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Will a focus on security help or hinder the global energy transition?

Four experts debate the impact of war in Ukraine, higher power and equipment prices and a volatile, more fragmented world. By [Amy Carroll](#) and [Bruno Alves](#)

Russia's invasion of Ukraine has intensified scrutiny of energy security. But while locally sourced renewables clearly represent the ultimate form of independence, in the short term, there are growing calls for fossil fuels to be powered back up as isolating Russian president Vladimir Putin is prioritised over decarbonisation. Will the Ukraine crisis disrupt the energy transition, or will it further accelerate the shift to green power?

"Investment in the energy transition is the answer to both climate change and energy security," says Jenny-Li Holmström, legal counsel and head of ESG at Taaleri Energia. "Our belief is that there is no conflict here.

"A greater focus on renewables is the fastest way to construct more cheap and clean local energy production in each and every country. That energy

security angle has become more prominent against the current geopolitical backdrop, so I think that will fast-track more construction, rather than hinder progress."

Carsten Johansen, managing director at Impax Asset Management, agrees. "We may experience some choppy waters and there may be some short-term delays. But in the long term, I believe we will see an acceleration of renewable generation," he says.

"While events in Ukraine have been horrible, they may provide additional tailwinds for the sector on the back of increased focus on energy independence. A number of countries have already increased their targets for renewables build out."

The swell in public consciousness around sustainability issues that coincided with the pandemic should prevent net-zero targets from being discarded. "Energy security is now at

the forefront of everyone's mind," says Laurent Chatelin, partner and head of infrastructure investment at Eurazeo. "Just as covid has been an accelerator of digitalisation, so Russia's invasion of Ukraine will accelerate the energy transition in the years to come."

The war in Ukraine has not only revealed the need to secure independence from Russian gas. It has also caused power prices to skyrocket, thereby exacerbating inflation. "We are moving from what has been an extraordinarily benign market to a more volatile environment, triggered, in part, by events in Ukraine," says Joost Bergsma, founding partner and chief executive at Glennmont Partners. He adds that renewable energy prices are, to an extent, following the upward trajectory of both oil and gas.

However, Bergsma believes that renewables pricing will increasingly become decoupled from the wider



Joost Bergsma

Founding partner and chief executive,
Glennmont Partners

Joost Bergsma is involved in originating new deals and in the negotiation of some of Glennmont's key investment and exit transactions. He sits on the board of a number of portfolio companies, including Gode Wind. Bergsma has more than 16 years' experience in energy and power utilities transactions across the value chain, in Europe as well as in emerging markets. He previously held senior positions at BNP Paribas, ABN Amro and SG Warburg & Co.



Laurent Chatelin

Partner and head of infrastructure investment,
Eurazeo

Laurent Chatelin leads Eurazeo's newly formed infrastructure investment team. He was previously a partner at Marguerite, a European infrastructure asset manager with €1.5 billion under management. Chatelin has also served as a principal investor in the European greenfield and brownfield infrastructure space with ABN Amro and Macquarie Capital.



Carsten Johansen

Head of Transaction Team (P/E Infrastructure),
managing director, Impax Asset Management

Carsten Johansen joined Impax in 2019. He is responsible for originating and negotiating new investments for the firm, and supporting Daniel von Preyss in the management of the business. He is also a member of the NEF III investment committee. Johansen joined from GE Energy Financial Services where he was responsible for originating, executing and managing investments with focus on renewable and thermal energy.



Jenny-Li Holmström

Head of ESG, investment manager and senior legal
counsel, Taaleri Energia

Jenny-Li Holmström has worked on Taaleri Energia's renewable energy funds since 2014. She has extensive experience in the wind power industry, ranging from permitting and financing to corporate governance, structuring and transactions. She is vice-chair of the board of the Finnish Wind Power Association, where she has actively been promoting sensible wind industry regulation and practices since 2013.

power markets, given that the fundamental determinant of price is, in fact, weather. “That, in turn, will increase the amount of renewables on the grid,” he says.

“The second big advantage of clean energy is that it doesn’t have a feed-stock. Gas powered plants need gas supply on a daily basis to function. Wind farms, by contrast, will operate regardless.”

Pricing pressure

But while power prices fuel inflation, the renewables industry is facing its own pricing pressures as equipment costs soar. “About a year ago, equipment prices were at an all-time low,” says Johansen. “In fact, you could argue those prices were not sustainable, as manufacturers struggled to make the economics work.

“Coming out of the pandemic, and now with the war in Ukraine, we are facing a period of higher inflation, which is impacting capital expenditure. These cost pressures are largely being offset by higher power prices and technological advancement; over the longer term we expect the market to normalise.”

Increased costs are also being offset by technological advancement. “The increased efficiency of equipment means you can generate more electricity from the same capex,” says Chatelin.

Holmström agrees. “The cost of solar and wind farm components has generally increased over the past few months due to various logistics and supply-chain issues, and also raw material pricing pressures, but these challenges are being offset by the increased efficiency per unit that we are seeing, as wind and solar technologies continue to improve over time,” she says.

Bergsma points, in particular, to innovations with rotating and bifacial solar panels. He also sounds a note of caution, however. “The manufacture of wind turbines tends to be local because blades and towers are too expensive to ship. But solar panels are primarily

manufactured in China, Vietnam and Korea,” he explains. “If we start to move towards a more fragmented world, with greater trade restrictions, that could create challenges.”

Bergsma says that these panels are already the object of increased scrutiny, to ensure that they are manufactured to European ESG standards. “We shouldn’t take it for granted that we will continue to have access to cheap

solar panels as these geopolitical and ESG pressures evolve,” he says.

Johansen agrees. “The solar supply chain has been impacted by human rights concerns around certain panels coming out of China and we are currently monitoring potential covid outbreaks and whether these may impact manufacturing and shipping,” he says. “If you have flexibility when it comes to starting construction, that puts you

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JENNY-LI HOLMSTRÖM
Taaleri Energia

in the best possible position to manage the current market environment.”

For Chatelin, the future for renewables looks bright, regardless of mounting geopolitical and macroeconomic pressures. “The marginal cost of producing each extra gas molecule goes up and up but exactly the opposite is true of renewables,” he says. “The beauty of wind and solar is that the more you have in the ground the cheaper the production of electricity becomes.”

Renewables’ roadblocks

There are hindrances to the growth of renewables, of course. One is the evolution of the battery storage required to tackle the inherent intermittency of wind and solar. “Battery storage is on a good trajectory,” says Bergsma. “We are starting to see a lot of capacity come online.

“However, batteries today are primarily being produced for the EV [electric vehicle] sector. The power sector requires a great deal more capacity. In addition, the batteries being produced today are more suitable for fast charge and de-charge, rather than

medium- and long-term charging. That is still a significant handicap.”

“We need more medium and long-term storage solutions as we seek to add more renewables to the grid,” agrees Johansen. “We are seeing more European countries come out with policies and frameworks around battery storage. That should help drive expansion because it is quite clear that more capacity is required.”

For Johansen, however, the two largest inhibitors of renewables deployment involve local planning and access to stable grids. “It is country-, region-specific,” he explains. “In some jurisdictions you are guaranteed grid connection once permitted, although you may not know the timing or cost, in others you need to bid in.

“That grid connection is one of the largest bottlenecks we face. Deployment of renewables today is far behind even 2030 goals, so we definitely need more investment in grid connections across the board.”

“The quality of electricity transmission is frustrating,” agrees Chatelin.

“This is a highly regulated space.

Governments need to step up,” adds Bergsma. “In Germany, for example, there is not enough transmission to match ambitions for offshore wind capacity. I also think we need to see more coordination across Europe when it comes to transmission policy, so that we can use the fact that we have countries with good natural wind resources and countries with good natural sunlight, to better meet the electricity needs of the whole region.”

PPA pricing

Meanwhile, although renewables may be relatively insulated from macroeconomic and geopolitical events, increased volatility must, of course, be factored into the way offtake agreements are structured. Johansen says that Impax – which sells projects once they become operational, so spends a lot of time talking to potential buyers about their preferred route to market – has in certain markets seen an uptick in interest for merchant buyers over the past six to 12 months, as well as an increase in Power Purchase Agreement prices.

Holmström, however, says that even

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Impax Asset Management

though it may objectively make commercial sense to obtain greater merchant exposure, both Taaleri Energia's LPs and lenders expect to see a certain minimum level of hedging.

"With, on average, 60 percent of production hedged for a period of 10 years, our funds already have a significant merchant tail exposure," she says.

"While power prices are currently surging, our ability to be more opportunistic is governed by a need to balance risk and return. That means we will look to have PPAs or financial hedges in place regardless of the power price environment."

It would indeed be a brave investor that placed bets on how long current pricing will remain in place. "PPA prices have increased to some extent on the back of higher future power prices projections in the wholesale market," says Holmström.

"It is difficult to predict how long power prices will stay where they are, but current high wholesale power prices are not sustainable, and unhealthy given the impact on end consumers. We hope that power

prices will normalise sooner rather than later."

Bergsma adds that we are already starting to see a backlash against higher power prices, with some governments announcing limits on windfall profits. But he adds that, while it is impossible to know how long prices will stay at their current levels, greater volatility is inevitable given the move away from feed-in tariffs. That volatility, he says, can generate returns: Glennmont employs a team of dedicated PPA experts tasked with achieving that goal.

Meanwhile, a growing range of customers is looking for PPAs. "Clearly, the tech companies have been there for many years but, as a side effect of higher gas prices, we are also receiving lots of enquiries from gas companies and chemical companies as well," Bergsma explains. "PPAs are also becoming more sophisticated in terms of structure, with multiple tranches, caps and collars, and a mix of tenors."

While a lack of players able to handle volatility means that there are more short-term PPAs than long-term ones in the market today, this should change

with time, not least because of demands from the lending community. "To a large extent, project finance banks are driving the discussion around how PPAs are structured because they are the recipients of most of the contracted revenues," says Chatelin.

"From an infrastructure perspective, you need PPAs with long tenor in order to leverage projects," agrees Bergsma. "If you are able to offer scale and diversity across geographies and technologies, I think off-takers will be willing to agree."

Hype around hydrogen

The energy transition is not just about renewables generation. We have seen an increase in energy transition strategies focused on the decarbonisation of industry, rather than just the power sector, the most obvious example being the Brookfield Global Transition Fund, which is targeting \$15 billion, double its original target.

Chatelin, who joined Eurazeo to help forge its infrastructure business early in 2021, embraces this broader definition. "Investors are thinking

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beyond renewables to a broader understanding of transition,” he says.

“That is why we have named our maiden fund the Eurazeo Transition Infrastructure Fund, encompassing renewables and the broader energy transition such as decarbonisation, clean transport and the circular economy, but also digitalisation. Transacting across a broad range of sectors, geographies and technologies is a great risk mitigant, because if one goes south, you have that diversification advantage.”

For other market participants, however, some of these broader interpretations of the energy transition stray outside traditional infrastructure parameters. “Investment in the decarbonisation of business can more closely resemble venture capital than infrastructure in terms of its risk-return profile,” says Holmström.

One of the most hyped sectors outside of traditional generation, of course, is green hydrogen. It is an area that many investors are watching closely but where few have yet placed firm bets.

“Around 90 percent of the hydrogen produced today involves fossil fuels so there is still a long way to go until we are producing green hydrogen at scale,” says Chatelin. “We have not yet transacted in the space, but we are watching it closely and believe it will represent an interesting investment opportunity in the years to come.”

“While the hydrogen sector has huge potential, it is still very nascent,” agrees Johansen. “We have looked at some opportunities involving hydrogen co-located with solar and coupled with an industrial offtake, and we continue to evaluate the economic equation. I think it is likely that more government intervention will be required in order to make it more mainstream than it is today.”

Holmström, meanwhile, says that it is encouraging to see increased amounts of government-backed investment in green hydrogen research and

development, and even some demonstration or test projects. But she adds that it would require a massive amount of additional cheap, renewable energy to get green hydrogen production to scale, which will be extremely challenging over the short to medium term.

The cost of electrolyzers would also need to come down significantly, says Bergsma. He adds that it is unclear how successful gas pipe networks will be in storing hydrogen. “Finally, more work needs to be done to prove hydrogen’s safety before it can be deployed at scale,” he explains. Indeed, while Bergsma sees potential for the use of green hydrogen in decarbonising transport and industry, in the power sector he believes its role will be limited to storage, given the large dents

that wind and solar are already making.

Despite the growing proliferation of broader energy transition funds, Bergsma extols the virtue of a focus on power, not least because power remains the most pollutive part of the economy.

“There are also mature and proven technologies mitigating that carbon footprint, including onshore and offshore wind and solar. That means it is possible to create a well-balanced risk-return profile,” he says. “The decarbonisation of some of these other sectors, including transport and industry, is at a far earlier stage, so inherently carries more risk. After all, the decarbonisation of these hard-to-abate sectors all comes back to the generation of clean electricity.” ■

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LAURENT CHATELIN
Eurazeo