European Parliament

EU energy partnerships: Norway

SUMMARY

Since Russia invaded Ukraine, EU Member States have made serious efforts to reduce their dependence on Russian energy imports. To broaden the range of energy suppliers, the European Commission and the Member States' national governments have signed new agreements with non-EU countries and strengthened their pledges with existing partners.

Norway is the world's fifth largest oil and third largest natural gas exporter, accounting for 2 % of global crude oil production and 3 % of global natural gas production. Norway covers 92 % of its electricity generation with renewable energy (hydropower) and is highly electrified. The government is investing heavily in energy research and innovation to meet its commitments under the Paris Agreement by 2030.

Norway is part of the European Economic Area. In June 2022, the EU and Norway signed a joint statement pledging to step up their cooperation in order to secure their energy independence and improve the EU's resilience. The statement focuses on gas supply from Norway to the Member States and on developing cooperation on renewable energy, carbon capture research, and hydrogen.

NORWAY

Population (million)	5.4
Area (km²)	364 285
GDP (€ billion)	408
GDP growth (annual average growth rate in %)	3.3
Unemployment (% of total labour force)	3.2
Trade in goods (at current prices, € billion)	337

Data sources: UN (2022) accessed 5 September 2023 and Worldbank (2022) accessed 4 September 2023.

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Introduction

In 2020, the EU imported 57.5 % of the energy it consumed, and depended on Russia for almost a quarter of all its energy needs. More specifically, Russia was the EU's top supplier of natural gas (import dependency rate of 83.6 %, EU reliance on Russia 41.1 %), crude oil (import dependency 96.2 %, reliance on Russia 25.7 %) and hard coal (import dependency 10.5 %, reliance on Russia 52.7 %). Following the Russian invasion of Ukraine, EU institutions and Member States have taken decisive action to decrease their dependence on Russian energy exports.

In May 2022, the European Commission presented REPowerEU, a plan to make the EU independent from Russian fossil fuels well before 2030. The plan set out a series of measures to rapidly reduce dependence on Russian fossil fuels and speed up the green transition. Planned measures include saving energy, accelerating the transition to renewable energy and working with international partners to find alternative energy supplies (among others through the external energy strategy the EU adopted at the same time in May). In the context of that last measure, the Commission and the national governments have signed agreements with non-EU countries and strengthened pledges to increase energy trade with existing suppliers. As a result, 2022 saw increased LNG deliveries from the United States (US), as well as pipeline and LNG gas from Norway; an intensification of the EU's cooperation with Azerbaijan, especially on the Southern Gas Corridor; an exploration of the export potential of Canada and sub-Saharan African countries such as Nigeria, Senegal and Angola; political agreements with gas suppliers, such as Egypt and Israel, to increase LNG supplies; a renewed energy dialogue with Algeria; and continued cooperation with major producers in the Gulf, and Australia.

According to recent studies, other than affecting Moscow's energy revenues, this new level of cooperation – both among EU countries and between them and new or existing partners – has yielded multiple positive side effects, such as diversification of the EU's energy sourcing and enhanced innovation in the energy sector. For G7 countries, it has also led to the adoption of bold policies to accelerate the green energy transition, such as the Inflation Reduction Act in the US, the REPowerEU plan in Europe and the Green Transformation programme in Japan. From the perspective of the EU's partners, this cooperation means new or larger markets for their resources. The resulting extra revenues from the sale of oil and gas could improve their economic prospects, which is particularly important in the current economic juncture, characterised by inflation, rising government debt and the ramifications of the Russian invasion of Ukraine (e.g. food, fertilisers).

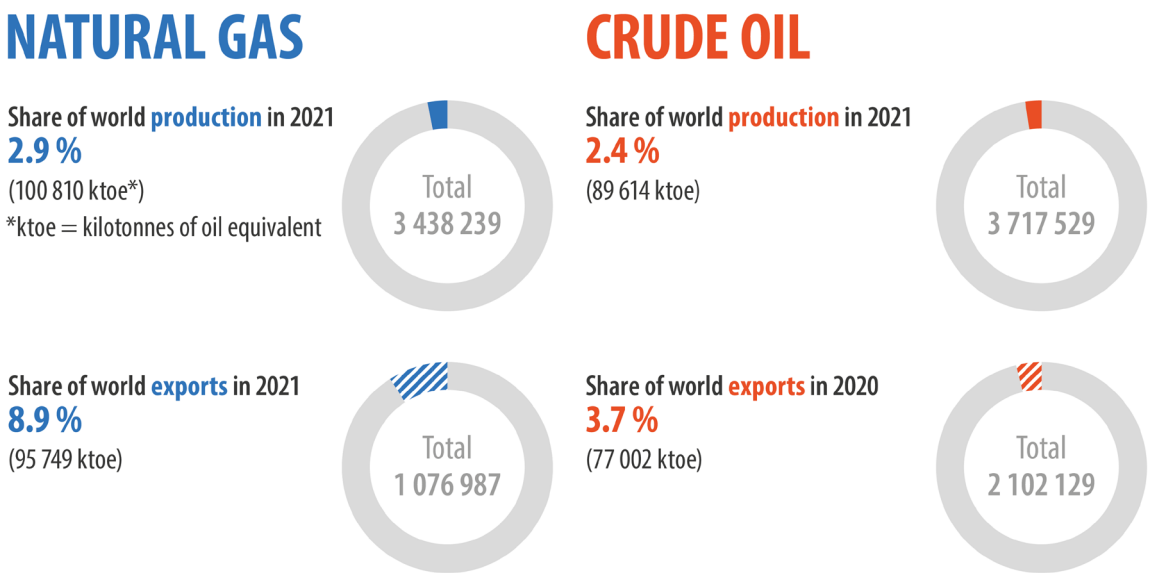
There are also risks associated with this new situation. The large increase in LNG imports demanded by the RePowerEU plan comes from a group of distant countries (e.g. United States and Qatar) resulting in an additional impact on the environment relating to the transportation of the LNG. In addition, increasing the supply to the EU deprives certain developing countries from gas, something that could – in the short term, at least – force them to rely more on the more polluting coal. Lastly, while rich hydrocarbon countries such as Norway, Saudi Arabia (see below) and Qatar have adopted multiple initiatives to speed up their energy transition, for other hydrocarbon exporters (e.g. Algeria or Azerbaijan), the promise to increase exports would presuppose important investments in gas and oil exploration and infrastructure, shifting important funds away from their own energy transitions and potentially increasing the risk of environmental hazards and disruptions in local communities.

In addition to risks relating to the green transition, this increase in LNG also carries significant fiscal implications for EU Member States, among other things because it requires a dedicated infrastructure, and because LNG prices are higher than those for pipeline gas (especially so in 2022). This comes at an unfortunate time, when many Member States' economies have been impacted by the COVID-19 pandemic and the related increase in sovereign debt.

Lastly, in third countries, extra revenue may reduce voters' willingness to demand accountability from their governments, enabling corruption and clientelism. The result could be to consolidate the power of authoritarian regimes with a mixed record on human and political rights, undermining the EU's aims to promote democracy and defend human rights.

Norway's economy and energy

Figure 1 – Norway's share of global production and exports of natural gas and crude oil



Data source: OECD, accessed 5 September 2023.

Norway's economy – the Nordic countries' second largest after Sweden – is largely based on services, petroleum and natural gas production, and light and heavy industries. In 2022, Norway had the largest oil reserves in western Europe, with 7.7 billion barrels in crude oil reserves. The country is the world's fifth largest oil exporter and a major supplier of oil to the European market (8.7 % of EU imports in 2020). According to BP's Statistical Review of World Energy 2021, Norway also has 50.5 trillion cubic feet of natural gas reserves. It is the world's third largest natural gas exporter after Russia and Qatar.

With a population of a little more than 5 million, Norway has a small domestic energy market that allows it to export the bulk of its oil and gas production. In 2021, Norway's hydrocarbon exports accounted for 60 % of its total exports, 28 % of its GDP and 42 % of its state revenue.

Oil

Equinor Energy is the largest crude oil producer in Norway accounting for 68 % of the total output, followed by Aker BP (10 %) and ConocoPhilips (8 %). Oil from the Norwegian continental shelf is transported by ship or pipelines to a final delivery point on land.

In 2021, the EU (49 %) and UK (30 %) were the main export markets of Norwegian oil. Norway was responsible for 6.8 % of EU oil imports in 2021 (see Figure 3). In the EU, the main destinations were Sweden (28 %), the Netherlands (17 %), Germany (16 %), and Belgium (13 %), which account for almost three quarters of EU imports, with the remaining quarter split among nine Member States.

In 2022, Oslo evaluated 88 potential new crude oil and natural gas fields for future development. Given the increased level of development activity on the shelf, Norwegian oil production is expected to continue to increase in the following years. However, this requires the opening of new fields and large-scale investment in existing ones.

Gas

About 95 % of Norwegian gas is transported via an extensive network of subsea pipelines to other European countries and onshore terminals, while about 5 % is exported as LNG by ship from the Melkøya facility in Hammerfest. The total length of the Norwegian gas pipeline network is about 8 800 kilometres, and its transport capacity is about 120 billion standard cubic metres (Sm^3) of dry gas per year. Norway ensured 15.2 % of EU oil imports in 2021 (see Figure 2). In 2021, the Member States importing gas from Norway were Germany (28 %), France (26 %), Belgium (21 %) and the Netherlands (18 %).

Three onshore gas-processing plants – Kårstø, Kollsnes and Nyhamna – are connected to the pipeline network and receive rich gas from the fields. Kårstø is the largest NLG processing hub in Europe. There are four receiving terminals for Norwegian gas in continental Europe (two in Germany, one in Belgium and one in France) and a further two in the UK.

In 2022, gas production was expected to be 8 % higher than in 2021.

Renewables

Norway plays a crucial role in promoting the green energy transition in the Nordic region. The fact that Norway has green energy agreements and grid connections with its neighbouring countries allows it to provide the region with a significant amount of low-cost, zero-emissions energy.

Most of Norway's electricity is generated from renewables: hydropower accounts for over 90 % of power supply. In May 2022, the government presented a major initiative to promote offshore wind power (in Utsira North and Southern North Sea II) to generate as much electricity from it as is currently produced domestically (30 000 megawatts). The country has 30 thermal power plants, which generate electricity from various energy sources, such as municipal waste, industrial waste, surplus heat, oil, natural gas and coal. Moreover, the amount of recovered natural gas liquids has increased significantly.

Nuclear energy

At present, Norway does not have any nuclear reactors for electricity generation. Up until recently, it had four operational research reactors, one at Halden (HBWR) and three at Kjeller (JEEP I, N0RA and JEEP II). These were operational over varying periods between 1951 and 2019.

Recent developments

In March 2022, the Norwegian government authorised an increase in national gas production by approximately 50 billion cubic feet, mainly from the Oseberg and Heidrun fields. Furthermore, there has been an increase in extraction from the Snøhvit field in the Barents Sea. Due to the high European demand for gas amid the Russia-Ukraine conflict, in July 2022 Norwegian natural gas exports hit a record high of US$13.26 billion.

In February 2023, the Norwegian government stated its intention to make changes to its energy market to preserve more energy capacity for domestic use and keep prices in check. It also stated that it would assess the effect that various proposals for levying taxes on electricity exports have on the electricity market. To this end, it appointed an expert committee to evaluate six proposals that also included the creation of separate electricity auctions for domestic and foreign use. The committee will submit its final report to the Ministry of Petroleum and Energy by 15 October 2023.

Energy cooperation with Norway

Norway is one of the four members of the European Free Trade Association (EFTA). As such, it is a member of the European Economic Area (EEA), along with its fellow EFTA states (excluding Switzerland) and the EU Member States. In that context, the country takes part in the EU common market and has recently obtained EU support for new oil and gas exploration.

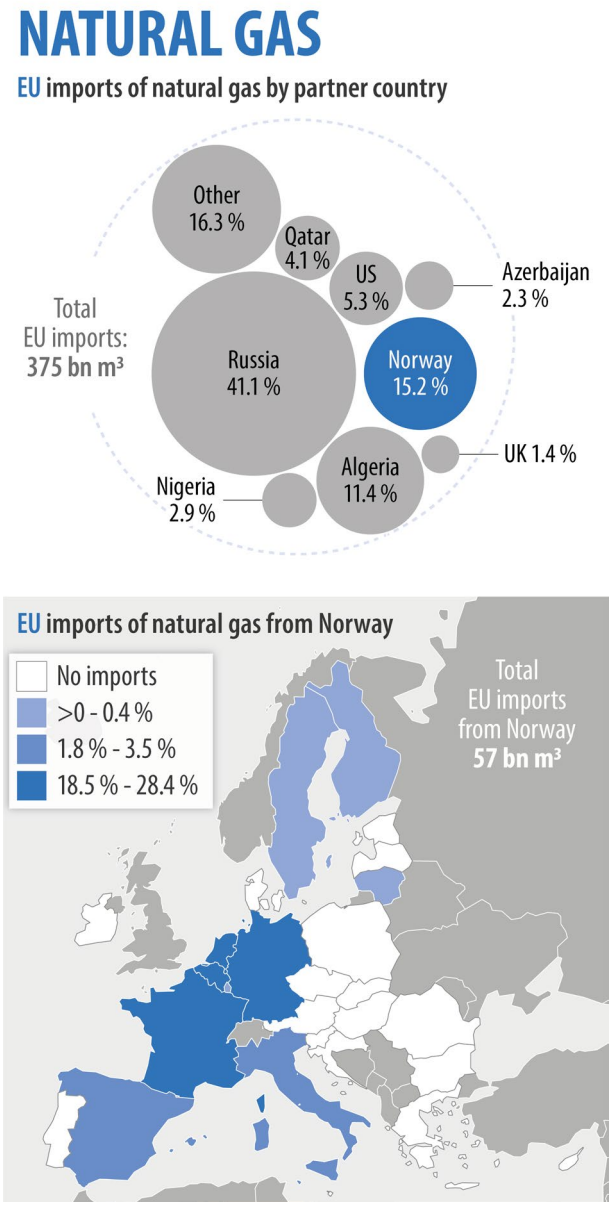
In 2021, Norway was the EU's seventh most important partner for trade in goods. Nearly 60.5 % of Norwegian exports – mineral products and fish and aquaculture products – go to the EU. EU exports to Norway are chiefly in the form of machinery, appliances and transport equipment. In 2020, bilateral EU-Norway foreign direct investment was high and balanced (around €€85.7 billion in inward stocks versus €91 billion in outward for 2021).

EU level

As mentioned above, Norway is a member of both EFTA and the EEA. As such, it is part of the EU internal energy market and has transposed the rules applicable to this market in its legislation. Moreover, it has close cooperation with the EU on energy issues: the Norwegian minister of petroleum and energy and the EU Energy Commissioner meet on a regular basis through the EU-Norway Energy Dialogue.

On 23 June 2022, in a joint statement, then Commission Vice President, Frans Timmermans, the Commissioner for Energy, Kadri Simson, and the Norwegian Minister of Petroleum and Energy, Terje Aasland, agreed to increase cooperation, to ensure additional gas supplies from Norway, to address the issue of high-energy prices, and to develop long-term cooperation on offshore renewable energy, hydrogen, carbon capture and storage. In a joint statement of 6 October 2022, the EU Commission President Ursula von der Leyen and the Norwegian Prime Minister Jonas Støre announced that in a bid to reduce excessively high prices in a meaningful way, they had reached an agreement to jointly develop tools to stabilise energy markets and limit the impact of market manipulation and price volatility. The stabilisation would seek to ensure the security of supply and the improvement of energy efficiency technologies. Lastly, they noted the importance of promoting infrastructure investments for industrial decarbonisation, as it would contribute to the future stabilisation of energy markets and to achieving the common climate objectives.

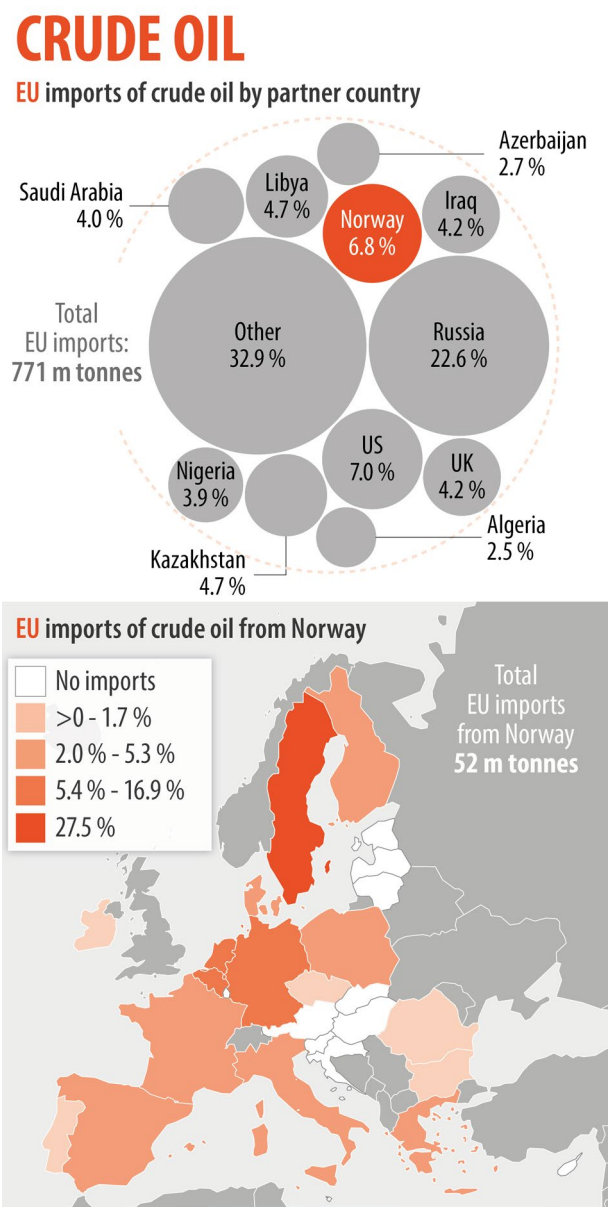
Figure 2 – EU imports of natural gas, including from Norway (2021)



Data source: Eurostat, accessed 4 September 2023.

In recent years, the Norwegian government has also stepped up its participation in international R&D projects focused on developing the energy and petroleum sector. It participates, among others, in the European Strategic Energy Technology plan (SET plan), the Nordic Energy Research platform and the Carbon Sequestration Leadership Forum. Recently, it has taken part in various projects under the Horizon 2020 programme, including the offshore renewable energy (MARINERG-i) project and the +CityxChange project. In 2021, it formally became associated to Horizon Europe. Norway's key cooperation partners in the energy domain are the EU, the International Energy Agency (IEA) and countries in the Nordic region.

Figure 3 – EU imports of crude oil, including from Norway (2021)



Data source: Eurostat, accessed 4 September 2023.

Russia's invasion of Ukraine and the gradual cut-off of Russian natural gas to the EU have made Norwegian gas exports critical to EU energy security. In that context, crude oil and natural gas production should continue to play an important role in Norway's economy and shape the country's role in the EU. According to a recent IEA policy review, Norway can play a significant part in steering Europe towards clean energy technologies, being a global leader in both these technologies and related research. However, the review points out that Oslo has still a lot of work to do to reduce greenhouse gas emissions (by 90-95 % from 1990 levels by 2050), as stated in its Climate Change Act. Accordingly, the IEA suggests that Oslo establish national emissions reduction strategies up to the years 2030 and 2050. Moreover, it recommends that the government assess various scenarios for future global oil and gas demand and support long-term wind energy projects. Overall, the country should take advantage of its research and innovation capabilities to increase the production and export of new green technologies.

Member State level

In 2021, Germany was the largest destination for Norwegian gas in Europe. In 2022, a number of contracts were signed between Norway and several EU Member States, and between certain EU companies operating in the gas sector and their Norwegian counterparts. Norway's contract with Poland, for instance, provides for a supply of 2.4 billion cubic metres between 2023 and 2033. Additionally, a new natural gas pipeline, the Baltic Pipe, was launched in late 2022; the pipeline connects Norway and Poland via Denmark. Another example is Norway's contract with Slovakia for natural gas supply until the end of 2023. Again, under a contract with Sweden, Norway committed to allocating to it 83 % of its LNG exports. In addition, in February 2022, Norway signed a memorandum of understanding for the export of hydrogen to Belgium. In early January 2023, Norway and Germany agreed to enter a strategic partnership on climate, renewable energy and green industry. In that context, the two countries' heads of state affirmed their common intent to ensure a large-scale supply of hydrogen with the necessary infrastructure from Norway to Germany by 2030. Lastly, on 23 February 2023, Belgium and Norway signed an agreement to cooperate in areas such as offshore wind, hydrogen and carbon capture and storage.

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