

Exchanges at Goldman Sachs

The Impact of Rising Natural Gas Prices

**Damien Courvalin, Head of Energy, Commodities Research
team, Goldman Sachs Research**

Allison Nathan, Host

Recorded: October 1, 2021

Allison Nathan: This is Exchanges at Goldman Sachs and I'm Allison Nathan, a Senior Strategist in Goldman Sachs Research.

Natural gas prices are hitting record highs across Europe, with supply shocks gathering steam globally. For this week's episode, I'm speaking with my colleague Damien Courvalin who leads Energy Research on our Commodities Team to discuss the outlook for natural gas and other commodities and the potential impact on inflation and economic growth.

Damien, welcome to the program.

Damien Courvalin: Thank you, Allison, for having me.

Allison Nathan: So, again, we are seeing these soaring

prices for natural gas. They're now at record high levels in Europe. Give us some context. How did we get here?

Damien Courvalin: We got here both because of demand and supply. When you think about the COVID recovery, it's been uneven. And when you think about oil demand, we've seen clear underperformance with people not flying. But that's actually the opposite in terms of power demand. We are at record power demand levels. China alone, for example, is consuming 13 percent more power year to date than last year. And that's because when you think about this economic recovery--less services, more industry, more people working from home--that's on more demand for electricity.

Now, of course, supply has contributed as well. You know, we've seen disruptions in coal production in countries like Columbia. A decline in coal capacity in China years in the making. And also, disruptions on the gas side coming from countries like Australia or Russia. So, it's really the confluence of those demand forces and supply forces which have left the global gas landscape facing record low inventories ahead of its peak seasonal demand in the

winter.

Allison Nathan: Let's dig into those supply and demand drivers just a drop more. Why aren't we now seeing a greater supply response given how high prices are right now?

Damien Courvalin: That's an important question. And the key here, really, that when you think about coal or gas supply, these are very long-cycle investments. You know? It takes five years to build an LNG terminal. So, despite this price signal today, what we're actually trying to solve for is substitution on the demand side rather than a supply response.

Now, there will be some. You know, China today, for example, just announced that it wanted to see a higher coal output from domestic miners. Some of the disruptions that we've seen, you know, are normalizing. Norway's sending a bit more gas. The issue, however, remains the mismatch that we have today between inventories ahead of peak demand heading into the winter.

Allison Nathan: And what about Russia? Is there any ability to increase supply, which is a major natural gas supplier to Europe, do they have potential to ramp up capacity here?

Damien Courvalin: You're right of the point out Russia. You know, Russia provided through the summer expected volumes of gas into Europe. But those volumes have declined recently. And you know, Russia has also signaled that through October, exports to Europe will be below normal level.

You know, initially there were actual disruptions. It is less clear now what is driving this underperformance. Russia has been vocal about wanting to see Nord Stream 2, the new pipeline approved by regulators. Wanting consumers to commit to multi year contracts. And so, this may be contributing to those lower flows. That's important because as the largest supplier to Europe, continued lower Russian flows would actually create another significant leg higher in prices as it would make the outlook for shortages much more realistic by the end of winter.

Now again, you know, Russia does have that capacity to produce more. It has built this incremental pipeline. So, there could be a resolution eventually much higher Russian flows. It probably does take, however, a few deals to come through and leaves the gas outlook into Europe highly volatile and uncertain in the next several months.

Allison Nathan: And then you mentioned the potential to see substitution away from natural gas and into oil in response to these supply constraints. And that could relieve some pressure. So, to what extent is that capacity there? How much do you think that could improve the situation?

Damien Courvalin: So, energy markets, it's first important to emphasize, were all substitute. Right? You can create power from gas, power from coal, power from oil. Typically, coal is the cheapest solution. Then you move to gas. Historically, we use oil, but this is now a very expensive solution. But when you think about the shortage that we have today in both coal and gas, we actually do need to burn some oil. And if you think about where gas prices are today, they've reached a level where that should happen.

And so, we see that playing out. We see evidence of it in particular in Asia. And that can help. You know? It can help relieve about 2 Bcfs per day, which would be slightly less than a standard deviation cold winter in Europe and Asia. But it's not a smooth process, right? Burning oil for power is typically what we call a peaking solution. It's a few days typically at the end of winter. We've never seen an outcome-- we're already in September and October, we're having to turn to that solution.

So, what I'd emphasize is, yes, we're reaching for the last possible substitution. But its potential to solve the issue is just not that large. Meaning the real risk going forward would be blackouts and outright shortages.

Allison Nathan: And obviously, weather's going to have a lot to do with that. So, give us a sense of the scenarios here. If you have a colder-than-expected winter situation, then what would that mean for this outlook and for the potential for power outages?

Damien Courvalin: Yeah. So, first of all, let's just maybe reiterate we're not in winter yet, right? So, the fact that

prices are so high today is just to reflect the potential weather risks through the upcoming winter. If winter is average, we get by. Right? We have enough gas in inventory today, you know, absent Russia really reducing flows on a sustained basis. But because weather is volatile, you know, the market has to reflect today that risk. If we do have that one standard deviation colder winter, then we're calling, as I mentioned, upon the oil market. But we're probably at that point really testing the lack of gas. That just means running out of gas for power by the end of winter, you know, February and March. So, that's a real risk that we cannot rule out yet. You know, weather forecasts only go out two weeks. And you know, full winter weather risk is still ahead of us.

Allison Nathan: So, how much upside would there be for natural gas prices in that scenario? And how much upside would there be for oil prices?

Damien Courvalin: So, we have no precedence for this situation. We are at record high gas prices. I mentioned, you know, the rational last substitution is that to oil. And we've cleared that threshold. And so, the last leg higher is

the one that actually destroys demand. Right? That's classically the case in commodities when you can't have the supply, you can't have the demand.

That can take two shapes. The first one is on industrial activity. Right? Gas prices in Europe would be sufficiently high that European industries are left uncompetitive on a global landscape. You briefly saw that with the fertilizer sector in the UK announcing reduced rates recently. Other sectors that could be impacted would be steel, for example, paper, high gas-consuming sectors. So, that's probably the first risk that you see in terms of the next demand adjustment.

And of course, the last one is what we're seeing in China this week, which are blackouts, right? Turning off power because there is no fuel. Now that's not the case today. We're heading into winter. We're at the seasonal peak in inventories. They're just very low. But as we go through winter, that's the one to keep an eye out for.

Allison Nathan: And then we're also hearing headlines about gasoline shortages. So, distinct from natural gas,

gasoline shortages in the UK. Is that related to what we're seeing going on with natural gas? Or is that something entirely different?

Damien Courvalin: That one's entirely different. Right? You know, oil has been in deficit. But we are not at historically low inventory levels. We could be, but not yet. What this reflects instead is a phenomenon we've seen elsewhere which is logistical constraints, especially around truck drivers. Right? So, the UK issue is moving fuel from the distribution terminal to the retail pumps. And that reflects, you know, a global tightness in truck drivers. And probably in the case of the UK, was exacerbated by Brexit with fewer available truck drivers. But again, it is not related to gas. And that truck shortage is what ultimately is creating the global logistical stress that our economies are going through.

Allison Nathan: So, it's kind of bad luck that we're having this shortage in gasoline at the same time that we're having the shortage in natural gas.

Damien Courvalin: Absolutely. It's not related. Maybe

there's a confusion on gas prices being natural gas or gasoline. But in the end, that oil gasoline shortage should normalize in coming weeks given the UK government responses.

Allison Nathan: Okay. At least that's some good news. But related to the natural gas tightness that we are seeing, we are seeing other tightness across the commodity complex in aluminum, in copper. So, correct me if I'm wrong, but that is related to the natural gas tightness. And where do we see that heading?

Damien Courvalin: Yeah. So, I think what is noteworthy here is, you know, the gas shortage is first of all symptomatic of broader trends in commodities of strong demand and supply underinvestment. And then second, lack of gas can, indeed, have impact on other commodity markets.

So, let's start with the structural component. COVID was a hit on economic activity, and hence, commodity consumption. The recovery outside of oil has actually been spectacular, right? Metals demand is already above pre-

COVID levels. So is electricity demand. You've had strong consumer spending on the back of government support. And now you're also seeing a focus on infrastructure spending. So, that demand side has been strong. And in our view, is here to stay. Right? Policies on fighting climate change all require a lot of infrastructure. And policies on reducing income inequality all also tend to support higher consumption.

Now, the supply side predates COVID. Right? If you look at the oil market, for example, what you saw between 2015 and 2019 was just perpetual capital destruction by producers focused on growing production at all costs instead of generating corporate returns. And so, that has left investors reluctant to invest in natural resource companies. View that as a much higher cost of capital to actually spend money on production. And the shift to ESG has exacerbated that, right? Think about oil. It is a source of carbon pollution. And so, capital has naturally migrated to renewables, for example.

So, where that leaves us today, which is just a lack of investment in recent years. And now that we need that

investment, the realization that it takes a much higher commodity price to actually incentivize spending. And case in point, you know, oil prices are trading at their highest levels since 2018. But the stock price of oil producers is still lingering at low levels. They still don't have that signal to actually do more.

Now, on the more short-term item of natural gas availability that you mentioned, right, it's an input to key industries. It's a source of power in China. So, we will see localized constraints. Fertilizer, for example, so that, keep in mind, for next year's food prices. Aluminum and steel as well. And that's going to happen now. But you know, those markets were just the same facing those structural dynamics already.

And now if you look across the commodity complex, we've actually been in deficit for pretty much every single commodity since the middle of last year.

Allison Nathan: So, we're already seeing very high inflation in the major economies. So, how will this commodity outlook affect that narrative that this is all

temporary? I mean, do you think this could be a prolonged boost to inflation going forward?

Damien Courvalin: So, there are many moving parts. Right? You know, the shock from natural gas prices feeding through power prices will have an impact on headline inflation. Our economists estimated that the move to \$25 per MMBtu would increase European headline inflation by 25 basis points next year. Now, prices are up another 30 percent since then, so you can see how those upside risks are building.

Importantly, although you see it today in gas, keep in mind, it has a slow pass through from wholesale to retail prices. You know? If you look at France, there'll be a cap on power prices till April. Germany has a slow pass through. There are really only a couple countries like Spain and Italy where you'll see it now. So, already you know, that shock is here for at least the first half of 2022.

I mentioned food prices. The lack of fertilizer will impact planting next spring. So, that impacts food prices for all of 2022. And because of course this is seasonal, the effect in

our forecast point to receding energy prices next year. But because it's also structural and persistent, those risks of another shortage next winter are quite real. And in fact, you know, we could if winter is cold, end up next summer at still historically high energy prices. So, I think that's the key here is, you know, the shock is significant in scale. Does have a lag pass through. So, transitory, yes, but still we're talking six months to 12 months impact. And then second, because we're really not resolving any of those structural issues, the risk of that recurring is actually quite high going forward.

Allison Nathan: And what about the implications for economic growth?

Damien Courvalin: So, you know, the economic impact will be, first of all, from the reduction in consumer income due to higher electricity bills. Our economists for the move, as I mentioned to \$25 gas prices, estimated at about 2/10 of a percent of GDP growth for one year. Now, as I mentioned, gas prices have rallied further. And ultimately, the real risk is the one we're now seeing in China where because of energy shortages, our economists had to reduce

this year-on-year growth rate forecast by a percent for the end of '21 and the beginning of 2022. That's the real risk to economic growth. Not so much prices themselves, but really the point where you are just unable to generate electricity and you are forcing much lower economic growth. Not there yet, again, I emphasize in Europe. But it's a risk that cannot be dismissed going forward.

Allison Nathan: So, bigger picture, to some extent the broader push to decarbonize, we're hearing so much focus on the shift towards renewable energy sources. That's all limited, as I've heard you say, you know, the production of fossil fuels, such as coal. So, how will this current energy crunch really affect that energy transition?

Damien Courvalin: There are two components. The first one, and coal is the example, shows that abandoning too quickly the production of what we consume today, whether it be coal/gas/oil is quite dangerous as we still consume those commodities. Right? So, the energy transition has to be much more about solving the demand side than impacting already today the supply side.

I'll take coal as an example. Everybody knew coal demand would decline. That led to a precipitous decline in upstream mining capex. And today, coal prices are trading at record highs. Now, the second key point here is that internalizing our carbon emissions is costly. Right? We have operated for centuries without that in mind. And today, as we have to reflect the carbon content and emissions of what we do, it is proving to be quite expensive. And renewables help. But it takes time to scale them. They're intermittent. And that further illustrates that we will need in this energy transition still a lot of oil, a lot of gas. And that those will have to come at a higher price given their inherent missions.

So, we are seeing a greater focus of society into fixing those issues. But I think what this energy winter crisis is showing is the cost of making that transition.

Allison Nathan: And are there implications of that for investors? Are there going to be winners versus losers? You mentioned the low returns that traditional oil producers are facing.

Damien Courvalin: Yeah, it is an important question. So, from an oil market and gas producer perspective, it means probably coming back into the forefront of what investors have to consider in their portfolio as the output of those industries is still essential to global economic growth. It means, likely, further investment needed on the LNG side. And that's a long cycle of investment. And clearly, now we need more capacity.

It also means as the incumbent source of power, decarbonizing oil and gas will be important. Now that could come from carbon capture and, ultimately, needs a solution. And then finally, as illustrated in Europe recently, relying on renewables does create challenges such as when there's no wind, no sun, or not enough hydro and rain. And so, storage is also a key to enabling the energy transition to much higher usage of renewables.

Allison Nathan: So, if you look out ahead, it seems like you are expecting high energy prices. And that ultimately will translate into higher gas and utility bills this winter. So, the question is, how high? So, give us a sense of your forecast and how you think that will translate to

consumers.

Damien Courvalin: Sure. The risk here really is the inherent high volatility that we expect going forward. Right? And that every country has, on the power side, various pass-through mechanisms. But you know, we're talking ten - 20 percent potential impact next year for consumer power prices. To the extent that that is passed onto consumers is less clear given potential intervention by governments in setting power prices.

Allison Nathan: Is that something we're seeing right now?

Damien Courvalin: It has started. Right? So, you've seen it in Spain. You've seen it in France. And that further exacerbates the concerns of policy makers on this additional inflation shock.

There is one market that we didn't discuss as much. It's the oil market. Right? It's not exposed yet significantly to this energy crisis. There is some, but not too much substitution. But we actually believe that oil prices are set

to significantly appreciate going forward. Our forecast for the end of this year is \$90. And as a key input to many other industries, you know, that should contribute also further to the rise in headline inflation.

And again, as the gas market illustrated, the drivers of that higher oil price forecast, which is underinvestment in strong demand, are only going to compound going forward. So, I think that's the one market to keep in mind. Sure, maybe a mild winter this year. Maybe everything will be resolved quickly. Oil, however, is setting up to very much start a structural bull market. One that I think investors and policy makers need to be anywhere of.

Allison Nathan: Well, let's hope for a mild winter this year, Damien.

Damien Courvalin: Yes, indeed.

Allison Nathan: Thanks for joining us.

Damien Courvalin: Thanks for having me, 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 and leave a rating and comment.

This podcast was recorded on Friday, October 1st, 2021.

This transcript should not be copied, distributed, published or reproduced, in whole or in part, or disclosed by any recipient to any other person. The information contained in this transcript does not constitute a recommendation from any Goldman Sachs entity to the recipient. Neither Goldman Sachs nor any of its affiliates makes any representation or warranty, express or implied, as to the accuracy or completeness of the statements or any information contained in this transcript and any liability therefore (including in respect of direct, indirect or consequential loss or damage) is expressly disclaimed. The views expressed in this transcript are not necessarily those of Goldman Sachs, and Goldman Sachs is not providing any financial, economic, legal, accounting or tax advice or recommendations in this transcript. In addition, the receipt of this transcript by any recipient is not to be taken as constituting the giving of

investment advice by Goldman Sachs to that recipient, nor to constitute such person a client of any Goldman Sachs entity. This transcript is provided in conjunction with the associated video/ audio content for convenience. The content of this transcript may differ from the associated video/ audio, please consult the original content as the definitive source. Goldman Sachs is not responsible for any errors in the transcript.