

China – The Role of Gas

An online panel event held on 21st and 22nd September 2022



CHINA - Carbon Neutral by 2060
'THE FUTURE OF GAS'

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Four sessions over two days

- Security of Supply • CCUS
- Markets • Renewable Gases

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Session Three: Competitive Gas Markets

Participants

Walter Boltz, Senior Advisor European Energy, Walter Boltz Consulting
Jinsok Sung, Expert, Asian Gas and LNG Market and research professor, Hankuk University of Foreign Studies
Kasper Walt, Managing Director, Maycroft
Moderator: Matthew James, Managing Director, Energy Post

Highlights

This year's gas market is characterised by a slowdown in gas consumption and a stronger focus on security of supply. Due to volatile gas prices as well as interruptions in gas supplies, security of supply has become even more central. Unstable market conditions are pushing climate goals into the background, and the importance of coal remains given its price and the relative abundance of supply and production.

There is strong competition in the energy market as LNG is supplied to Europe as an alternative to Russian pipeline gas - the switch to pipeline imports to Europe from other suppliers is only possible in the long term.

Volatile gas prices, which depend on the geopolitical situation and perceived changes in the future, have a serious impact on the electricity market.

Europe's gas market

- Europe's gas market is facing a gradual decline.
- By paying the highest prices, Europe has been able to attract gas from other sources.

China's gas market

- China is expected to focus on all kinds of fuels, including coal, to enhance energy supply and security.
- Growth in China's gas consumption is slowing. Sluggish domestic gas consumption and high prices lead to a decline in LNG imports.
- High prices affect not only China, but many countries in the Asia Pacific market. While the share of gas is still relatively small in China and other Asian countries, it will play an important role in meeting a fast increasing energy demand and by replacing coal to meet the climate goals.

Session One Summary

This is a summary, not a verbatim transcript, of the key points made during the online panel event.



Jinsok Sung

Expert, Asian Gas and LNG Market and research professor, Hankuk University of Foreign Studies

China's gas market: Gas consumption growth is slowing down and forecasts predict that it will only increase marginally compared to last year. LNG imports are expected to decline due to sluggish domestic gas consumption and high LNG prices. Reasons for the sluggish domestic gas consumption are COVID restrictions, an unstable and volatile gas market, as well as gas supply disruptions. Local production led to lower imports of LNG because the import price is much higher than the domestic price.

Many companies are optimising their consumption by buying less LNG on the spot market and more pipeline gas in the long-term market.

Europe's gas market: Europe's mature, competitive and liquid gas market is facing a gradual decline. Gas will contribute to the shift from coal power to renewables, but recent policy decisions to end subsidies and priority status for fossil fuel infrastructure mean that

the market will not grow much. A mechanism to adjust carbon dioxide limits is designed to get other countries to catch up with Europe in terms of carbon dioxide emissions.

EU-China cooperation: The Chinese gas market is evolving into a more mature and liberalised market and can learn from Europe's extensive experience with liberalisation, gas market development and fully operational gas hubs.

There are opportunities for EU-China cooperation in the energy sector where companies face new climate regulations, e.g. joint development of LNG decarbonisation technologies.



Walter Boltz

Senior Advisor European Energy, Walter Boltz Consulting

The gradual decrease of Russian imports since February 2022 is a massive disruption of Europe's gas market, leading to strong reorientation of European gas buyers from Russian gas to other sources of gas. Last month, only about 8% of EU gas imports came from Russia, down from 40% before the crisis.

The crisis did not happen suddenly, but was foreseeable:

- 1) Since summer 2021, Gazprom has started to reduce the stocks in European storage facilities.
- 2) Russia has basically been reducing imports since summer 2021, driving up prices even before Russia invaded Ukraine.

The scarcity led to a price spike with gas prices at an unprecedented level of €240 /MWh, while before the crisis the highest price was €25 - €30 /MWh and the average price about €20 /MWh.

Volatile gas prices, which depend on the geopolitical situation and perceived changes in the future, have a serious impact on the electricity market - high volatility is expected to continue for the next two years.

The European Commission and several Member States have started to intervene in the market because the high prices are affecting social cohesion and economic development. Spain, for example, has started to subsidise the gas used for electricity generation in order to lower electricity prices, but at the same time this has increased gas consumption.

The infrastructure to deliver gas from the LNG terminals anywhere in Europe in the required quantity is not yet in place. This will improve, e.g. when some of the German LNG terminals are installed and put into operation.

In the medium term, Europe's gas storage facilities need to be filled for the next winter of 2023-24, which is a big challenge because the storage facilities will be largely empty. From 2024 onwards, the situation will ease as some of the infrastructure projects will come on line and start delivering gas to Europe. From 2025 onwards, Europe will be able to meet demand to some extent without Russian gas imports.

The medium-term risk is that Europe is now forced to make long-term commitments for gas and coal, to ensure that electricity and gas continue to be supplied to Europe.

After the current crisis is overcome, the next big priority is how to reconcile our energy supply and security with the goals of the energy transition.

There is a major restructuring of the global gas market ahead: Europe is looking for new supply chains for oil and gas and Russia for new consumers.

MJ asks: Has the advanced market design buffered us at all from what's happened?

WB: The development of the gas market is relatively stable. There is some discussion about changing the TTF indexation. We have some kind of automatic trading activity, monitoring is going really well, but energy commodities are not doing so well. The discussion about the merit order is in some ways misplaced, because this is not an innovative idea about how to fix the price of electricity, but about the way all commodities are traded globally.



Kasper Walt
Managing Director, Maycroft

Short-term and longer-term problems have to be looked at. A discussion should be held on whether the design of the electricity and gas markets is good enough or whether changes are needed. At the moment there is a liquidity problem in the market because there is a lack of infrastructure.

One of the main problems Europe has compared to Asia is that Asian buyers have long-term contracts for LNG for about 70% of the demand, whereas Europe depends more on short-term contracts and stock markets.

There is a balancing act between investment in new gas infrastructure and the decarbonisation agenda in Europe. To get rid of fossil fuels, long-term contracts are necessary, e.g. for the investment in new export facilities of LNG.

Several energy companies in Europe have run into financial difficulties because they have to meet huge margin calls, such as the large German utility Uniper.

Major challenge: implement decarbonisation agenda while ensuring affordable prices for gas and electricity for end consumers.

Global challenge: what is the impact of decarbonisation, electrification, and geopolitical issues?

Q&A

MJ asks: We have seen that China is far better protected than Europe from pipeline supply problems in the current crisis, what is the impact on consumers? What are the benefits for consumers of this different attitude to trade?

JS: The situation in the European and Chinese markets is different because the Asian market is an emerging market that is just starting to form and grow. So the growth rate of consumption and growth was quite fast, while the European market was already mature. Also, EU was already preparing for the phase-out of fossil fuels and was making a rapid energy transition, because energy consumption was already increasing and decreasing. It is a bit difficult to compare the European Union and China on the same level because they are in different phases of the gas market. Asia has had to sign a lot of long-term gas contracts because of the higher growth rate of consumption.

MJ asks: Has the decarbonisation agenda harmed our security?

KW: No, I don't think so, but most energy companies in Europe started buying LNG on a short-term spot basis. And for, like, 10 years that worked very well because the prices were relatively low. It was probably not the best strategic move either, because we were depending on the spot market, and under normal circumstances that's fine. But under these stressful conditions, it really backfires, and now it's very difficult to make new long-term contracts. Overall, in Europe and Asia, the focus will be more on long-term contracts to guarantee security of supply.

If there is a colder than normal winter, that would mean there is much higher demand for gas and that will push up prices.

WB: Europe's mistake is that we allowed Russia to get far too large a market share without doing any thinking, under the wrong assumption that they have always been a reliable source and they will continue to be, and no one thought that this massive disruption would happen in the end.

Chinese traders were buying up a huge amount of LNG worldwide as early as May 2021. Apparently, there were already expectations that gas supply on the world market could be uncertain at the end of 2021-22.

Finalising plans and moving away from fossil fuels needs to be better coordinated with the actual availability of alternative energy sources, or this is only the first of many future electricity market crises.

MJ asks: Perhaps you could talk about why there is a lack of investment and how do you think we can stimulate growth in these markets to decarbonise the fuels we use?

KW: It's really difficult to get the necessary investments for e.g. CCUS because the business case is not good enough. There are of course some projects, for example in Europe. But the question is how do we scale up so that it actually becomes an affordable technology as well instead of being really expensive. Given the high ETS prices we have today, that may be the case in the future.

In the future it makes sense to focus more on biogas, for example Denmark is one of the leading countries for this. Conscious political decisions have supported this. We see a similar development with hydrogen. Green hydrogen is not a short-term solution. More renewable energy will help decarbonise the economy and become less dependent on gas and other fossil fuels.

MJ asks: Could you perhaps comment on the same issues with China?

JS: CCUS is in the early stages of development in Asia including China and needs to be further optimised economically.

WB: The energy transition must be massively accelerated and CCUS will play an important role in this. We're going to need a lot of imported green energy, but we're lucky that we're pretty close to areas where solar PV and renewable gas can be produced very cheaply. And we can turn that into synthetic fuels, where we can turn it into ammonia and import it to Europe. Green hydrogen from Abu Dhabi and Qatar is much cheaper than what we can produce in Europe.

Unfortunately, in Europe we are quite slow on renewable investments. So it would take many years to build ground-based PV systems of a reasonable size, not because it is technically difficult, but because the permitting process takes years.

MJ asks: If we have an oversupply, that could be beneficial, if prices go down and more money flows as a result, thanks to the ETS and other similar mechanisms; how does that dynamic work for the technologies we need?

KW: If you look at all the new projects that are going to come on stream in the next 3-5 years in the US and other parts of the world for LNG there can be a possible oversupply. If more gas is used, then it would also be good, indeed, to make this gas green, e.g. through CCUS. An ETS price above €100 could improve the business case.

MJ asks: There have been two interesting developments in the ETS. One is the restriction on non-actors investing in the market to invest in the ETS. And the other is a possible cap and floor on the price. How do you think this will develop and what impact will it have?

KW: The price will be somewhat dampened and could rise again. And that is actually the ultimate goal of the EU. You reduce the caps every time you expand the sectors that are included and we might also get carbon taxation and a lot more; we will see that not only in

Europe but also in other parts of the world. And that would also really help the global decarbonisation process.

MJ asks: How come CCS is growing much faster in China? Is it funded by the government? How does it work?

JS: It is possible that many CCUS projects in Asia will be subsidised by governments.

KW: Of course, these are more like test projects that are subsidised by the government by providing incentives. So it's happening in several countries just to scale the technology and find ways to bring the prices down so that you can actually scale it and it becomes a smart, widespread technology.

MJ: What do you think about price caps for industrial companies and consumers at home?

WB: In many countries there are price caps for consumers or for small businesses, although they are not ideal. The alternative would be a large number of insolvencies and financial problems across the board, which would not be very good politically. But it is important that they are limited to the people who really need them. And that is a challenge because the welfare systems don't necessarily have all the information to determine who is in need. The problem is that if we subsidise energy consumption in general by providing price caps or financial compensation, we increase consumption. In industry, there will probably only be very specific supports for industry, where energy is a big cost component. I don't think they will be given across the board because it's just too expensive for governments.

KW: For example in the Netherlands, the average household consumption is taken and if you then consume more gas or electricity than the fixed base, then you pay the market price. So there is still some incentive for people to reduce their consumption. I think what we don't need is the price cap. And that is sometimes also being discussed, for example, what the European Commission has proposed. It may be inevitable that somehow you introduce price differentials for households and small businesses.

MJ: That is an unintended effect that may undermine the industry.

KW: A lot of industries have already got their gas and their electricity at slightly lower prices than households. So they already had some incentives. And on the other hand, if you look at the profitability of many companies, it still seems to be okay; I'm not saying it's going to stay that way, so they should be able to pay that out of their own balance sheet as well.

JS: In many countries, there are price caps, especially in the retail sector and to support the household and heating sector. For many households in Asia, it is quite expensive to pay the market price, so some governments provide subsidies.

There have been enormous losses, for example the monopoly electricity provider in South Korea has suffered a loss of over \$30 billion this year alone. There are also price caps in China, depending on the level of consumption and depending on the region or sector, for example, in the home and heating sector.

AUDIENCE QUESTION: François Issard asks: The tendency is generally to optimistically imagine stability coming after crisis, but we can also worry about seeing another unexpected crisis looming. For instance, the economic context worsening in most countries (recession in US, low growth in EU and China). Is the impact of a significant economic slowdown in the coming quarters sufficiently taken into account in the picture? That would not be good news for people and would provide some stress on energy markets.

KW: Indeed, some economic problems can be seen. The economic situation and uncertainty is already included in the price. That will slowly improve because if we get off lockdowns in China we could actually go into a recession and we see that there is a big target in Europe to reduce demand for gas. I think the main problem is still the insecurity of supply. So that's probably the main driver and cost of volatility. This is already factored into the price on the demand side, but the uncertainty is particularly reflected on the supply side.

WB: Economic slowdown may lead to a demand-side contraction. In the summer there was already a massive drop in gas consumption at the industrial level.

AUDIENCE QUESTION: Belinda Schäpe asks: Wouldn't it be much more effective if the EU would accelerate its investment in (cheaper) renewables rather than investing in new (expensive) LNG terminals and locking in long-term contracts that will end up as stranded assets when gas demand has to drop by 30% in 2030 in line with legally binding climate targets? Increasingly disastrous climate impacts inevitably have to lead to even more ambitious climate action and Europe has a leading role to play.

WB: I think in principle yes. In reality, the answer is no. I think we backed ourselves into a very difficult corner to exit. We now have a number of laws that are slowing down the issuance of permits. 15-18 years ago Germany had this summary procedure for windmills, but it was stopped by the European court. So today we would basically have to undo a lot of environmental legislation, to speed up processes, and I doubt there will be a majority for that.

KW: In addition to the permit, there is also the case that immediately when you announce the construction of a wind farm, local residents go to court.

AUDIENCE QUESTION: Charles Ellinas asks: If the message from Europe remains 'we are moving away from gas', where is the new gas going to come from? This message deters oil & gas companies from investing in new gasfields.

JS: For example, from Israel and Cyprus. The Israeli gas is exported to Egypt, where it is converted and exported as LNG. At the same time, there is also a new agreement between Algeria and Italy or France to increase gas supplies. And there have also been discussions about importing gas from Central Asia, but there are many open technical questions.

WB: I think that first of all we will see some dilution of our phase-out ambitions. And at the same time, if you have a more positive view on gas in the medium term, you could sell it to Europe for 5-7 years and then to the rest of the world, where I think gas consumption will increase anyway.

AUDIENCE QUESTION: Diana Powers asks: Are any EU countries actually organising for a possible very cold winter from the bottom up? By this, I mean, are municipalities asking households if they have a heat pump, or good insulation, solar panels, etc., to be able to withstand a very cold winter. Are we asking farms to initiate biomethane projects and facilitating that? Is energy conservation being actively encouraged? What is the link to households?

KW: In the Netherlands, for example, a gap is being introduced on the prices you have to pay for electricity and gas, giving people an incentive to install heat pumps because they are cheaper than gas.

The communication and the way you communicate this to people could be improved, and maybe you could also give them more incentives to help them make these investments, because it's not cheap.

WB: One positive effect is that most industrial companies are quick to install PV systems on all their flat land, thus accelerating the expansion of renewable energies. Acceleration of approval procedures is expected in some countries. If the time span is reduced from eight to four years, this means a 50% improvement, but still no relief in the next few years. Sufficient renewable energy has a very clear and obvious impact on prices. If that was communicated a bit better, maybe the public's attitude towards a wind turbine next door or a big photovoltaic plant would change.

MJ asks: What are the opportunities for cooperation between China and Europe?

JS: There are many opportunities for business between the EU and China, because as a large-scale importer of natural gas or energy, there are many areas that are important for business, and at the same time, Chinese and European companies and the energy sector have very advanced experience, not only in the development of technology, but also in the development and construction of large-scale energy projects for import or export. As a consumer, if we say that the EU and China are in the same position, and by increasing the enterprises, maybe it is also possible to increase the purchase prices, energy, raw materials.

WB: Both countries would benefit from some kind of organised dialogue on LNG, because China and Europe are the biggest buyers of LNG.

China probably has a much shorter term, easier and cheaper way to do this by replacing some of the gas power plants with coal, and maybe we should think about how this could be done in a politically organised way rather than just through prices. Since the beginning of the energy crisis, Europe has spent about 500 billion euros extra on energy in Europe. So any form of enterprise that could reduce that amount would be beneficial for everybody.

KW: Especially the decarbonisation technologies, like CCUS and green hydrogen, are relatively expensive. So if the technology improves, if there is cooperation here, then you could bring those prices down quickly. And I think this is where the biggest opportunities are for a company, because the technologically high standards in China and the technologically high standards in Europe, prices can be lowered and you can work together. And similar to what we've seen with solar panels for example, how prices have come down, I think that could be the best way forward and working together on LNG.

*Summary compiled by Helena Uhde
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