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Can the EU wean itself off Russian energy?

The EU depends to a large degree on Russian energy, as they import around 29% of their oil consumption, 40-45% of their gas consumption, 54% of their coal consumption and 20-40% of their uranium used for nuclear power (depending, if you want to count Kazakhstan as "part of Russia" or not) from Russia based on 2019 figures.

European Energy Consumption vs. Russian Import Share 2019

Energy	EU consumption 2019	Energy Imports from Russia
Oil	38%	29%
Gas	25%	40-45%
Coal	11%	54%
Renewables	11%	-
Nuclear power	11%	20-40%
Hydroelectricity	4%	-

Source: Eurostat, Bund.net

Reducing reliance on Russian gas is key

Given that, in absolute terms, the EU imports most of its energy in the form of gas from Russia and the need for gas to heat homes in the winter, the first step would be to reduce the reliance on Russian gas. In 2019, the EU imported around 155 bcmpa of gas from Russia (the numbers in the below tables might differ due to rounding and as the EU imports more than it consumes to export it to countries outside of the EU, such as Ukraine or the UK). The sheer scale of Russian energy dependence makes it actually impossible for the EU to reduce Russian energy imports to zero, which is worrying. Nonetheless, the IEA has published a 10-point plan for the EU to reduce reliance on Russian supplies by 1/3 a year[1]:

1. Do not sign any new gas supply contracts with Russia. [**Impact**: Enables greater diversification of supply this year and beyond]

[1] https://www.iea.org/news/how-europe-can-cut-natural-gas-imports-from-russia-significantly-within-a-year

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2. Replace Russian supplies with gas from alternative sources [**Impact**: Increases non-Russian gas supply by around 30 billion cubic metres within a year]

3. Introduce minimum gas storage obligations [**Impact**: Enhances resilience of the gas system by next winter]

4. Accelerate the deployment of new wind and solar projects [**Impact**: Reduces gas use by 6 billion cubic metres within a year]

5. Maximise power generation from bioenergy and nuclear [**Impact**: Reduces gas use by 13 billion cubic metres within a year]

6. Enact short-term tax measures on windfall profits to shelter vulnerable electricity consumers from high prices [**Impact**: Cuts energy bills even when gas prices remain high]

7. Speed up the replacement of gas boilers with heat pumps [**Impact**: Reduces gas use by an additional 2 billion cubic metres within a year]

8. Accelerate energy efficiency improvements in buildings and industry [**Impact**: Reduces gas use by close to 2 billion cubic metres within a year]

9. Encourage a temporary thermostat reduction of 1 °C by consumers [**Impact**: Reduces gas use by some 10 billion cubic metres within a year]

10. Step up efforts to diversify and decarbonise sources of power system flexibility [**Impact**: Loosens the strong links between gas supply and Europe's electricity security]

With all due respect to the IEA, the reality is that this 10-point plan appears quite unrealistic and surprisingly does not even call for additional gas production at home, such as shale gas or North Sea gas. So far, only a 15 bcm gas deal was agreed between the US and the EU, and this alone has caused Henry Hub gas prices to double[2].

[2] https://www.reuters.com/business/energy/us-eu-strike-lng-deal-europe-seeks-cut-russian-gas-2022-03-25/

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EU Gas Imports by Pipeline/LNG carrier country

Pipeline/LNG carrier	EU imports 2019 (in bcmpa)
Russia Yamal Pipeline	33
Russia Nord Stream Pipeline	55
Russia Ukraine Pipeline	40
Russia TurkStream Pipeline	32
Russia Blue Stream Pipeline	16
Russia LNG Carrier	21
Norway pipelines	109
Norway LNG Carrier	6
Qatar LNG Carrier	30
Algeria Pipeline	21
Algeria LNG Carrier	10
Libya Pipeline	5
US LNG Carrier	17
Nigeria LNG carrier	13
Trinidad and Tobago LNG carrier	6
Other LNG carrier	5
All	418
Excluding Russia	222

Source: https://mondediplo.com/maps/gas-pipelines#&gid=1&pid=1

EU Gas Consumption and Import Share of Russia

Country	Annual consumption (in bcmpa)	% Gas supply from Russia	Bcmpa Gas supply from Russia
EU	391	40%	156
Austria	9	64%	6
Belgium	17	33%	6
Bulgaria	3	79%	2
Croatia	2	48%	1
Czech Republic	8	66%	5
Denmark	3	0%	-
Estonia	2	79%	2
Finland	2	94%	2
France	43	24%	10
Germany	89	49%	43
Greece	5	51%	3
Hungary	10	40%	4
Ireland	5	0%	-
Italy	71	46%	33
Latvia	1	93%	1

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Lithuania	2	100%	2
Luxembourg	0	24%	0
Netherlands	37	11%	4
Poland	20	40%	8
Portugal	6	0%	-
Romania	11	10%	1
Slovakia	5	70%	3
Slovenia	1	40%	0
Spain	36	0%	-
Sweden	1	0%	-
UK	79	0%	-
Ukraine	28	-	

Source: Agency for the Cooperation of Energy Regulators

How can the EU get additional gas?

As pointed out in prior notes (here, here, here & here), we are entering a bi-polar world (West vs. East) with the East having most of the world's resources. How can the EU secure some of these vital energy resources? When taking a look at the world's top 10 natural gas producers, Iran stands out in terms of its untapped reserves due to sanctions. On Friday 13th May 2022, Germany's Foreign Ministry Spokesperson said to expect a swift conclusion to the Iran nuclear talks, as there is a fair offer on the table. I believe there is a strong likelihood that an Iran deal is close to agreement. Why? Around two months earlier, the UK energy regulator Ofgem has implemented a change in the Ofgem variable energy tariff charged to UK households, in which they want to change the observation window one month forward[3] (i.e. for the Oct-Mar Ofgem tariff, usually wholesale prices are covered in the forward market between Feb-Jul, however, by changing the observation period to Mar-Aug, the prices already hedged in February need to be taken into account. Therefore, from 16th March to 19th May inclusive only 50% of the Oct-Mar period should be covered). This means, if an Iran nuclear deal is reached within the next few days, natural gas and oil prices will likely collapse and decline over the next few months. While this might just be a crazy coincident, I would give the Iran deal a decent chance of succeeding given that Europe is unable to get a large amount of energy from elsewhere…

[3] https://www.ofgem.gov.uk/sites/default/files/2022-03/Updated%20guidance%20on%20treatment%20of%20price%20indexation%20in%20future%20cap%20proposals1647277779834.pdf

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Top 10 of World's Largest Gas Consumer & Producer

Top 10 Consumer	in bcmpa	Top 10 Producer	in bcmpa
US	847	US	921
EU	470	Russia	679
Russia	444	Iran	244
China	307	Qatar	178
Iran	224	China	178
Canada	120	Canada	173
Saudi Arabia	114	Australia	154
Japan	108	Norway	114
UAE	76	Saudi Arabia	114
India	60	EU	101

Source: IEA

Current gas storage levels are looking… average

Despite news wires claiming that gas in storage in the EU is at strong levels, this is only true on a y-o-y basis, not compared to pre-pandemic times, however. This makes the EU vulnerable to Russia imposing supply limits – as Russia did to Poland and Bulgaria recently. While the idea of increasing renewables makes a lot of sense, as it won't disrupt prices, I am still surprised that there is not a more dramatic push to increase oil & gas drilling in Europe. I expect the push for more oil & gas extraction to come soon, as the sell-off in crypto and the stock market puts more focus on the high energy inflation, on which ultimately needs to be acted upon. On top of that, we need a lot more LNG and oil tankers to divert the flows from Russian pipelines to other sources. Last but not least, once China is lifting their artificial lockdowns, global energy demand could reach new record highs.

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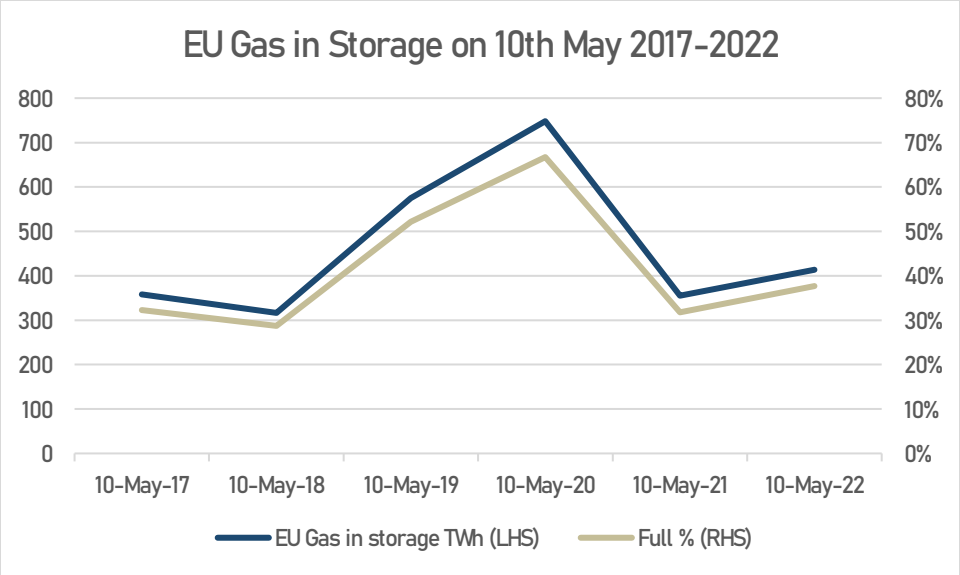

Source: AGSI

Country	Gas in storage (in TWh)	% full	Annual consumption (in TWh)	Filling level compared to consumption
EU	413.69	38%	4,151.8	10%
Austria	22.50	24%	98.1	23%
Belgium	1.84	20%	195.5	1%
Bulgaria	1.16	20%	33.6	3%
Croatia	0.90	19%	33.4	3%
Czech Republic	17.10	48%	91.9	19%
Denmark	4.29	47%	26.7	16%
France	51.46	39%	467.6	11%
Germany	92.94	39%	995.3	9%
Hungary	15.70	23%	117.1	13%
Ireland	-	-	61.0	-
Italy	79.81	42%	778.1	10%
Latvia	7.93	36%	12.3	64%
Netherlands	44.24	30%	420.4	11%
Poland	30.94	85%	247.9	12%
Portugal	3.15	88%	68.9	5%
Romania	8.20	25%	122.9	7%
Slovakia	9.08	25%	57.3	16%
Spain	22.47	64%	372.8	6%
Sweden	0.01	7%	12.2	0%
UK	11.27	92%	833.7	1%
Ukraine	48.40	15%	337.4	14%

Source: AGSI

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