

PROGRAMME HIGHLIGHTS

AURORA
Renewables Summit
LONDON 2024

NAVIGATING CHOPPY WATERS
CAN THE UK AND EUROPE
OVERCOME CHALLENGES TO
REALISE RENEWABLE AMBITIONS?

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AURORA Renewables Summit

LONDON 2024

DEAR FRIENDS AND COLLEAGUES

It was my great pleasure to welcome you to the Aurora Renewables Summit London 2024.

The context of this conference was the huge ambition to deploy renewables in the UK and Europe but also the many risks and challenges to overcome for this to be realised.

With elections taking place in Europe, the UK, and France, we explored the political climate and how this is affecting decarbonisation ambitions and the energy sector more broadly.

A key theme running through the conference was grid constraints and curtailment, which has rapidly become the main barrier to deployment of renewables in Europe. Our Aurora team presented an analysis on how curtailment risk is impacting investments in Great Britain and Spain and how co-location can be a potential solution to grid issues.

Finally, our panel of industry experts provided an in-depth look into the offshore wind sector, discussed the feasibility of GB's 2030 targets, and shared lessons learned from other European markets.

I hope this highlights pack helps distil our main takeaways from the day, even though it cannot do justice to the experience of being there and the richness of the questions and challenges in the room.

We were incredibly grateful to be joined by thought leaders from industry who provided their views on the challenges and solutions needed to achieve renewable ambitions. Many thanks to the following speakers for taking the time to bring their insights to our panel sessions: Alexa Sharples, Andrew Elmes, Bruce Huber, Damien Zachlod, Danielle Lane, Holly Brazier Tope, Nick Faith, Richard Scott, and Yurie Kawada.

We are also very grateful to our partners, Clarke Energy and ING, for supporting the event and making it a success.

Finally, thank you to the team at Aurora, including the panel chairs and keynote speakers, but especially to the Events and Marketing teams for their commitment, adaptability, and hard work in bringing this major event to fruition.

We look forward to welcoming you to future Aurora conferences, and let's keep the conversation going in the meantime!

Richard Howard
Global Research Director, Aurora

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AURORA Renewables Summit

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SOCIAL MEDIA MENTIONS

Nick Faith • 2nd
Founder and Director at WPI Strategy
1w • 6

Thanks for having me [Aurora Energy Research](#). Great to discuss the implications of the election and what a potential change of government could mean for the future of energy policy.

Aurora Energy Research
46,598 followers
1w • 6

A varied and engaging first panel discussion focusing on the UK election and the impact it could have on energy markets and climate policy.

Thank you to our panellists [Nick Faith \(WPI Strategy\)](#), [Holly Brazier Tope \(Green Alliance\)](#) and our host from Aurora, [Tom Smout](#).

The trio discussed the cost of decarbonisation and reaching Net Zero, renewable capacity pledges, and potential reforms to the planning system

A great way to kick off the Aurora Renewables Summit London 2024—stick with us and we will keep you updated on the remaining content throughout the day.

[#AuroraSummitLondon](#) [#UKGeneralElection](#) [#EnergyPolicy](#)
[#GreatBritishEnergy](#) [#Renewables](#)



EnBW Generation UK
3,514 followers
6d • 6

Happy Monday everyone! 🌞

Last week, our MD [Damien Zachlod](#) was invited to participate in a panel discussion at the Aurora Renewables Summit held by [Aurora Energy Research](#) in London. The topic was "Decarbonising with Offshore Wind: The Viability of GB's 2023 Targets". Thank you to [Aurora Energy Research](#) for the invitation, it was great to be part of an enthusiastic discussion which lead to some of the following takeaways:

- Targets beyond 2030, or a targeted annual deployment rate could be more impactful than the current government policy and would provide an important long term signal to developers and the supply chain
- Whilst on paper locational pricing could lead to more efficient market outcomes, there are limited opportunities for offshore wind to relocate given seabed leasing and grid connection constraints
- The UK could benefit from system planning initiatives which have been implemented elsewhere in Europe, including Germany and the Netherlands

[#renewables](#) [#AuroraSummitLondon](#) [#netzero](#) [#offshorewind](#)



JERA Nex
3,478 followers
1w • 6

How can we tackle the challenges facing renewable energy in the UK and globally?

[Richard Scott](#) joined a panel at [Aurora Energy Research](#)'s Renewables Summit in London yesterday to discuss what the current challenges are and how we can overcome them.

In particular, discussion focused on grid constraints including waiting lists and congestion and how:

- ⚡ Regulation and system reform will be critical in reducing the queue time for project connections and enabling the development of the renewables projects needed to reach climate targets.
- ⚡ We need significant investment to add or replace 80 million km of grids globally by 2040, equal to all grids globally today, to meet national climate targets (Source: [International Energy Agency \(IEA\)](#)).
- 🔋 Battery storage systems like those developed by [Zenobé](#) will be key in helping grid congestion and stability, allowing the power generated by renewables to be stored and then used at optimal times for the grid.

Thank you to moderator [Richard Howard](#) and panellists [Alexa Sharples](#) and [Bruce Huber](#) for a wide-ranging and interesting discussion.

Read more about our renewables portfolio and how we're investing in innovators like [Zenobé](#) to continue scaling renewables for a sustainable future: [www.jeranex.com](#)



Holly Brazier Tope (She/Her) • 2nd
Head of Politics at Green Alliance
1w • 6

It was a pleasure to speak at the [Aurora Energy Research](#) renewables summit yesterday, discussing the UK election and what it could mean for energy markets and broader climate policy.

Aurora Energy Research
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A varied and engaging first panel discussion focusing on the UK election and the impact it could have on energy markets and climate policy.

Thank you to our panellists [Nick Faith \(WPI Strategy\)](#), [Holly Brazier Tope \(Green Alliance\)](#) and our host from Aurora, [Tom Smout](#).

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Steve Higgins • 3rd+
Director
1w • 6

It's good to step back from the tunnel focus of battery analytics to understand the challenges that exist across the renewable energy landscape. Thanks to [Aurora Energy Research](#) yesterday for sharing insights into market challenges across Solar, Wind and Battery Storage. More importantly, how participants are combatting these. Key takeaways below:

- 🔋 Challenges:
1. Connectivity to the grid remains the no1 problem - backlog as far as 2035
 2. Planning - Only 1 in 5 planning applications are getting approved first time
 3. Supply chain - both in terms of hardware and skills shortage continue to impact progress
 4. Regulation - With elections across the world, what will be the impact on renewable energy?
 5. Revenue streams/Capital cost - the UK has seen market volatility this year, and Europe is expected to follow.
- 💡 Solutions:
1. Solar/Wind and BESS projects are getting bigger - to combat the delays in grid connection and the shortfall of skilled engineers to support, we should expect to see fewer but larger sites
 2. Colocation of solar/wind with BESS is becoming increasingly more important
 3. Mitigating market risk - tolling agreements to become more common, offloading market risk to trading houses in return for predictable cashflow
 4. Continue to press for regulatory changes and Government intervention (on-shore wind farms, improving grid connections, upskilling the workforce)
- Understanding and addressing these challenges is vital for the sustainable growth of renewable energy. [#RenewableEnergy](#) [#MarketInsights](#) [#Sustainability](#)



Hannah Day (She/Her) • 2nd
Communications - JERA Nex | Scaling renewables for a sustainable future
1w • 6

Interesting day yesterday at the [Aurora Energy Research](#) renewables summit with [Richard Scott](#) and [Annalisa Schiavon](#) hearing more about how the UK and Europe can continue scaling up its renewables industry.

With the UK general election only a week away, it was fascinating to hear from [Holly Brazier Tope](#) and [Nick Faith](#) about the implications of a potential Labour Government for the energy sector.

Grid constraints are not something I'd ever thought about before joining [JERA Nex](#) but I really enjoyed learning more about the technical detail and the challenges they create, as well as the importance of battery energy storage systems and collocation during Richard's panel and presentations from [Ashutosh Padelkar](#) and [Steph Unsworth](#).

Thank you to the Aurora team for a great event!



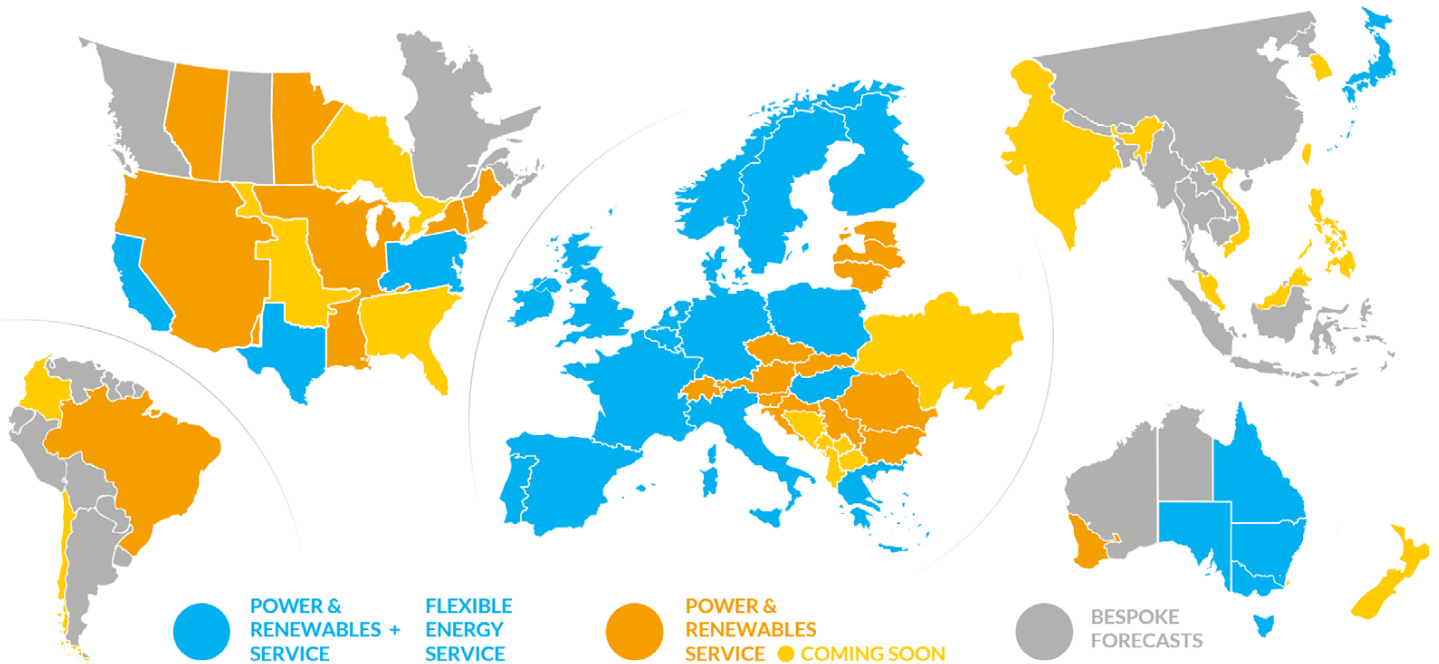
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PROGRAMME HIGHLIGHTS

THE UK GENERAL ELECTION AND ITS IMPLICATIONS FOR THE ENERGY SECTOR

Chair: **Tom Smout**, Senior Associate, Aurora

Speakers:

- **Holly Brazier Tope**, Head of Politics, Green Alliance
- **Nick Faith**, Co-Founder & Director, WPI Strategy

Summary:

While Labour's manifesto dedicates more words to energy and the environment than the other parties, polling suggests that these are not the leading issues for voters—a statistic that seems unfathomable to the committed delegates of London's premier energy conference. However, the economy polls as voters' foremost concern, and energy bills are a significant contributor to the cost-of-living crisis.

Labour has the most ambitious commitment of the three main parties on energy decarbonisation, promising a clean power sector by 2030. The panel was sceptical, with Holly Brazier-Tope (Green Alliance) noting the significant time it will take to bring required changes through legislation.

The discussion then turned to Labour's plan to establish GB Energy. While the panel was unsure on the specifics of the policy, with Tom Smout (Aurora) observing that "GB Energy seems to be all things to all people," YouGov polling suggests that 75% of the population are in favour of the idea. The panel put this widespread support down to the policy's ambiguity, with left-leaning voters interpreting it as a move towards nationalisation, centrists seeing it as an innovative public-private partnership, and everyone else being won over by the patriotic "GB" branding.

Overall, the Labour Party has clear ambitions and timelines, but implementing them will be challenging. According to Nick Faith (WPI Strategy), there are four key barriers to delivery: grid connectivity, planning delays, supply chain uncertainty, and the skills gap. The latter issue was a recurring theme of this conference. Labour has promised 650,000 new green jobs, but it's unclear whether the UK's post-16 education system is capable of training enough highly skilled workers to fill these posts. In Nick Faith's view, Labour is not prepared to deal with these challenges within a first term.

Whichever party wins, signalling intent will happen quickly, but change will take time.

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AURORA KEYNOTE

GRID CONSTRAINTS IN EUROPE: RISKS AND OPPORTUNITIES

Speaker:

Ashutosh Padelkar, Senior Associate, Aurora

Summary:

Insufficient grid capacity has emerged as a critical barrier to renewable energy deployment across Europe, leading to increased grid congestion charges and longer connection queues. In Great Britain, assets can connect to the distribution network more swiftly than to the transmission network but risk uncompensated curtailment. In Spain, curtailment within the technical restrictions market remains non-remunerated, even for transmission-connected assets. This situation requires proactive responses from developers and governments to mitigate high congestion levels. Developers can alleviate grid constraints by locating assets in less optimal load factor sites and by co-locating renewables with batteries to shift generation. Regulators, system operators, and governments are contemplating reforms such as zonal pricing to incentivise development nearer to demand centres or to accelerate current grid buildout rates.

Key insights from this analysis include:

- In GB, the grid connection queue has surged to more than five times the capacity needed to achieve Net Zero targets, with over 51% of solar capacity facing connection times exceeding five years and some waiting as long as fifteen years. Consequently, constraint management costs have reached £1.25 billion in 2023 for system balancing actions. Spain experiences a similar problem, with nearly a fivefold increase in constraint management costs.
- For a distribution-connected solar PV asset in Kent, non-firm connections do not maximise the internal rate of return (IRR), resulting in IRR reductions of 1.3 percentage points (pp) and 2.1 pp for 'last in first out' (LIFO) and pro-rata connection agreements, respectively, compared to firm connections in the same region.
- Transitioning from a national to a zonal pricing model in GB introduces significant market risks for generators. Gross margins for north Scottish offshore wind could decline by over 30% between 2030 and 2040 under a zonal pricing structure, while a solar asset in southern England can see an upside increase of 23%.

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PANEL DISCUSSION

RENEWABLE ENERGY IN TRANSITION: OVERCOMING BARRIERS TO INVESTMENT IN EUROPE

Chair: **Richard Howard**, Global Research Director, Aurora

Speakers:

- **Alexa Sharples**, Corporate Strategy Director, Low Carbon
- **Bruce Huber**, CEO, Alexa Capital
- **Richard Scott**, VP of Development and Construction (Onshore), JERA Nex

Summary:

The European Union has set ambitious renewable targets that could see over 1200 GW of capacity deployed across the continent by 2030. Whilst significant progress has been made to support the development of renewables, a step change is required to if these targets are achievable. The panellists discussed the largest barriers that are inhibiting the deployment of renewables today, including grid congestion, planning restrictions, and market design.

Highlights from the session:

- Developers have numerous options to mitigate the risk of grid constraints and curtailment on project returns. Alexa Sharples (Low Carbon) and Richard Scott (JERA Nex) highlighted the potential benefits of co-locating projects with either batteries or electrolysers, which can provide an end-use for generation that would have otherwise been curtailed. Bruce Huber (Alexa Capital) raised the opportunities in financing behind-the-meter assets for commercial and industrial applications, reducing project exposure to the grid altogether.
- On planning reform, the panellists welcomed steps being taken by DESNZ, Ofgem, and NGENSO to reform the grid connection application process and queue management system. Alexa Sharples noted that similar reforms in Germany had successfully removed speculative grid connection applications. Richard Scott echoed similarly productive policies in the PJM energy market in the US.
- Whilst there was consensus on the need for market design certainty, the importance of innovation in addressing technical challenges was also discussed. Panellists explored introducing financial incentives to ensure the timely delivery of grids, the potential of private wire agreements, and alternative connection queue management methodologies.

European Renewable Co-Location Report

June 2024



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- Expert assessments on trends to watch for co-location
- IRR for co-located business cases vs. standalone renewable assets for eight countries



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AURORA KEYNOTE

CO-LOCATION: THE SOLUTION WE'VE BEEN LOOKING FOR?

Speaker:

Steph Unsworth, Senior Associate, Aurora

Summary:

"In GB, co-locating with battery storage can improve the IRR of a non-firm solar asset to levels exceeding the profitability of a firm standalone asset."

Co-location offers a compelling solution for renewable energy generators to mitigate the effects of economic curtailment, network constraints, and high grid connection costs. By optimising the dispatch of renewable assets, battery storage helps projects avoid curtailment and generate additional revenue.

Steph Unsworth examined the economics of co-location using a solar PV asset as an example, exploring various opportunities and scenarios for co-location in Europe. In her keynote, she highlighted the following key points:

- The extent of the benefits from co-location depends on the specific characteristics of the asset. For solar PV, factors such as location irradiation, grid constraints, and connection agreement type significantly influence project revenue and the benefits of a co-located battery.
- Co-location can boost a project's internal rate of return (IRR), primarily through the additional revenues from managing the battery asset. Additional benefits include savings from investing in co-located batteries versus standalone ones, as well as revenues from avoiding grid curtailment. Aurora's analysis indicates that a co-located project with a non-firm connection could achieve a higher IRR than a non-co-located project with a firm connection.
- Optimal sizing often favours a larger battery and a smaller solar asset, as batteries tend to be more profitable. However, since battery storage revenues are more uncertain than those of solar PV assets, the associated risks are also higher. Consequently, risk appetite is crucial in determining which asset will drive the project's business model.

Co-located projects can be influenced by market or policy factors. Both drivers are evident in the European market: Spain sees market-driven deployment due to poor standalone renewable economics, while policy intervention in Germany has supported various co-located projects. However, the success of policy-driven projects depends on well-designed policies that avoid unintended consequences.

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PANEL DISCUSSION

DECARBONISING WITH OFFSHORE WIND: THE VIABILITY OF GB'S 2030 TARGETS

Chair: **Caroline Still**, Project Leader, Advisory, Aurora

Speakers:

- **Andrew Elmes**, Head of Business Development (Net Zero) – UK & Ireland, Siemens Energy
- **Damien Zachlod**, Managing Director, EnBW Generation UK
- **Danielle Lane**, Executive Vice President and Director of Offshore Wind Development, UK & Ireland, RWE
- **Yurie Kawada**, Director, Green Giraffe Advisory

Summary:

With only 15 GW of offshore wind currently installed in Great Britain, the goal of reaching 50 GW by 2030 (and the even more ambitious 55 GW proposed by Labour) appears increasingly difficult to achieve. A structurally higher capital cost environment and a heavily congested grid further complicate this path. The panellists in this session discussed the feasibility of the target, key barriers, and how the next UK government can address these challenges.

Highlights from the session include the following:

- The 50 GW target has been beneficial, instilling focus and motivation to build out offshore wind. Historical and forecast data suggests that offshore wind capacity will more than double, and almost treble, from 2020–2030. Andrew Elmes (Siemens Energy) felt that 45 GW by 2030 could be possible if four large offshore wind projects came online per annum, a feat previously achieved. Damien Zachlod (EnBW Generation UK) echoed this sentiment, suggesting the 50 GW target was attainable in the early 2030s.
- The panel agreed that Contracts for Difference (CfDs) have been instrumental in contracting low-carbon generation and reducing the cost of capital for renewables. However, they also felt that the CfD allocation system is outdated, as it necessitated a loser, limiting offshore wind buildout. Danielle Lane (RWE) proposed reducing the fierce price competition driven by the auction process. Meanwhile, Damien Zachlod advocated for awarding contracts to as many offshore projects as possible in the upcoming AR6 auction, as it represents the last opportunity for schemes that could be delivered by 2030.
- The panel also identified other factors hindering offshore wind deployment, such as grid connection queues and the need for consensus on large infrastructure projects, which may not always be necessary, as noted by Lane.

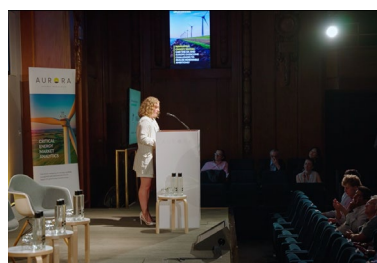
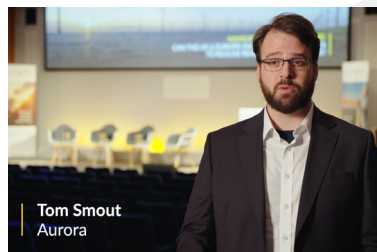
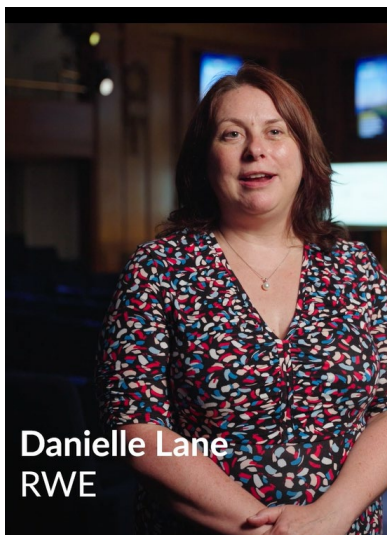
In conclusion, while the 2030 target seemed unattainable, the panel agreed on the need for a longer-term vision, and with targets for 2035 and beyond to achieve more meaningful infrastructure buildout in GB.

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