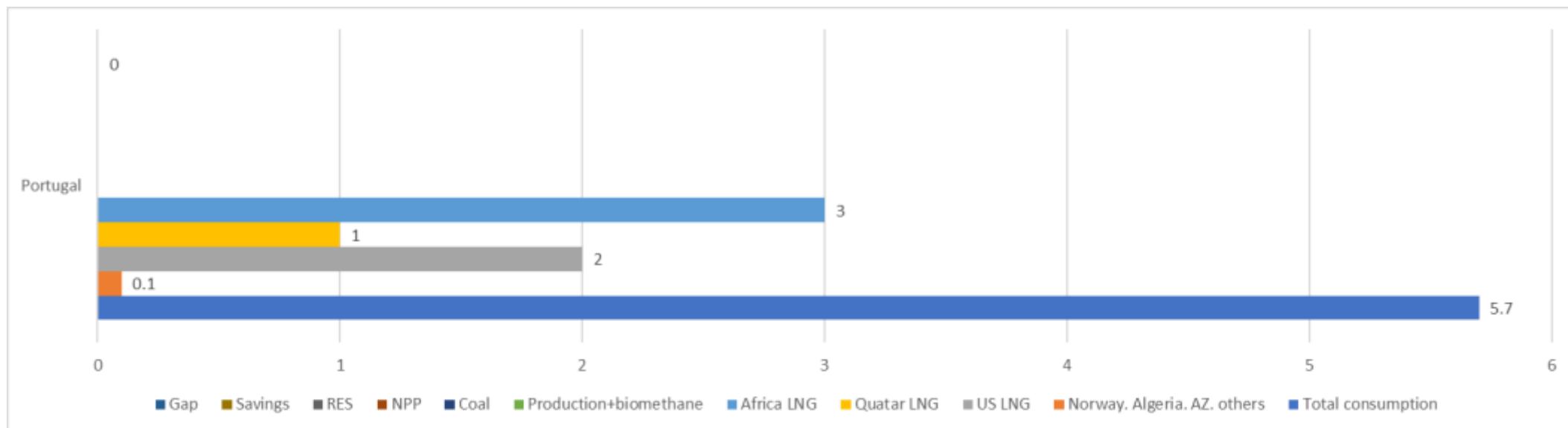
¹³ <https://www.socartrading.com/qa/lng>



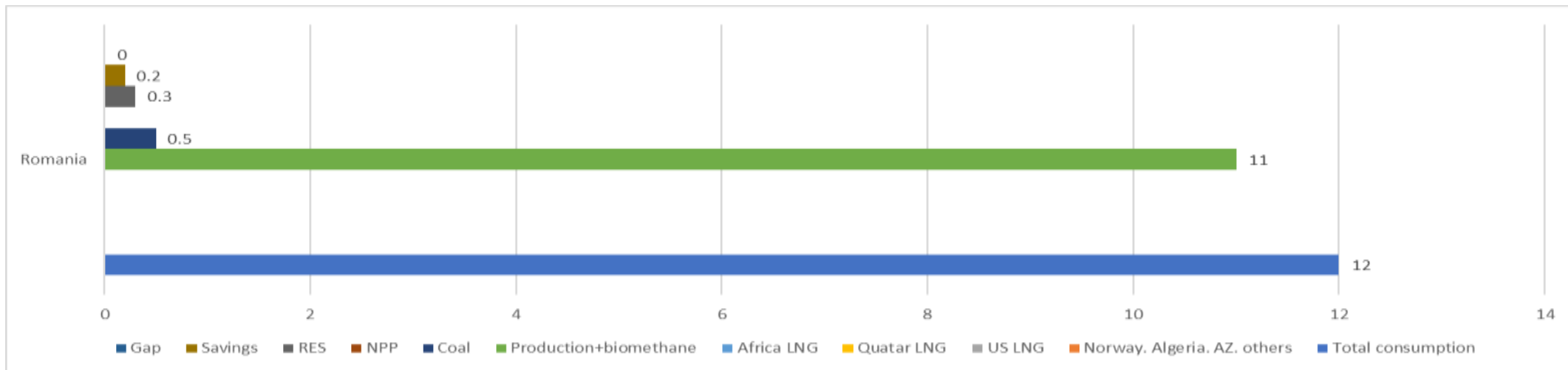
Despite the fact that the Netherlands is one of the largest gas producers in Europe and the country covers most of its consumption by its own production, the share of Russian gas in total gas consumption in the Netherlands is 15%. Imports from Russia are due to the depletion of the traditional Groningen deposit, which for half a century has played a strategically important role not only for the Netherlands but for the EU as a whole.



Poland has laid the groundwork for stopping Russian gas purchases by building a liquefied gas terminal in the Baltic port of Swinoujscie. The terminal provides the opportunity to receive liquefied gas from Qatar and the United States in the amount of 5 bcma, with the planned expansion to 7.5 bcma in 2023. The Baltic Pipe will provide an opportunity to obtain another 10 bcm from Norway. Any additional demand for gas will be met through domestic production and imports through interconnectors with neighboring EU countries. At the end of February, Poland and Lithuania agreed to commission the GIPL gas interconnector on May 1, and it should be operational at full capacity in October.

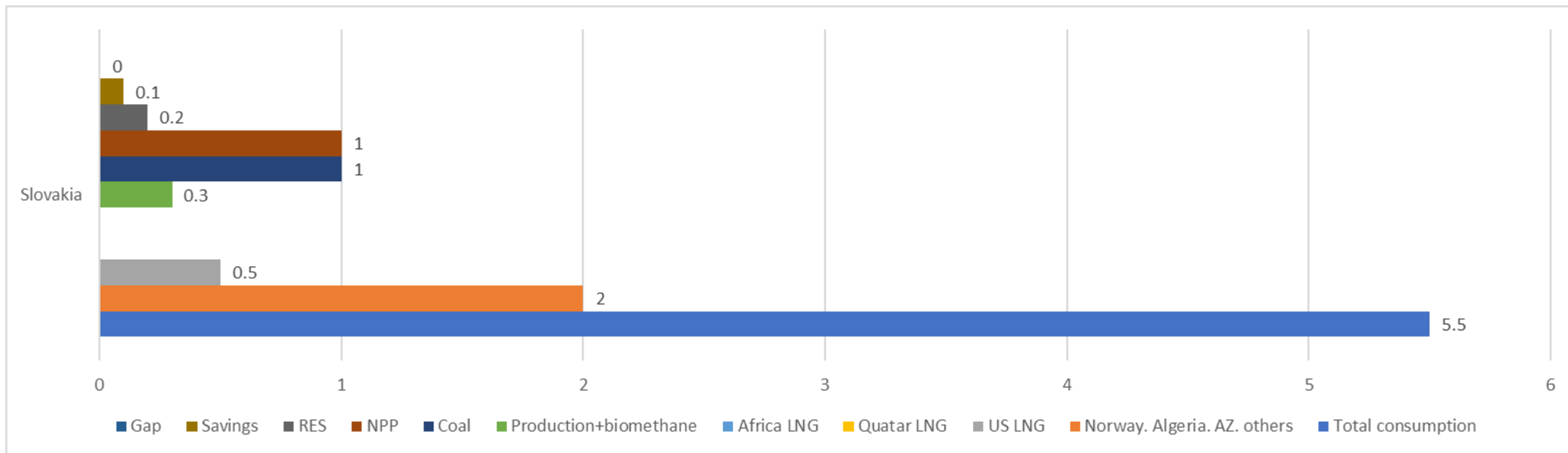


There is no own production in Portugal. There are no direct gas supply agreements with Russia. Portugal plans to increase the capacity of the LNG terminal in Cines to 5,26 bcma, increase storage and build a third pipeline to Spain in four years, which will increase its export capacity to Spain from 70 GW per day to 150 GW per day.

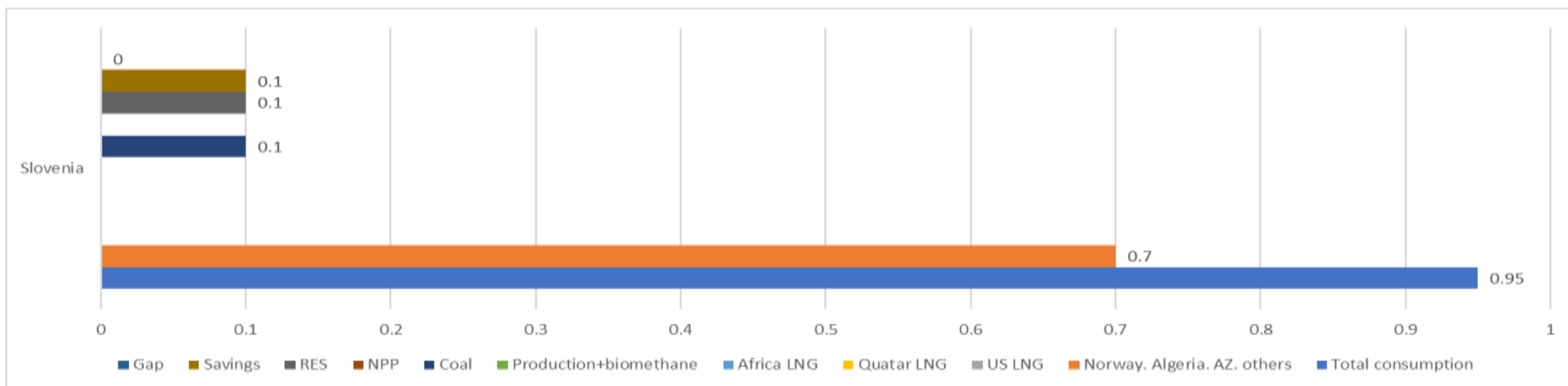


In 2021, Romania imported about 20% of its natural gas from Russia, and the rest of its gas needs were covered by its own production. In the short term, Romania plans to increase production capacity by 300 MW at the Oltenia coal power complex in the south by the end of the year. It seeks to diversify its gas supplies by using more than 200 bcm of shelf reserves in the Black Sea, as well as importing gas from countries such as Azerbaijan, Qatar, Saudi Arabia, Egypt, Israel and the United States. It is also possible to expand the capacity of the Chernavoda nuclear power plant, which produces about 20 percent of the country's electricity. If Romania cuts Russian gas imports, the Energy Policy Group reports¹⁴ in a recent deficit of 16.5 TWh a year, even with increased domestic gas production and renewable energy projects.

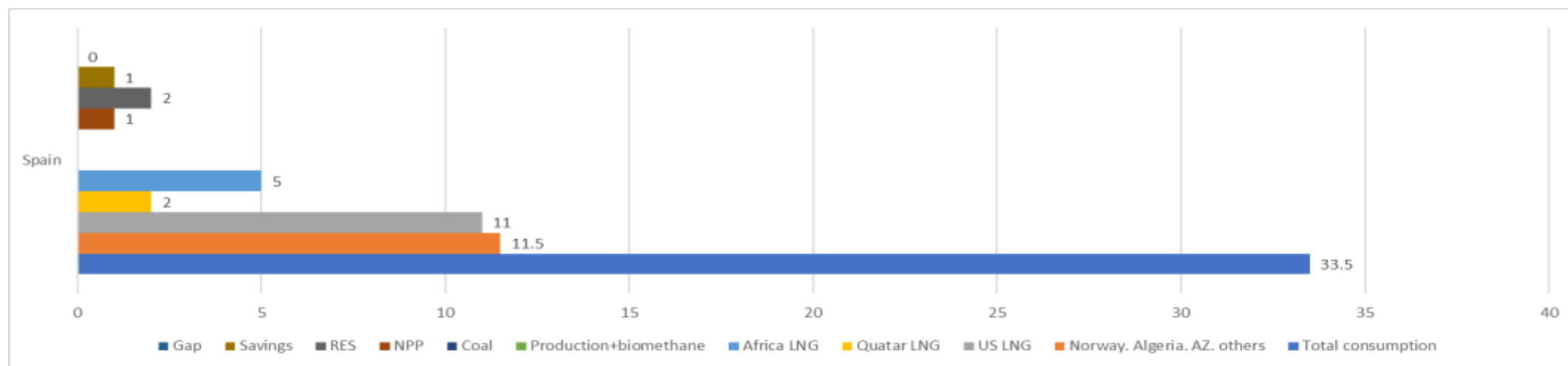
¹⁴ https://www.enpg.ro/wp-content/uploads/2022/04/EPG_RO_GasImports_010422.pdf



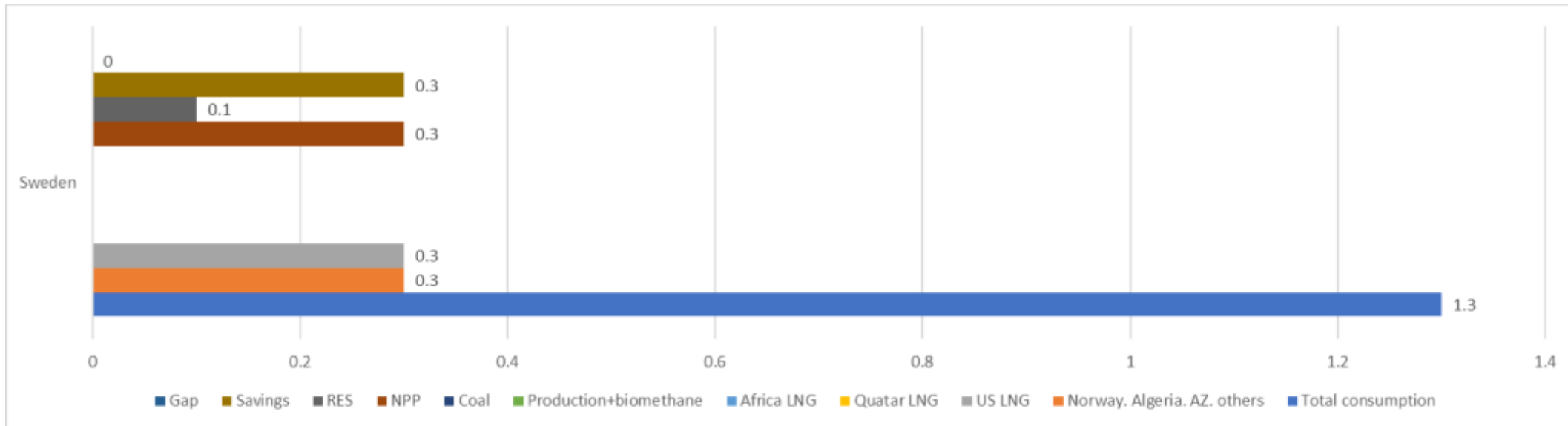
Slovakia is able to receive LNG from Poland via SK-PL gas interconnector, however, in limited amount due to Polish demand. It is important for SK also to ensure west-east pipeline gas flow in order to compensate eventual RU gas cut off.



Slovenia is in talks to increase natural gas imports from Algeria and Morocco via Italy to reduce its dependence on Russian gas. Peak gas consumption in Slovenia is 4.5 million cubic meters per day. The government is currently negotiating to increase the maximum capacity of the Sempeter pri Gorici entry point on the Italian border to 4.1 million cubic meters per day from 3.5 million cubic meters per day.



Spain has the largest regasification capacity in Europe but transporting gas further to Europe via the Pyrenees was a problem. It is officially stated that although 30-40% of Russian supplies can be replaced immediately, it will be much more difficult to replace the rest of the volumes. However, in February 2022, amid the energy crisis in the EU and rising tensions between Russia and the West, the possibility of resuming the Midcat project was announced. This will potentially allow imported LNG to be transported through existing Spanish and Portuguese terminals to Europe. Thus, it will increase diversification.



Sweden's energy supply depends to a small extent on the supply of Russian energy resources. The natural gas cover only 2% of the energy balance, and it is estimated that half of this may come from Russia - about 1%.

Conclusions

Thus, the EU is gradually making progress towards the goal of giving up Russian gas. The plan to abandon Russian gas, adopted in late March, stipulates that by the end of 2022 it will be possible to replace 100 billion cubic meters, or 2/3 of natural gas from Russia.

Given the inertia of decision-making in the EU, plans to reduce Russian gas consumption can be called a tectonic shift in European energy policy. However, the plan to abandon Russian gas imports is general in nature, does not contain measures and actions that will have a rapid effect - the transition to coal and oil products in electricity generation, refusal to close the NPPs this year and next, so many reputable experts consider plans to reduce dependence on Russian gas by two-thirds this year to be purely declarative, and this goal may not be achieved.

Gas supplies to the EU can be increased through both LNG and pipeline supplies. Another favorite is Algeria, which already has two pipelines to Spain. Egypt and Libya are also potential suppliers. However, Libya is considered "unstable" and lacks LNG infrastructure. Another option is Nigeria, although the planned pipeline through Algeria is seen as "problematic" given the conflicts and terrorist threats in the Sahel.¹⁵

There is a need to put pressure on the European Commission, in particular from countries that have announced a refusal to import Russian energy resources (USA, Canada, UK, Poland, Lithuania, Latvia, Estonia, etc.), in order to persuade EU institutions and major consumers - Germany and Italy, as well as France as one of the largest economies, to take emergency measures. First of all, **full embargo on gas, oil and coal from Russia is needed.**

A full embargo on all Russian energy sources is the most desirable and correct course of action. The impossibility of the aggressor to receive income from the sale of oil and gas has the most effective impact on the Russian economy. A partial or short-term embargo is a false and dangerous strategy. It could lead to further increases in energy prices, in particular for gas, which apparently fully compensates for Gazprom's loss of exports share, as was the case in the second half of 2021.

In case of inability of the EU to impose an embargo, it is necessary to introduce a mechanism of centralized minimization of payments for Russian hydrocarbons (only in the amount to cover extraction costs in the well) while increasing compensation from market prices to Ukraine as non-refundable assistance from the EU. Another alternative could be an administrative price to be set by the European Commission in conjunction with the EU consumer cartel. Recent words of the Italian prime minister Mario Draghi are quite optimistic: "Diversification is possible and feasible relatively quickly, shorter than we imagined just a month ago. We have gas in storage and will have new gas from other suppliers...Europe continues to finance Russia by purchasing oil and gas, among other things, at a price that has no relation to historical values and production costs."¹⁶

¹⁵ <https://www.vrt.be/vrtnws/en/2022/03/22/where-does-belgium-get-its-gas-and-what-are-the-alternatives/>

¹⁶ <https://www.bloomberg.com/news/articles/2022-04-17/eu-can-cut-russian-energy-dependence-sooner-than-thought-draghi>

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