

# Energy monitor

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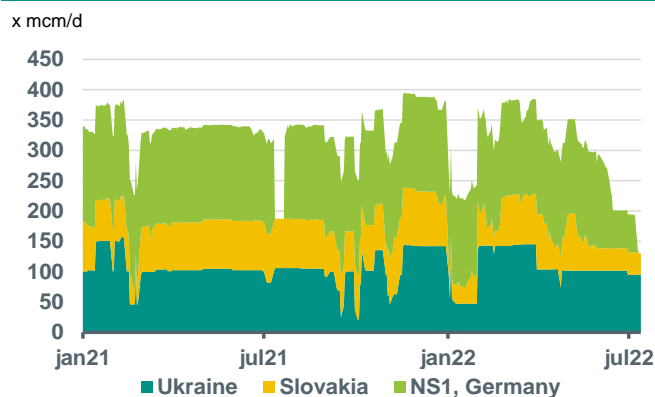
## Energy crises threatens to intensify

- ▶ **EU gas imports from Russia could well drop even further, whilst securing LNG imports will remain a major challenge**
- ▶ **EU gas inventories are rising steadily so far, but maintaining gas imports during the winter even more important**
- ▶ **Tight gas market fundamentals will keep prices elevated until 2025-26**
- ▶ **European electricity prices are skyrocketing, but some markets surging even higher than others**
- ▶ **Recession fears have pushed oil prices down towards USD 100/bbl, but will likely recover**
- ▶ **Despite downward adjustments towards oil demand, tight supply will result in ongoing upward price pressure**

### Nord Stream 1 pipeline has halted for annual maintenance; but will it return?

Since 11 July, gas flows from Russia towards Germany via the Nord Stream 1 pipeline have halted due to annual maintenance. On the surface, this is nothing new. However this time it is highly uncertain whether the gas flows will (fully) return after the 10-day maintenance. In recent months, Russia has cut gas exports towards Europe significantly and market expectations are that Russia will continue to cut back its exports even further. Although there is enough capacity available to replace the gas flows towards Germany via existing pipelines through Ukraine or Belarus, Russia has

#### Gas flows from Russia to Nord/Eastern Europe



Source: Bloomberg

decided not to do so. On top of that, Hungary has declared a 'state of emergency' and therefore it will stop (Russian) gas exports to neighbouring countries to secure own supplies. It seems to be the first serious test of the mandatory solidarity amongst European countries. This solidarity is part of the EU's security of supply regulation.

At this moment, it is unclear whether gas exports from Russia towards Germany will resume after the maintenance is done. Canada's side-stepping of the sanctions and transporting a repaired Siemens gas turbine to Germany, theoretically removes a 'technical' excuse for the Russian authorities to shut down the pipeline for longer. Still, recent history has shown that this does not provide any guarantee and deeper cuts to the Russian gas exports are a distinct possibility. In fact, with European leaders being determined to increase sanctions towards the Kremlin, the likelihood has increased that the Russian government will announce the next step in further cutting back the gas flows towards Europe as a counter reaction. Something we have now witnessed multiple times. The recent announcement from the Italian energy group ENI, which indicated on 11 July that Russian gas imports will be cut by a third again (after already being halved in June), also pointed in this direction.

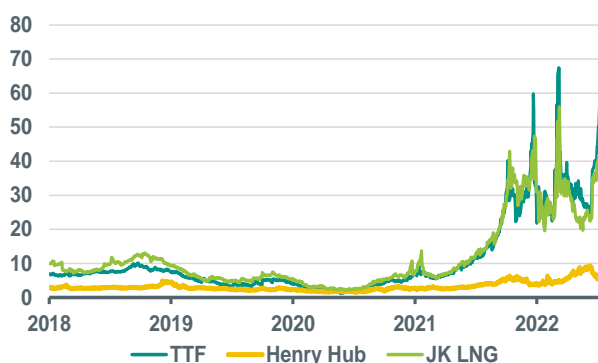
### Gas prices near record highs, despite the inflow of LNG

Ahead of the closure of Nord Stream 1, market fears of a longer lasting stoppage of gas flows towards Europe pushed gas prices towards the highest level since March. The price for Title Transfer Facility (TTF) future contracts have never traded this high, with the exception of December 2021 – when fears of shortages during the winter reached fever pitch – and in March, only days after the Russian invasion of Ukraine. And this time it is even more concerning as gas demand during the summer is typically low. The main source of demand is the need of filling gas inventories ahead of the coming winter season.

With gas inflows from Russia having dropped significantly, Europe is leaning strongly on the imports of liquified natural gas (LNG). So far, the build-up of gas inventories is going relatively well. European gas inventories are at 63% (Germany = 65%, Netherlands = 60%). However, there are no guarantees that the LNG inflows will remain as they are. After all, the total global LNG offering is not increasing. This means that higher European imports are mainly the result of lower Asian LNG imports. A situation which mainly exists on the back of high European gas prices (we are willing to pay more than consumers in Asia), as well as the gas-to-coal switch in China and India. This also means that if Asian consumers decide to more strongly compete for LNG contracts, prices could jump even higher, and the market becomes even more tight.

#### International gas prices

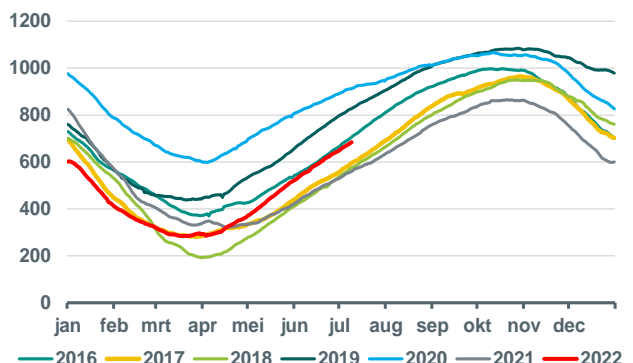
USD/mmBtu



Source: Bloomberg

#### European gas inventories

x 1.000 TWh



Source: GIE

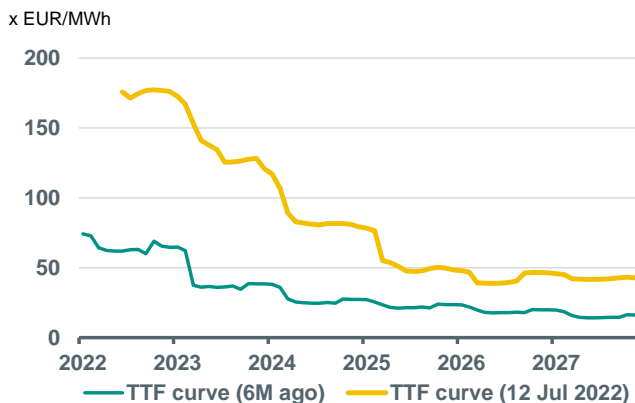
In the near term, Russia is cutting gas exports towards Europe. In the medium term, Europe will try to reduce its dependence on Russian gas as soon as possible. Independent of who is limiting the gas trade, it will lead to lower gas

availability for the global market as the Russian gas will not fully find a way to Asian markets for years to come. There are investments in more LNG supply, especially in the Middle East and Australia, but these investments are not expected to provide any relief before 2025-26. Global tight market conditions are therefore expected to remain for a longer period of time.

This tightness is reflected in gas prices around the globe. Japan Korean LNG (JKL) prices are moving in tandem with European gas prices. Although TTF prices have been trading above JKL future prices for several months now, which has been providing the trigger to ship any available LNG towards Europe. But also in the US, natural gas prices are very high. The US market is less dependent on imports as the US is a major gas producer itself. However, with international gas prices trading this high, US exports have reached record high levels earlier this year, pushing Henry Hub prices in June towards the highest level since 2008.

The tight market conditions are also reflected in the forward curves. Where many participants only a few months ago hoped that this would be a temporary event, creating tight market conditions for this and previous winter, most traders are currently pricing in tightness for years to come. At the moment, there is no (monthly) future contract before April 2024 which is trading below EUR 100/MWh.

#### TTF forward curve



Source: Bloomberg

#### Gas price outlook

In recent weeks a lot of attention has gone to the filling of European gas inventories ahead of the upcoming winter season. Most countries aim – in line with the advice of the European Commission – to fill the inventories to at least 80%, some even more. However, it is good to keep in mind that the inventories are good to meet roughly 25% of demand during an average winter season. For the remaining part, Europe will remain strongly dependent on gas imports as local investments in gas exploration will remain very limited and the transition towards renewable alternatives will take years to materialize and decades to fully push natural gas out of the energy mix. Therefore, filling the inventories is an important step to prepare for the tight market conditions during the colder months of this and next year, but this does not provide any guarantee what so ever that there would be enough supply available to meet demand. It explains why gas future prices are trading at these high levels throughout the winter, and not only until the end of the filling-season. It also means that Europe will remain vulnerable to any decision Russia makes regarding gas exports, even if inventories were to be filled.

As a result, TTF gas prices are expected to remain at elevated levels for years to come and the low prices we have witnessed in recent years (with the low at EUR 3.63/MWh in May 2020) will most likely not return. The question is how tight the market will get. In our latest [Global Monthly](#) we set out three possible scenarios regarding the gas market:

- The situation will remain as it is (a loss of -60 bcm),
- Russian exports towards Europe will drop even further to 2/3rd of the 2021 imports (-100 bcm)
- We see a full stop of further Russian gas exports towards Europe (-155 bcm)

The first scenario would basically imply that implementing the IEA's 10-step plan to reduce the EU dependence on Russian gas would suffice in dealing with the reduced gas supply from Russia that we have already seen. This is a combination of LNG diversification, pipeline diversification, bioenergy, energy efficiency and an increased usage of heat pumps and wind/solar energy. A scenario that we deem very challenging but feasible without much additional economic damage.

Scenario 2, a decline of 2/3rd of Russian gas exports, is a distinct possibility. This would push Europe into an even more intense energy crisis. It means shortages, depending on (weather-related) demand, in combination with higher energy prices (gas, coal, oil, carbon, power) and fewer substitution options given the intrinsic rigidity of the gas infrastructure and the ongoing global quest for LNG now that pipeline gas becomes unavailable. From a Russian perspective, leaving 1/3rd of exports in place would already create shortages and economic harm in the EU but also push up prices and as such still generate high revenues (even though export volumes are lower). While most of Russia's exports to Europe are under long-term contracts at cheaper prices, a substantial part is not, and some of the gas that is no longer exported to Europe can be diverted to Asia via LNG shipments. In this 2/3 reduction scenario, the first 60 bcm of gas reduction (which we are currently facing) can be seen as achievable according to the 10 step plan by the IEA.

A 2/3rd gas supply reduction would mean that of the +/- 100 bcm gas that is currently still being imported, another 40-45 bcm drop in Russian gas exports towards Europe will follow in the coming months. The recent announcements of reopenings of various coal fired power plants to enable a gas-to-coal switch could roughly tackle 22 bcm (of which 25% is in the Netherlands and Germany). Assuming that energy savings in the residential sector will be modest in the short term (possible 5 bcm on top of the already assumed energy savings in the IEA plan), the main burden will fall on industry. This implies a 15-20% drop in consumption by the industrial sector (20 bcm).

In case of a full gas stoppage (scenario 3), Europe will have to deal with an additional 50 bcm shortfall (on top of the challenges of scenario 2) through a combination of demand reduction in industry, but also somewhat in the residential sector or even in power generation. This would create serious problems and shortages.

All scenarios suggest that tight market conditions for natural gas are here to stay, keeping not only gas prices high, but also affecting power prices and other commodity markets indirectly. The shortages in the market would partly be countered by demand destruction, but tight market conditions will likely remain for the coming years. The gas-to-coal switch also adds upward price pressure to coal and carbon allowances, and would not trigger much relief for gas prices as the focus will remain on inventory building.

### Gas scenarios (prices in averages / year)

				Current	2/3rd drop RU gas import	Full stop of RU gas import
				Partial supply shock	2/3rd less gas from RU -> EU	No more gas from RU -> EU
				Some impact RU LNG trade	Self sanctioning	Self-sanctioning
				Self sanctioning	Implementing of IEA 10 step plan	Implementing of IEA 10 step plan
				Implementing of IEA 10 step plan	More LNG import needed, plus active demand response	LNG imports and demand response
						Risk of energy shortages affecting economic activities (mainly industry)
<b>End of period</b>				<b>18-Jul</b>		
TTF (month ahead)	EUR/MWh	2022	157.90	130-150	150-175	175-200
	EUR/MWh	2023		130-150	150-175	175-200
TTF (year ahead)	EUR/MWh	2022	131.00	90-110	100-125	125-150
	EUR/MWh	2023		90-110	100-125	125-150
Henry Hub	USD/mmBtu	2022/2023	7.17	6-6.5	6.5-7.5	7.5-8.5

\* Henry Hub: active month contract; Price ranges in annual averages

### Power prices up, but some are even more up than others

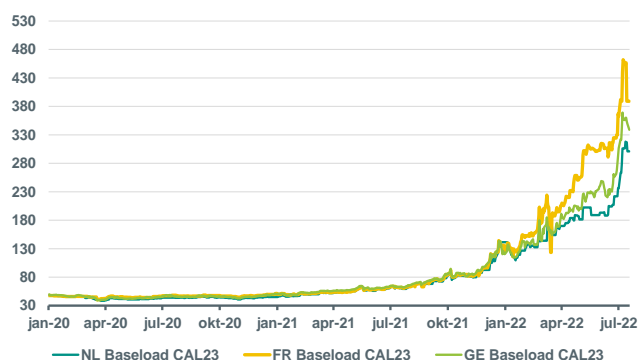
Electricity prices throughout Europe have been on the rise too. Not only higher gas prices, but also higher coal prices are translating into surging electricity prices. On top of that, there are some local issues, which have resulted in differentiation amongst countries in northwest Europe, highlighting the variation in the local electricity mix from one country to another. In Germany, the price gains are even bigger compared to the Netherlands, as Germany is more dependent on Russian gas imports. On top of that, the German electricity mix has become more vulnerable due to the closure of some coal fired power plants and some nuclear plants.

In France, the situation is even worse, as almost half of the nuclear power plants are offline due to unexpected maintenance. A situation which is taking much longer than expected, and which is pushing French electricity prices through the roof. The lack of back-up capacity, in combination with the high commodity prices, is leading to higher prices throughout the whole of Europe. If we for instance take a look at the German base load power future prices for calendar year 2023, it is trading at EUR 339/MWh (compared to EUR 52/MWh at the start of 2021). A similar Dutch future contract is trading at 301/MWh and in France it is EUR 389/MWh. For Q4, the French contracts are even significantly higher as a continuation of the market tightness has already been priced in: EUR 890/MWh.

The Dutch and German decisions to step up the usage of coal fired power plants do have a positive effect on the security of supply for electricity, but hardly lead to lower prices for either natural gas or for electricity.

### Baseload electricity prices (calendar year 2023)

x EUR/MWh



Source: Bloomberg

### Recession fears have pushed oil prices below USD 100/bbl

On Tuesday 5 July, oil prices dropped by almost 10% in one day on the back of recession fears. The negative sentiment in the market was widespread, affecting bond spreads, currency and equity markets and commodity prices. The high energy prices have triggered inflation worries and with central banks normalizing their monetary policy, recession concerns have once again come to the fore. At the same time, also increased fears about a possible lockdown in China have triggered a higher risk for a drop in oil demand. So, while Brent oil was still trading above USD 123/bbl on 5 June, it has dropped below USD 100/bbl one month later before regaining some of its losses in the days after.

The question is whether global demand for oil will be seriously hit, or whether it is 'just' a market reaction to fears and economic slowdown as a result of the high energy prices and high inflation numbers triggering a technical reaction: algorithms to selling open positions. In other words, is it a fundamental change of market drivers? Or will it stick to increased negative market sentiment?

### With regards to oil demand: a slowdown in Europe/US will be largely balanced by growth in Asia

There are two main reasons for the economic slowdown. There is an impact of higher energy prices and the effects of the tightening policy by central banks. Although the price elasticity of oil is not so high, there is a measurable effect. Higher prices for energy lead to lower consumption growth. In this case it can be seen as a result of higher crude prices, but even more due to scarcity, and thus higher prices, for oil products like diesel. An economic slowdown normally coincides with lower demand for energy too. However, it is good to keep in mind where the economic slowdown is seen and which countries mainly drive the demand for energy, such as oil. In that respect, the actions by the ECB and the Federal Reserve to normalize interest rates, triggering an economic slowdown, would impact demand. Crucially, however, we still see that the Chinese economy – and to a lesser extent India too – offering some counterweight for the slowdowns in developed markets. That is also why comparing the current economic slowdown with previous cycles is more difficult this time. We think that global demand growth may ease, but will not drop as severely as it may have done in previous cycles. Still, it does provide some relief to the energy market tightness which would even have been worse without such an economic slowdown.

#### Oil prices eased in recent weeks on recession fears

x USD/bbl



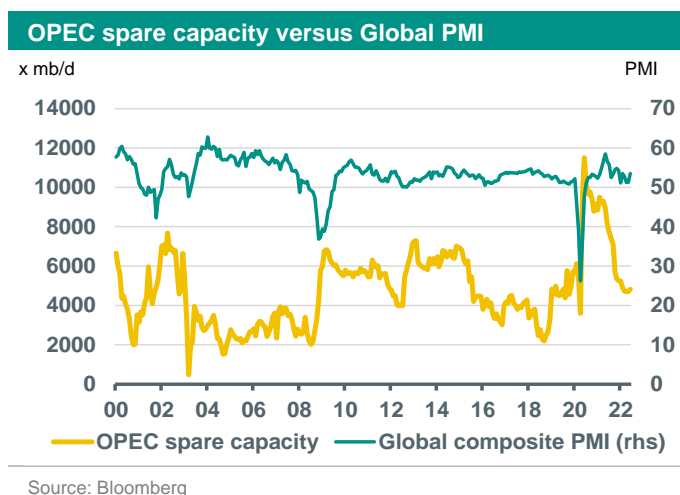
Source: Bloomberg

### All eyes on OPEC+ and its oil spare capacity...

Also due to the supply side, the market reaction could be different than in the past. First, OPEC+ (the cooperation between most OPEC-members and several other major oil producers including Russia) has reached the end of its agreed increase in production after the initial 10 million barrels per day (mb/d) supply cut in April 2020. That cut was a coordinated reaction to the huge fall in demand triggered by the COVID-19 lockdowns at that time. Since then, OPEC+

have slowly raised production to meet the recovery in demand up to the pre-COVID level next month. All eyes will be on the OPEC+ meeting on 3 August to see how OPEC+ will react to the market circumstances with Russian production and exports under pressure, whilst large oil consumers (like the US) have been asking for more crude to dampen high energy prices. With the unexpected death of the outgoing OPEC Secretary General Mohammad Barkindo, the organisation will enter a new phase too. Mr Barkindo's successor is Mr Haitham Al Ghais of Kuwait. And although there is no big change in policy expected, it cannot fully be ruled out either.

Second, this time spare production capacity also may show a different reaction despite a drop in oil demand due to lower economic growth. This will be the result of other drivers which affect the supply side. Obviously, the biggest impact comes from Western sanctions against Russian oil exports. Several countries already halted the imports of oil from Russia and the biggest effect could be seen at the end of the year when the EU will ban Russian oil imports. And although Russia is not an OPEC-member, it is a leader in the OPEC+ coalition. Plus lower output from Russia almost automatically increases the call on OPEC oil. However, also several OPEC members face difficulties in expanding or even maintaining their crude output levels for various reasons. The graph below shows that in previous cycles of economic slowdown, OPEC spare capacity increased. This time could be different though.



After all, spare production capacity with several OPEC members is out of reach (Venezuela, Iran, Nigeria, Libya). Due to the production problems with some of the OPEC members, the ones with spare capacity may be forced towards increased production in order to keep oil prices under control. On top of that, with Russian oil exports under pressure due to the sanctions, more pressure is already on OPEC members UAE and Saudi-Arabia to increase production. However, with only 2.2 mb/d of spare capacity left with these two large oil producers, markets have become more nervous regarding the limited options left in case of new calamities. Lower demand could provide some relief, but then the drop in demand may well not be lower or equal to the drop in available supply. The recent news that Saudi Arabia stepped up its imports of Russian fuel oil for power generation would create some room to export more of their own crude oil.

Finally, a lack of investment is something that has been a long-running theme. In recent years, we have seen a shift of these investments from International Oil Companies (IOC's) towards the National Oil Companies (NOC's). Pressure by shareholders and NGO's triggered a focus towards only short term and relatively easy small scale projects for the IOC's next to strong investments in renewable energy projects. Long term crude investments were mainly seen with NOC's, mainly in Saudi Arabia and the UAE. Overall, the investments in exploitation have declined significantly in recent years. This also translates into lower future expected production capacity, both from OPEC and non-OPEC. Depending on the

growth expectations of global oil demand, this could lead to further tightness in the market, not only in the near term, but also further out.

### **...and the effects of Biden's visit to Saudi-Arabia**

At the end of last week, US President Joe Biden visited Saudi Arabia to meet its leaders. And although Biden was expected to discuss a wide range of topics, a lot of attention went to the issues in the energy markets. The US President has asked OPEC several times to increase oil production in order to lower the prices of crude and crude products like diesel. Still, Biden left Saudi Arabia without a firm commitment for more oil, but he 'expect further steps in the coming weeks'. Foreign Minister Prince Faisal bin Farhan indicated that in the end, OPEC+ follows the (global) market situation and will supply the market as needed. As said, the next OPEC+ meeting is on 3 August. Another topic related to this will be the talks regarding a nuclear deal with Iran. Such a deal could help to give some relief to the oil markets as a new deal would coincide with less strict sanctions against Iran. That would probably allow the country to export more oil and thus ease some of the tightness in the market. However, Saudi Arabia is a long term critique of the nuclear deal.

### **Oil prices: a tight balancing act**

The Saudi reaction to these talks could play a crucial role for oil prices in the coming months. Not only in relation to their own oil production levels, but also regarding a possible continuation of the OPEC+ cooperation with Russia. Besides that, the drivers for oil prices will remain weaker oil demand expectations, which could be the dominant driver in the near term, and the supply constraints which could put a longer lasting floor under the oil prices.

We judge that the initial market reaction on recession fears may have pushed prices down too far as it is mainly driven by algorithms which have limited forward looking capabilities in fundamentally changing market conditions. At the same time, the combination of slower economic growth and demand disruption as a result of high energy prices (not only oil, but also gas, coal and electricity prices) will prevent oil prices from rising too far in the near term. High prices for natural gas and electricity is having a negative impact on the purchasing power and thus on economic growth.

Still, we do think that the main risks for oil prices remain tilted towards the upside. Chinese (and in a lesser extent the Indian) oil demand will remain solid and growing again when the lockdowns are eased. From a supply side, Russian output will remain pressured for longer. The lower exports to Europe cannot be fully replaced by the exports towards Asia, especially when an European oil ban – scheduled to be implemented later this year – will also affect the insurance possibilities of Russian oil exports towards other regions. If we then add the pressure on spare capacity with OPEC(+) members and the limited growth expectations from US producers, the market outlook remains tight for the forecasting horizon.

So far, the year-to-date average for Brent oil is USD 105/bbl and for WTI it is USD 101/bbl. Despite the recent drop due to recession fears, we think that the uptrend will remain intact. In case of a further drop in Russian gas supplies towards Europe, the impact on the economy may become even more severe. However, any slowdown in economic growth in the Eurozone and the US resulting in a drop in oil demand will most likely be balanced out by higher oil imports in China, benefitting of the lower prices. Therefore, we maintain our oil price forecast for 2022 and 2023 (Brent: USD 110-130/bbl annual average for 2022 and 2023, WTI: USD 105-125/bbl).



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