

Exchanges at Goldman Sachs
How the Russia-Ukraine Crisis is
Reshaping the Global Energy Landscape
Samantha Dart, Senior energy strategist,
Commodities team, Goldman Sachs Research
Michele Della Vigna, Head of Natural Resources
Research in EMEA, Goldman Sachs Research
Alberto Gandolfi, Head of the European Utilities
Research team, Goldman Sachs Research
Allison Nathan, Host
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Allison Nathan: This is Exchanges at Goldman Sachs where we discuss developments shaping industries, markets, and the global economy. I'm Allison Nathan, a senior strategist in Goldman Sachs Research.

From skyrocketing gas bills to surging prices at the gas pump, Europe has been facing one of its most intense energy crises in recent years amid the Russia-Ukraine War. How the war is reshaping the European and really even the global energy landscape is our topic today. To shed light on it, I'm joined by three of my colleagues in Goldman

Sachs Research: Samantha Dart, our senior energy strategist on the commodities team and our global expert on natural gas; Alberto Gandalfi, head of the European utilities research team; and Michele Della Vigna, head of natural resources research in EMEA.

Sam, Michele, and Alberto, welcome to the program.

Samantha Dart: Hey, Allison. Good to be here.

Alberto Gandalfi: Hi, Allison.

Allison Nathan: Sam, let's start with you. Set the stage for us in terms of the risks that the war poses to the supply of natural gas that heats homes and fuels so much of our electricity.

Samantha Dart: Yeah, so when we think of how much gas Russia sends to the whole wide world, it's about 8% of global supplies. But it's a much bigger deal for Europe in particular because about 40% of European natural gas consumption is supplied by Russia, right? So if you interrupt that supply, you have a direct impact on your ability to heat homes in the winter, your ability to

generate electricity. So it has significant implications and in particular for the wintertime.

Allison Nathan: Right. And then obviously oil is also in focus, so give us some context and perspective of how reliant we are on Russia for oil supplies in Europe and globally.

Samantha Dart: Yeah, those are important volumes as well. It's about 11% of global supplies. But again, bigger focus on Europe, about 40% of European oil consumption relies on those supplies from Russia. The one difference I would point out to you, though, is that it is a bit easier for European consumers to source replacement oil supplies rather than replace gas supplies. So the situation for gas and the risks in terms of scarcity are a lot higher for natural gas versus oil. And we have seen that reflected in a much bigger price spike in natural gas versus oil.

Allison Nathan: And that's just because oil can be put on tankers and shipped around the world a lot more easily than a lot of the natural gas supplies that are traveling through pipelines essentially into the region?

Samantha Dart: Yeah, exactly. A lot of the big refineries in Europe, they have access to a port. They can source different suppliers of oil. But in natural gas, you need specific technology to bring that in. So if you don't have natural gas available via pipeline, if you want to bring from another region, you need to first liquefy that natural gas in this other region, put it in a special tanker, and then to bring it in you need a special facility as well to turn that liquid back into natural gas and send it to the consumer. So you have a lot more restrictions, a lot more bottlenecks, and it's just difficult to source replacements in the near term.

Allison Nathan: And so you mentioned prices. We've obviously seen a lot of volatility in natural gas prices as well as oil prices, but both are up quite substantially relative to where they were. Where do you expect to see prices go from here?

Samantha Dart: Yeah, so let's start with natural gas. I think on that front, we expect Q2 to really be the high price point of this year simply because it's where we see the highest uncertainty. I think a lot of market participants

are still trying to gauge whether the risk of an actual disruption of flows, which has not happened since the start of the war, right? So flows have continued to flow from Russia to Europe, but that uncertainty as to what happens next has lent significant support to prices right away. So we think Q2 for natural gas is really your peak, but there have been adjustments in the market so that price increase that we're talking about, that helps lower demand. So that helps the market balance over the course of the year. So we think later in the summer we should expect lower prices versus what we're seeing but still very high relative to historical averages.

On the oil front, the situation gets a bit more complicated because oil markets were already tight going into this potential disruption. And you already have a situation where some Western parties don't want to get involved in, say, shipping Russian oil. So you have a tight market, you're tightening it further, and you're in a situation where prices are likely to move higher from here. They definitely have a risk skewed to the upside at this point.

Allison Nathan: And so you said that energy supplies are still flowing out of Russia both on the natural gas side as

well as on the oil side, but we've had a lot of announcements, from several countries, including Russia, about restricting Russian energy supplies. So how big a deal is that? And what would we expect the implications of that to be?

Samantha Dart: Yeah, those announcements I think are a big part of why the market is pricing so much supply uncertainty right now. It's that fear of not having the supply that is supporting prices. So to give an example, the US and the UK have decided not to import Russian oil, but the EU doesn't really have an alternative immediately because of its massive exposure to that oil. So they have not gone the same route. But because so many Western companies have opted to divest from Russian assets, so many companies have opted to take the minimum volume of oil and gas that they have contracted and not a drop more, that creates the uncertainty as to whether others will do the same and whether this will end up just breaking the flow of supply further.

So it's definitely a big deal even if the countries that have decided not to take Russian commodities right now are not directly impacting the market that significantly.

Allison Nathan: And so we have this ongoing discussion about restricting imports, and as you said some countries have already taken that step. What other steps are countries taking to essentially wean themselves from this dependency on Russian energy that has really put a lot of economies into peril at this point?

Samantha Dart: It's such a difficult thing to accomplish near term, right? Because again it's the scale of that exposure to Russian oil and gas. So I think near term, maybe there is some curtailment on demand that will come via high prices, right? The higher the prices, the lower the consumption that you're going to see all around. We're already seeing that among a lot of gas consumers.

But the main bottleneck here is the lack of supply. And that cannot happen overnight. So you need to support investment in supply whether in Europe or elsewhere. And that will take time. Even when you do support that investment, it will take time to result in actual incremental molecules available to the market. So this is a situation where we think this high-price environment is unlikely to go away anytime soon. I mean, we're really talking a few

years here before we can see additional supply globally to replace that exposure to Russian molecules.

Allison Nathan: Alberto, maybe you can jump in here now because you've looked at this a lot. What are your thoughts in terms of our ability to reduce this dependence on Russia?

Alberto Gandalfi: Well, I would say that the European Union has already published an official target, according to which Europe should be able to reduce by two thirds the imports on Russian gas before year end. Now, it's also quite clear that some countries within the EU are already starting to say that's probably not possible. We had the Italian Green Energy minister speaking in parliament two days ago saying it would probably take us at least two years. So some of these near-term goals may be challenging, let's say.

But there are two main ways, besides diversifying the sources of gas imports, there are two main ways to mitigate the effect and the disruption that we may have from Russia's supply. Number one is very simply cut consumption. Home insulation, the electrification of

heating, there are some fiscal schemes that can accelerate the process. There are incentives to families that would allow to actually accelerate the process. And considering this is a very important step because about 40% of gas consumption in Europe is for heating from residential customers. It's a very important segment to tackle.

Think that every year 2-3% of houses in Europe are either new or refurbished, so potentially you can have 20-30% of homes by the end of the decade that go from gas to electric, and their gas consumption will drop to zero. So that again, very, very important.

And number two, we need to restart some coal plants that we have recently closed, and we need to avoid some closures that were scheduled for this year and next year because, once again, about a quarter of gas consumption in Europe is for power generation. So if you manage to replace some of the molecules that are supposed to go into a gas plant simply by running harder and runner coal and nuclear in certain countries, that is really going to help. Once again, a two thirds reduction in Russian gas imports before the end of the year is going to be a challenge.

Allison Nathan: And so are some of those steps actually being implemented at this point? Where are we in terms of seeing homes becoming more efficient and coal plants essentially providing more electricity?

Alberto Gandalfi: Diversifying import sources is going to be an incredibly important step. We have seen many governments trying to secure incremental volumes in the near term and trying to sign long-term contracts for the medium and longer term. Let's not forget that there is a second long-term target that the European Union has published as part of the Repower EU package, which actually implies lowering to zero Russian gas imports well before the end of the decade. And therefore, diversifying sources, more energy, more pipelines, more pipeline gas from Northern Africa is going to be very important.

The second point is to accelerate the construction of renewables. Now, renewables have been a very important factor in essentially achieving climate goals over the past 20 years in the European Union. And now they are becoming probably even more central to the new policy which seems to be really prioritizing security of supply. Essentially, every megawatt hour of electricity that you

generate from wind and solar is a molecule that you don't have to import from Russia.

So the acceleration of renewables is a very important factor. We have seen Germany and Italy be very active on this front. And one way they have basically to accelerate the development is to simplify bureaucracy, which has been the biggest bottleneck. So instead of taking four or five years to approve a project, those countries are trying to promote legislation to reduce approval time to about one year. This will allow much greater auctions, much greater capacity auctions and therefore a much faster development of renewables. The idea is to generate 70% of electricity from renewables by 2030.

Allison Nathan: And so what do you mean by renewable auctions?

Alberto Gandalfi: So an auction, imagine this. So you cannot tomorrow morning decide to build a wind farm in your backyard. You need to actually compete with other potential developers that have the same wish. So what normally happens is that, to control how many windmills, how many solar panels get built in a given year,

governments are running centralized auctions. So governments say, “Okay, we need 5 gigawatts of wind and solar,” and every developer in the country is going to compete with each other. And the cheapest cost producers get awarded a project. And then you can build, right? So that's what I meant by auctions. You need to be cleared by the government. You need to win a competitive tender before you are allowed to build.

Allison Nathan: Okay. Thank you for clarifying that.

Alberto Gandalfi: Now last, not least, what Europe can do is support a faster deployment of the green hydrogen industry. Now, green hydrogen has been part of the EU long-term climate strategy, but most people considered it a 10-year progress. We could argue that perhaps what happened last month is going to cut it down to a 5-year process. So we are starting to see governments subsidizing and supporting greater integrated hydrogen projects.

So the idea of green hydrogen is basically very simple. You need to have renewables, water, so that domestically you can generate a green molecule that once again replaces

imported gas. So those are the three big pillars that the European Union is working on right now.

Allison Nathan: You've already expressed a little bit of skepticism about the ability to achieve some of this and reach some of these goals in the next decade. So what realistically are we really looking at in terms of a timeline where we can say confidently that we do have much lower exposure to Russian energy supplies?

Alberto Gandalfi: I actually believe what is a challenge in a year is relatively feasible on a 4-, 5-, 6-, 7-year basis and potentially, with the right legislative intervention, could actually be quicker than that. I guess probably we're going to have three steps, right? First, we need to have legislation in place. Legislation in place is really speeding up the permitting phase so that all of these renewable pipelines in Europe get converted into actual generating facilities very quickly so that they can generate clean electricity and green electricity.

I think we need the legislation to support incentives for a family to switch to electric heating because a heat pump would cost more than a gas boiler today. And you actually

need to spend more money to refurbish and restructure your heating system. So not many people will wake up one day and say, "Oh, I'm going to go electric." You need an incentive to do that. Your running cost, your monthly bills would be much, much lower. Much lower. But most consumers don't think in that present-value terms. Most consumers think in upfront expenditures. So you need to provide an incentive, and that legislation I think can be ready actually in a matter of months. So we are already going to start to see some improvements, some positive developments from this perspective within a few weeks.

Number two, you need to start to draw much higher capacity auctions for renewables. You need to set up greater auctions for renewables. And that I think can only be done when the pipelines begin to convert faster. So I would say next year we are going to see greater auctions for renewables. And from 2024, we think that the annual run rate of renewable additions in Europe can easily be 2-3 times higher than the current run rate we're seeing right now.

So literally, in 2024, we are going to have a faster electrification process of heating, a much greater auction

on renewables, and 2-3 years after that, considering what we heard from some, greater diversification of gas imports into Europe. And actually you can meaningfully reduce the dependency for Russian gas.

Allison Nathan: So even though Alberto is relatively optimistic that we could be in a different place within even 1-2 years, obviously, Sam, you mentioned near term this is really about demand disruption. So what are you seeing from that perspective at this point? And what are we actually seeing industrial plants, for example, shutting down or changing their fuel source as a result of all this?

Samantha Dart: Yes, absolutely. We're seeing industrial users curtail their consumption of natural gas in the industries that rely a lot on natural gas to function. So for example, fertilizer producers, paper manufacturers, cement, glass, refineries. And it's not just the high price of natural gas curtailing the direct demand of natural gas, but because natural gas prices directly impact your electricity prices, because you use natural gas to create electricity, electricity prices are also very high. So if you have an industrial user that relies significantly on electricity, they use a lot of electricity to function, so they

are also shutting down capacity. Or at the very least reducing their operations. So it's the wide use of both natural gas and electricity that get impacted all across Europe at the moment.

Allison Nathan: Michele, let's bring you into the conversation. You've followed the European energy sector for many, many years, but you really have identified this moment as a turning point in the energy sector. So tell us a little bit about why you think that is.

Michele Della Vigna: I think that's a really important point. How the whole perception of importance of energy security is shifting in Europe and on a global basis. If you look at energy investments over the last seven years, they are down 35%. And they've been pretty much on a straight line down from 2014 until 2021. We believe that trend needs to be reversed. It needs to be reversed for three reasons.

One is that we need more energy for a growing world population. Secondly, because there is need for more energy to target specific demands for energy security, especially in winter, which will require more LNG. And this

really we believe could be a similar impact to what we had in 2011 with the Fukushima nuclear impact in terms of reviving the global demand for LNG. And thirdly, we still think that there will be a low-carbon flavor to this investment and that the percentage of renewable, of hydrogen, of bio energy in that spend will continue to grow. But it is a global overall energy investment that we need to see growing in the coming years, to the extent that we see about 60% growth in energy CapEx in the next three years.

Allison Nathan: But even if some of that spend is, as you just said, a growing share of it's going to be focused on renewables, if we think about this really dramatic pivot from focus on clean energy to focus on energy security, I mean, Alberto already mentioned that one of the solutions here is bring back more coal plants or delay their retirement. Do you think this is a rethinking of the European energy strategy that essentially puts the net-zero carbon ambitions on the back burner? That would be a big shift.

Michele Della Vigna: I think it is a rethinking of the transition. I believe too much of the energy policy has been aimed at what the net-zero world will look like, which is in

almost 30 years' time. I think more focus needs to go on the transition and how that transition can be made affordable to the consumer and also deliverable from a technological perspective. And the main change in all of that is how we look at gas as a transition fuel.

It was not initially included in the EU green taxonomy. It was not considered to be a clean fuel. That is starting to change. And I think all of this is part of a broader rebalancing within ESG of environmental versus social factors. From an environmental perspective, it's key to decarbonize. But from a social perspective, it's important to guarantee affordable energy access to more people and to focus on security supply. And that rebalancing, especially on the role of natural gas, I think is what Europe is going through at the moment and which is going to lead to a broad increase in energy investment with a specific focus on natural gas and on LNG which can be delivered anywhere because it is seaborne and it is not linked to a specific provider as is the case for pipeline gas.

Allison Nathan: Right. LNG being the liquefied natural gas that Sam had described to us earlier that allows you to transport natural gas around the world. So what I hear

you saying, Michele, is that essentially that we were already sort of due to have some of these re-think in a way because we had moved so far to the focus on clean and climate that the need for the transition essentially was being unduly overlooked, but that the developments in Russia have essentially provided a clearer focus on that.

Michele Della Vigna: I think when we look back to the first Carbonomics report we published almost three years ago, we were highlighting the need for new technologies -- renewables, hydrogen, bio energy, etc. But we were also highlighting a broad under investment in the energy space. And the fact that we were curtailing new supply of hydrocarbons well before the world demand was shifting around them, and that that was going to create a tightness in the [UNINTEL] market that we've been seeing in the last few years and which clearly accelerated with the Russian-Ukrainian conflict.

So absolutely, Allison. And I agree with your view. This has been a long time in the making, but, as always, you need the catalyst for changing policy and in perception. And this war is that catalyst that I think completely changes the perception of the importance of energy

availability and diversification of sources and underpins the structural change in investment in a way we've last seen in the early 2000s.

Allison Nathan: Alberto, Michele, Sam, thank you so much for sharing your insights with us. We really appreciate you joining us and talking about these very complicated but really important implications for energy.

Alberto Gandalfi: Thank you.

Samantha Dart: Thanks, Allison.

Allison Nathan: That concludes this episode of Exchanges at Goldman Sachs. Thanks for listening.

And if you enjoyed this show, we hope you subscribe on Apple Podcasts, Spotify, Google Podcasts, or wherever you get your podcasts so you never miss an episode. And make sure to leave us a rating and comment.

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