SPECIAL REPORT

Battery Storage in Europe

We share insights about the opportunities and challenges in Europe's fast-changing battery storage market from a recent roundtable discussion in London.

Tamarindo

www.tamarindo.global
membership@tamarindo.global
+44 (0)20 7100 1616

3rd Floor, Tyndale House,
134 Cowley Road, Oxford, OX4 1JH

Chief Executive Officer: Adam Barber

Managing Director, Membership & Events: Ilaria Valtimora

Managing Director, PR & Communications: Roland Godfrey-Davies

Insight Director: Richard Heap

Design: Rachael Moreland

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- **Cyril Gatinot,** Senior Vice President, Cubico Sustainable Investments
- **Gourav Choudhary,** Director Capital Markets, Gresham House, Trade Risks
- **Dr. Zhe Zhang,** Chief Executive Officer, KX Power
- **Niels Jakeman,** Head of Energy Origination Europe, Nord LB
- **Anthony Doherty,** Chief Investment Officer, NTR
- **Ross Board,** Director – Power & Utilities, RBC Capital Markets
- **Adam Kobos,** Partner, Troutman Pepper
- **Craig Kline,** Partner, Troutman Pepper
- **John Leonti,** Partner, Troutman Pepper

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The US battery storage sector has been booming since the passage of the Inflation Reduction Act last August – but it is not alone in seeing rapid growth of batteries.

On Wednesday 24th May, Troutman Pepper held a roundtable discussion in London with developers, financiers and advisors in the battery storage sector, in partnership with renewables specialist Tamarindo. This focused on the impacts of the IRA on the energy storage industry in the US and Europe, and wider challenges for the sector.

In this white paper, we share six of the key talking points:

1. UK firms face connection challenges

Renewable power and storage developers in the US have long complained about the difficulty of connecting projects to the grid. Speakers at the roundtable saw a similar issue in the UK, because the pipeline of storage projects is more than 60GW but the UK's target for storage by 2030 is 30GW. Projects are battling to secure connections.

The interest in UK storage is being driven by the country's liberalised energy market, which means its market for grid balancing services is more mature than the rest of Europe; stable regulations; and high investor interest in renewables.

Cyril Gatinot, senior vice president at Cubico Sustainable Investments, said the UK storage market was "the most mature market probably in the world" and that he had "seen the battery business case evolving every six months".

The challenge with securing grid connections will put pressure on developers and investors to decide which projects to back and which they will view as unviable.

2. Stiff competition for battery technology

US storage developers are facing delays in securing the batteries they need at their projects, with supplies likely to stay tight in 2023 and 2024. Experts at the roundtable said this was a challenge in Europe too, due to the large pipeline of storage projects and competition for batteries from electric vehicle (EV) makers.

Ross Board, director of power and utilities at RBC Capital Markets, said “the power of the EV space far exceeds that of the battery storage players” and there will be a “squeeze” on battery availability “until technology changes or manufacturing capacity increases significantly”.

The speakers said developers would also find it hard to secure the transformers and substations they would need.

But Zhe Zhang, chief executive of developer KX Power, said shortages of batteries and raw materials would be temporary; and storage firms were benefiting because of the role that EV makers had played in helping battery technologies to reach maturity.

3. Capital expenditure will remain elevated

One effect of the increased demand for batteries is that capital costs remain high, and this will exacerbate the inflation that developers of storage projects are already facing.

Anthony Doherty, chief investment officer at NTR, said capital expenditure at storage projects was “quite elevated” and was not showing signs of changing soon. This makes it harder for battery owners in Europe to achieve their desired double-digit returns.

However, he added that developers were getting more creative in how they monetize projects as a result of longer discharge times in newer batteries: “Years ago, the UK started off as a half-hour market based on frequency response, but the mainstay is now two-hour batteries with energy arbitrage,” he explained.

4. Investors want clarity on project revenues

Equity and debt investors want to back energy storage projects, but are demanding clarity on project revenues. Speakers said has been far easier for battery owners to secure equity and debt backing for projects that have off-take contracts in place.

Niels Jakeman, head of energy origination for Europe at bank Nord LB, said his firm would be reticent to back projects that aimed to sell 100% of their power in the open market. Risks for these projects include the impacts of power price cannibalisation, when power prices are reduced at times of high electricity supply.

He said investors would likely be more interested in structures where they can fund batteries at the same time as generation assets because they can diversify the risks.

Gourav Choudhary, director of capital markets at TradeRisks, which is a subsidiary of Gresham House, said some projects "will struggle to get construction funding" if it's a standalone storage project and the developer cannot provide visibility on the revenues.

5. The EU will struggle to respond to the IRA

There was agreement in the room about how important the IRA has been in driving investment activity in the energy storage sector in the US.

Speakers said it would be hard for the European Union to offer similarly compelling policy support, due to the difficulty of reconciling the different energy policies of its 27 member states. They said results would likely be stronger if there was more focus on supporting battery storage at EU national government level.

NTR's Doherty had a slightly more positive assessment. He said there was a strong interest in the EU to make batteries in Europe due to the demand from the EV sector.

6. Consolidation is coming as projects and portfolios get larger

Finally, speakers agreed that storage assets would get bigger, with headline capacity well in advance of 100MW each and portfolios of more than 1GW.

This could mean utilities and institutional investors end up dominating the market due to their financial power and their sophistication in areas such as energy trading. This will likely lead to a wave of consolidation as larger players buy up smaller firms with development expertise and established pipelines of projects.

RBC's Board said there was a "disparate developer universe" in the storage sector, and there will be consolidation in the next decade as the storage sector becomes more institutionalized: "The world will be a different place in ten years," he said.

Larger companies and projects would also likely have a competitive edge in securing supplies of batteries and other components, because they could place bigger orders while benefiting from the economies of scale that would boost profitability of projects.

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hello@tamarindo.global

+44 (0)20 7100 1616

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