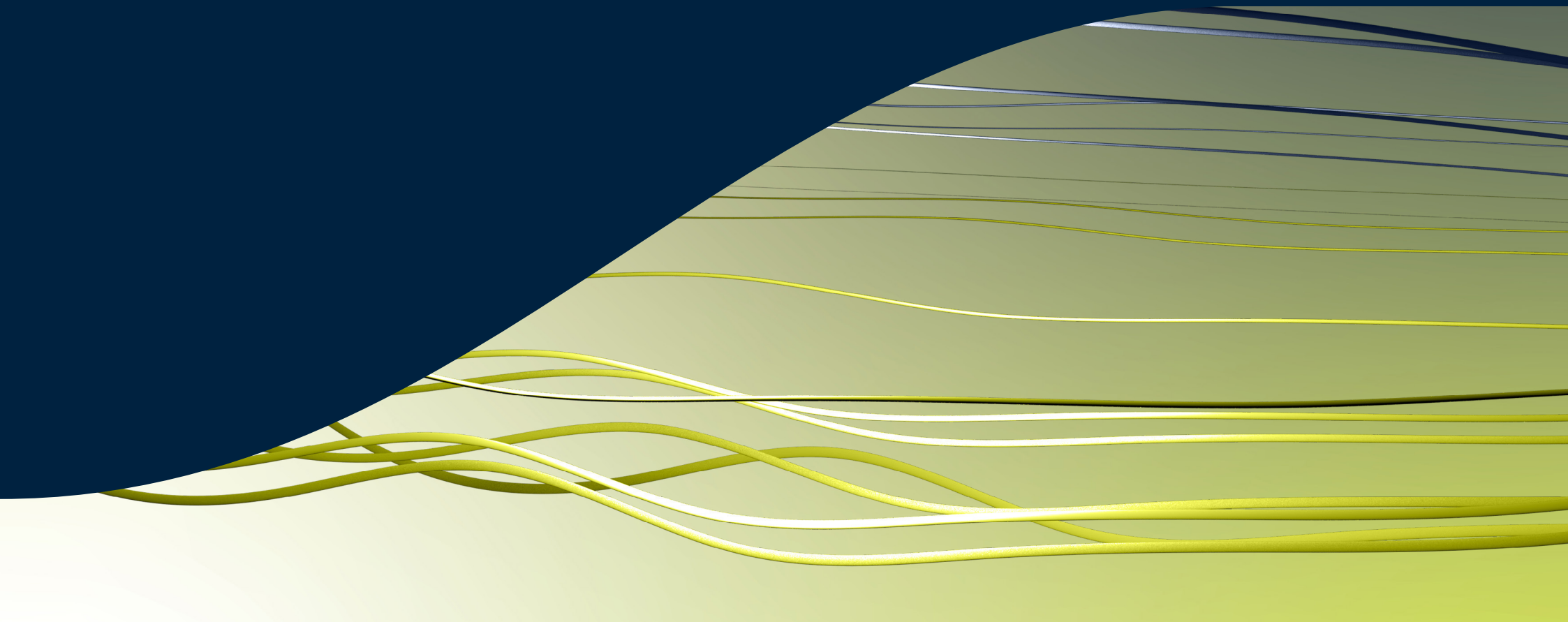
European Energy Transition Summit 2024: Post-event takeaways



European Energy Transition Summit 2024: Post-event takeaways

On June 26, 2024, DLA Piper hosted the European Energy Transition Summit that brought together industry leaders, investors, and policymakers to discuss the future of clean energy in Europe. All in all, the summit showcased two main panels and 15 breakaway sessions. The following pages are post-event summaries that provide the key takeaways from each session.*

The sessions have been grouped under four categories: Investment and financing strategies, Regional energy transition insights, Technological innovations and Policy and regulatory frameworks.

We hope that you find these takeaways useful and informative.

Should you have any questions regarding the event or the highlights, please get in touch: sm-ENRsector@dlapiper.com

400+

participants

15+

thematic panel discussions

Detailed agenda: European Energy Transition Summit 2024 | DLA Piper

On-demand recordings of the main auditorium sessions: access them here.

*Presentation summaries include paraphrased syntheses of session remarks as well as follow-up commentary from session leads.

Session summaries:
Investment and financing strategies

Main panel: Investing in the European energy transition

The Summit kicked off with a main panel session on investment opportunities in the European energy transition. Panelists discussed the volatility in European renewables dealmaking, emphasizing the need for effective management and control over source materials and supply chains. The integration of wind and solar projects was mentioned as particularly beneficial, especially for corporate power purchase agreements (PPAs). Despite an uncertain transactional environment, this hasn't prevented the investments needed. Investors are applying innovative mitigation strategies and risk sharing with project parties.

Panelists

Stefano Fissolo
Senior Director, Renewables, GLP Europe

Ronan Kilduff
CEO, Elgin

Isabel Rodriguez de Rivera
Managing Director, Nuveen Infrastructure

Giulio Maroncelli
Partner, Italy, DLA Piper

Regional focus of renewable energy development

- Considering the ongoing surge in demand for renewable energy, a significant investment increase in integrated wind and solar projects is anticipated. With substantial funding opportunities available through EU initiatives, such as the European Investment Bank's support for sustainable energy projects, framework agreements and IPPs are expected to become essential tools for investors navigating the complexities of the European energy landscape.
- Individual company strategies:
  - Nuveen Infrastructure has a global mandate with investments in the Eurozone and the US.
  - GLP emphasizes the investment opportunity for clean energy solutions in European industrial real estate.
  - Elgin, a fully integrated utility scale solar storage platform, has expanded its operations into Germany and Italy after establishing a successful presence in the UK, Ireland and Australia.

Market dynamics and investment considerations

- The renewable energy sector in Europe has demonstrated resilience, yet investors must ensure that their investments yield strong returns amidst market volatility.
- Controlling the supply chain and securing materials will be crucial for successful investments.
- Given the high capture prices in Europe, battery storage can be a solution to mitigate these costs.

Trends and economic challenges

- Current macroeconomic conditions have imposed constraints on transactions, with a decrease in total transactions compared to previous years, reflecting a "lower for longer" model.
- While EPC construction costs are declining, labor costs remain high, and power prices have significantly decreased.
- Framework agreements and IPPs can help to navigate the challenges.
- Funds and other institutional investors are purchasing IPPs and development platforms to acquire renewable energy competences.

Main panel:
Powering the future: Financing the global energy transition

On the second main panel session, panelists pointed out that the most effective financial structures, such as platform financing, are highly adaptable and can be expanded and modified as required. Bridge financing has gained popularity as a means of providing flexibility in a volatile and unpredictable market. It allows equity investors to access capital to build their projects without having to first lock in a long-term off-take agreement. Making these structures easily replicable will help facilitate access to debt for the energy transition. However, too much standardization may result in a loss of the customization needed to tailor to the specific financing requirements of individual projects. What was clear from the session is that lenders are adopting innovative structures needed to drive the energy transition forward, even though project complexity and variety continues to grow.

Panelists

Jenny Blackford
Head of Project Finance, UK, Middle East, Africa, Head of Syndications, EMEA, Asia, Australia and Head of Siemens Bank GmbH, London Branch

Stephen Jennings
Head of Energy Structured Finance Office for EMEA, Head of Sustainable Business Division for EMEA, MUFG Bank

Heiko Ludwig
Global Head Structured Finance and General Manager London Branch, Nord LB

Natasha Luther-Jones
Partner, International Head of Sustainability and ESG, Global Co-Chair, Energy and Natural Resources Sector, DLA Piper

Technology and energy transition

- Technologies like solar and wind are well-established and widely used across Europe.
- Significant financing is directed towards new technologies such as green hydrogen/ammonia, CCUS, biofuels and energy efficiency.
- The development and deployment of these technologies are creating a market where there is more variety and opportunities for project financing, while also forcing lenders to get a better understanding of how they work.

Complexity in energy projects

- The complexity of energy transition projects is increasing alongside with their size, introducing new financial structures that in turn need to adapt.
- Different markets around the world vary in the speed of project execution, with Europe lagging behind the US due to uncertain regulations and policies in some countries.
- In the coming years, the market for energy transition financing is expected to evolve with a greater emphasis on flexible and scalable financial structures. Furthermore, the introduction of new financial instruments, such as green bonds and sustainability-linked loans, will streamline access to capital, enabling a broader range of projects to secure funding.

Trends in project finance

- There is a move away from standardization in financing structures, because the best ones are flexible and can adapt to the project's requirements.
- Project finance teams on the lender side are now adopting a wider variety of financing structures, going beyond traditional project finance debt and incorporating elements of mezzanine financing, development finance corporate hybrid structures, NAV-based financing, as well as gaps left by other lenders, such as take private financing.
- Lenders are facing several challenges in this new landscape, from a human resources and skills gap to finding new ways to take on the bigger volume of projects, for example through digitalization and using AI for credit analysis.

Session summaries:
Regional energy transition insights

Breakaway session:
Energy landscapes of Central and Eastern Europe

Romania is emerging as one of the key players in renewable energy in Central and Eastern Europe, focusing on hydroelectric and solar power. Since the introduction of a new commodities platform for energy trading and the lifting of a previous ban on power purchase agreements, corporate interest in the country's energy market has surged. The country is also pursuing an objective to increase its share of renewables in the total energy mix. The Czech Republic produces more energy than it consumes, making it a major exporter of renewable energy to Germany. To provide a steady supply of electricity, the Czech government is concentrating on increasing its capacity for renewable energy, especially in the areas of solar and nuclear power, driven by government initiatives and increased investment, as well as the country's goal to phase out coal by 2033. Hungary's energy production is dominated by nuclear power. The country has seen a rise in renewable energy contributions, particularly from solar, and has adjusted its targets accordingly. The renewable energy market is expected to experience significant growth in the coming years, particularly in the solar PV sector, driven by supportive government policies and a transition towards market-based projects.

Panelists

Paula Corban-Pelin
Partner, Bucharest, DLA Piper

Miroslav Dubovsky
Partner, Head of Corporate practice, Prague, DLA Piper

Gabor Simon
Partner, Head of Energy and Procurement, Budapest, DLA Piper

James Carter
Partner, London, DLA Piper

Romania's renewable energy ambitions

- Hydroelectric power dominates Romania's renewables, but the country has significant natural resources for wind and solar: the southern part of Romania has very good solar irradiation while the southeastern part of Romania has very good wind speed.
- Since 2022, Romania has lifted the ban on PPAs and it is now launching its first auction to grant support to wind and solar projects through contracts for difference. Corporate offtakers are showing increasing interest in entering green corporate PPAs and several such contracts have been signed or are in the course of being signed.
- The introduction of an "Offshore Wind Law" establishes a legal framework for investment in offshore wind capacities, with a potential estimated at the Black Sea for at up to 76 GW. In the long term, offshore wind is expected to add to Romania's energy mix in line with Romania's Energy Strategy, that seeks to replace coal with new production capacities based on natural gas that is also hydrogen ready; investing into new production capacities from nuclear sources, biomass, hydropower, hydrogen, geothermal, and storage capacities.

Czech Republic's energy strategy

- The Czech Republic produces more energy than it consumes, exporting much of it to Germany.
- Renewables make up 19% of the energy market, with solar energy comprising 10% of this share.
- The government aims to add 10,000 MW of renewable energy by 2030. The draft updated NECP (National Energy and Climate Plan) submitted in October 2023 proposed a very significant increase, reflecting the fact that the EU's overall 2030 target had risen to 42.5%. At the time, the Ministry of Environment clarified that this would mean 10 GW of installed capacity from solar and 1.5 GW from wind by 2030 – almost five times the amount installed up to that point.
- The Czech Republic has launched auctions on a small scale, but only for biogas plants, small hydropower plants and wind farms. However, the total capacity of power plants that can be entered into auctions is severely limited and there are currently no auctions for solar plants.

Hungary's energy landscape

- Renewables account for 26.4% of Hungary's energy production. Nuclear dominates with 44.8%. When the 2,400 MW Paks II power plant comes online in the next decade, it will further increase the share of nuclear in the production mix.
- Until recently, investors didn't pay much attention to PPAs in Hungary due to the generous KAT subsidy schemes. But since this scheme ended in 2016, the popularity of (PPAs) has increased.
- Further robust growth is expected in Hungary's renewable energy sector in the coming years, especially since the country will reduce its dependency on imported oil and natural gas and align with the EU's climate goals. At least 3,000 MW large-scale PV projects with public grid access are in the pipeline, and installation of smaller rooftop systems will also grow.
- Enhancing the capacities and resilience of the public grid is a top priority for the Hungarian government, so we expect major investments in this area partly financed from EU sources.
- As system balancing become an increasing challenge for the transmission system operator, pumped storage hydropower developments are also likely to counterbalance the rapid increase in weather-dependent technologies. Battery storage and smart grid developments are also anticipated to be key areas of investments.

Breakaway session:
Energy transition and investment opportunities in Germany

Germany achieved its 2023 solar PV target of 9 GW, reaching a total of 14.3 GW, and aims for 215 GW by 2030, despite facing grid connection issues and investment barriers. Germany's solar PV sector is expected to continue its rapid expansion in the coming years, driven by ambitious targets and supportive policies. Advancements in energy storage solutions and smart grid technologies will enable the resolution of grid connection issues. In 2023, wind energy contributed 22% to electricity generation, with a 23.6% increase in capacity in early 2024, but development is hindered by land limitations and lengthy approval processes for projects that will need to be streamlined to allow for more investment. In addition, Germany plans to invest EUR6.3 billion to lead the electromobility market by 2030, with new obligations for EV infrastructure installation starting January 1, 2025, which will be significantly expanded due to amendments in the European Energy Performance of Buildings Directive.

Panelists

Michael Cieslarczyk
Partner, Dusseldorf, DLA Piper

Manuel Indlekofer
Partner, Munich, DLA Piper

Solar PV expansion in Germany

- By 2030, Germany aims for solar PV systems with a total electrical output of 215 GW.
- Key obstacles in executing solar PV goals include establishing sufficient grid connections and managing approval procedures. As regards grid connections, in many cases the necessary capacity can be granted. But even though renewables installations can benefit from preferential treatment in relation to network connection, depending on the local infrastructure and specific technical network restrictions, in some cases, grid expansion measures are necessary and cause delays for the connections. As regards approval procedures, for most states in Germany, an obligation to install solar panels already exists or is at least planned to be adopted soon. With a few exceptions, no building permit is required for installing solar panels on rooftops and exterior walls. The same applies to separate but very small solar panel installations. The Federal Building Code (*Baugesetzbuch*) provides for additional cases in which separate PV systems are privileged construction projects which can be installed via a building permit procedure in places where they would have been prohibited otherwise.

Wind energy development in Germany

- Wind turbines made the largest contribution to electricity generation in 2023, providing 22% of the country's electricity.
- The government's coalition* agreement foresees allocating 2% of land to onshore wind projects.
- The Wind Energy Act and faster approval procedures aim to promote the expansion of wind energy. In addition, according to the Federal Building Code (*Baugesetzbuch*) wind turbines are privileged in outer/non-urban areas (*Außenbereich*). However, since it's up to the respective municipality to decide on the permitted use of space within the area governed by the municipality, it can (and should) designate appropriate areas for wind energy. Therefore, before starting a new wind project, it must be checked if the project is permissible at the intended location or if an amendment to the existing planning law is required. At the same time, as in case of solar PV installations, similar restrictions in relation to available grid connection capacity respectively in relation to necessary grid expansion measures apply.

Hydrogen and EV charging infrastructure

- Germany intends to invest EUR6.3 billion to become the leading market for electromobility by 2030. According to existing German law, from January 1 2025, various obligations will apply regarding the installation of EV infrastructure. As a result of the amendment to the European Energy Performance of Buildings Directive, these obligations will need to be significantly expanded in the next years.
- Planning and financing the ramp-up of the hydrogen core grid is a key difficulty for the National Hydrogen Strategy. However, the German legislator has recently adopted the legal framework for the financing of the planned hydrogen core grid. In principle, the core network is to be financed by fees paid by network users. A startup fee to be determined by the Federal Network Agency will initially be capped and the costs will be equalized and spread over a long-term period via an amortization account. In October 2024, the Federal Network Agency finally approved the development plans for the Germany-wide hydrogen core network.
- Current electrolysis capacities of less than 0.1 GW indicate that the Germany's hydrogen ambitions are unlikely to be met by 2030.

*The German government coalition has recently collapsed and there will be new elections in February 2025. It remains to be seen if the newly formed government will continue envisaged policies and legislative proposals.

Breakaway session:
The Nordic energy transition

In the Nordic region, establishing strategic partnerships and exploring innovative technologies such as e-fuels and hydrogen are critical to achieving success in this evolving market. It is equally important to recognize that each Nordic country presents unique strengths and challenges. Sweden leads in onshore wind energy development, Finland offers a resilient grid with substantial power-to-X potential, and Denmark excels in offshore wind capabilities.

As the renewables sector continues to mature, meaningful engagement with local residents and stakeholders must remain a priority to ensure project success. Over the coming years, the Nordic countries are set to make significant strides in renewable energy initiatives. Key areas of focus will include the decarbonization of heavy vehicles, aviation, and shipping – sectors that currently pose considerable challenges.

Panelists

Mathias Bimberg
Head of Infrastructure, Prime Capital AG

Anthony Doherty
Chief Investment Officer, NTR plc

Fredrik Lindblom
Partner, Co-Head Infrastructure, Construction and Transport Sector, London, DLA Piper

Evolving nordic market

- Post-COVID-19, energy prices have decreased, while capex has risen, affecting project viability and financial returns.
- Despite a decade of overexuberance, the Nordic energy market still possesses fundamentals that can support the energy transition.
- Investors must delve deeper into the unique characteristics of each Nordic country.

Creative project development

- Only the most innovative and robust projects will successfully reach the Ready to Build stage.
- Successful projects may involve fully merchant models, strategic partnerships, and diversification tactics.
- While fully merchant models can offer higher returns, they also present increased risks due to market volatility, making it essential for investors and lenders to carefully evaluate the bankability of such projects.
- Engaging in PPAs with hyperscalers and investing in technologies like e-fuels and Power-to-X (P2X) are key for capturing new market opportunities.

Local integration and ESG focus

- As the renewables market matures, investors must prioritize meaningful engagement with local residents and stakeholders.
- Successful projects must address environmental impacts and social dynamics, going beyond financial compensation.
- Investors should aim to leave a beneficial legacy by integrating projects into the local context.

Breakaway session:
Italy's legislative and market outlook

In Italy, the renewable energy sector is predominantly driven by solar and wind energy. Challenges for the energy transition include an uncertain regulatory framework and sluggish authorization processes. Despite these issues, Italy demonstrates a strong political commitment to renewable energy, and panelists agreed that there is increasing appetite from international investors and lenders, in energy storage above all. This will also be materially boosted by the approval and entering into force of the new incentive schemes during 2025. In addition, Italy is on track to achieve its 2030 targets for a 30% share of renewables in total energy consumption. The solar energy market is expected to be the fastest growing segment, while the wind energy market grows at a slower pace. The authorization process for projects is being simplified and decentralized, which will lead to faster timelines for launching projects and create more investment opportunities.

Panelists

Germana Cassar
Partner, Milan, DLA Piper

Vincenzo La Malfa
Partner, Rome, DLA Piper

Giovanni Ragnoni
Partner, Rome, DLA Piper

Federico Zucconi
Partner, Rome, DLA Piper

Renewable energy growth

- The renewable energy market in Italy is growing, and in some months production of renewable energy is over 50% of the market total.
- Solar and wind energy is performing well, while biomass is decreasing.
- There is a notable disparity between the northern and southern regions of Italy in terms of renewable energy production. The south, particularly Sicily and Sardinia, benefits from abundant solar and wind resources, whereas the north has higher energy consumption but less renewable production capacity.
- Increased investor interest in Italy's renewable sector will stem from a robust project pipeline and government-supported auctions aimed at facilitating new developments.
- New incentives will enter into force in 2025 for mature renewables (FER-X), for innovative renewables (FER-2) and for battery generation (MACSE).

Market challenges and opportunities

- New legal framework on the authorization process poses challenges and offers up new opportunities.
- Political commitment to renewable energy remains strong. The presence of a robust pipeline of auction projects is expected to attract increased interest from international investors, together with the new incentive schemes.
- There is strong growth in the market, especially in the secondary sector. In addition the PPA market in Italy can now be considered a consolidated and mature market.
- The Italian solar market is set to expand rapidly, with major projects in the pipeline. Several large-scale solar photovoltaic plants are currently in the permitting stage, including a 690 MW project in Sicily expected to begin operations by 2026. Additionally, a 600 MW solar park is slated for completion by 2027.
- The integration of battery storage systems alongside new solar installations is becoming standard practice. Upcoming projects are expected to incorporate advanced storage capabilities to manage the intermittent nature of solar generation effectively.

Evolving regulatory landscape

- Italy's case law changes favor ecological transition and renewable energy development.
- The regulatory framework is becoming more complex, as Italy has individualized plant categories and is in the process of identifying "suitable areas". These areas will enjoy more public support for renewable energy production.
- It's becoming increasingly important that investors understand this evolving legal landscape to navigate national policies, local regulations, and to comply with environmental standards, which can significantly affect project feasibility and investment returns.
- The authorization process is being simplified and decentralized, so it's becoming increasingly important that investors recognize this shift, as faster timelines for launching projects will facilitate greater investment opportunities.
- Regional-level approval is no longer always necessary.

Fireside chat:
Investing in Spain's energy transition

In Spain, the new development and construction milestones regime poses challenges for projects, due in part to the grid connection time-frame limitation. However upcoming public tenders for new connections present opportunities for greenfield investments. Current capacity constraints in Spain necessitate new tenders and ambitious planning, with offshore wind and repowering trends emerging, while hydrogen remains immature and far from achieving grid parity. In the coming years, the renewable energy market in Spain is poised for substantial growth, with solar and wind sources dominating electricity generation. This growth will be driven by the Spanish government's commitment to installing at least 4,000 MW of new wind and solar power capacity each year.

Panelists

Bart White
Managing Director, EMEA Head of Energy Structured Finance at Santander Corporate & Investment Banking

Pablo Echenique
Partner, Madrid, DLA Piper

Challenges in project development

- The new development and construction milestones regime (included under Royal Decree 23/2020) poses challenges to projects, making it necessary to carefully reassess the status of projects holistically. This is because it provides for longstop dates to achieve operational status, so investors should assess the capacities of each project to comply with these milestones.
- The PPA + solar PV model is reaching a limit with big cap deals being slowed down and sometimes cut in pieces. This is probably due to, among other factors, the volatility in electricity pool prices that can negatively affect the project's IRR and make financing more difficult and dependent on PPA schemes.

Opportunities for investment

- There will be new connection public tenders that will offer opportunities to investors in all kinds of greenfield projects. The system operator needs to organize access to the grid in areas with a high demand where the connection hubs are congested. Spanish laws provide for a public tender system intended to prioritize access to the grid to those bidders that comply with certain pre-defined requirements. Also, the development of new technologies, such as offshore wind, demand central grid planification. All this means that there will be an opportunity for private investors outside Spain to bid on new upgrade works.
- There are currently some capacity constraints that demand new tenders and ambitious planning from the government, as well as public and private investments to fund the grid. It is our view that this will happen in the short and medium term.
- Storage is growing, and it will be a trend in the coming years (hybridized and stand-alone projects). It helps to maximize the value of solar (and wind projects) and mitigates price volatility. However, there's still important legislation to be passed regarding this technology.

Future trends

- Offshore wind and repowering will be a trend in the coming years.
- Hydrogen is still not mature enough and is far from reaching "grid parity." For the moment, the market is testing demand for hydrogen and there are discussions around how a hydrogen grid will look and, more importantly, how it will be financed. Due to its abundant solar radiation and winds, Spain is very well positioned to become an important hydrogen production hub through renewable-powered electrolyzers.

Breakaway session:
Investment trends in Irish renewables

Ireland aims to generate 80% of its electricity from renewable sources by 2030. In 2023 it generated just over 40% of its electricity from renewables so achieving the 2030 target requires significant increases in renewable generation capacity of all forms but will also require significant investment in related systems and infrastructure. The Irish Government's 2024 Climate Action Plan reaffirms Ireland's commitment to increasing onshore wind capacity to 9 GW by 2030, up from the 4,836 MW installed as of December 2024. It also aims to achieve 8 GW of solar capacity and 5 GW of offshore wind. Although Ireland may fall short of these ambitious targets for 2030, the Irish Government continues to implement supportive policies. These include the renewable energy support scheme (RESS) auctions which support renewable generation through price certainty in the form of a contract for differences. There are separate RESS auctions for offshore wind energy (O RESS) with the second such auction (and the first under the revised plan led approach) due to be held in 2025 for a marine area off the Wexford coast to the southeast of Ireland. The site is expected to have a capacity of approximately 900 MW. This is in addition to the just of 3 GW of capacity awarded in the developer led first O RESS auction which was held in 2023 with the successful projects currently seeking planning permission.

Panelists

Tara Deeny
Senior Manager, Sustainable Energy & Infrastructure, Bank of Ireland

Joanne Joyce
Head of Legal and COO, Greencoat Renewables

William Marshall
Partner, Dublin, DLA Piper

Sean McGrenaghan
Legal Director, Dublin, DLA Piper

The Irish renewables market

- As outlined above, Ireland aims to generate 80% of its electricity from renewables by 2030 – an ambitious target in circumstances where in 2023, Ireland generated just over 40% of its electricity from renewables.
- To facilitate these targets, Ireland's stated aim is that by 2030 its electricity grid will be capable of meeting up to 95% of demand from renewables at any instant. This figure is currently 75%.
- To support the integration of renewables, and to manage these issues, Ireland requires substantial further investment including in interconnection, energy storage and other ancillary services technologies.
- Challenges associated with the targets include grid access and redispatch of renewables in the form of both constraint and curtailment. As such, Ireland also needs significant further investment in transmission infrastructure.

Onshore developments

- So far, Ireland has held four auctions under its RESS schemes with a significant share of the awards in each auction going to solar.
- It is expected that the fifth and final RESS auction in the current programme will be held in 2025.
- Corporate PPAs have become a feature of the Irish renewable electricity sector in recent years with high levels of demand from tech and other high demand economic sectors.
- The terms of the RESS auctions acknowledge the issue of curtailment and provide compensation for it, with RESS 3 onwards providing increasingly favorable terms for generators.
- Grid constraints are also an issue in Ireland and, depending on project location, there can be uncertainty as to when a project will be awarded a firm grid connection.
- It is increasingly normal for developers to seek to co-locate renewables with energy storage and future policies including for connections are expected to see this accelerate. This can have beneficial effects for projects including the potential to alleviate local grid constraints.

Other development

- The Irish Government is supportive of policies to facilitate achieving its renewables targets. Such policies include 20% to 30% demand-side flexibility by 2030.
- Storage projects have been participating increasingly in Ireland's capacity market and, alongside peaker units, will be important to ensuring security of supply.
- In 2024, the Irish Government published its Electricity Storage Policy Framework and solutions such as longer-term energy storage may well play a significant part in Ireland's energy future.
- The Irish electricity market is currently developing day-ahead auctions for system services. This will move Ireland from the regulated arrangements in place under DS3 to competitive arrangements for procuring these essential services.

Breakaway session:
Snapshot on Poland and its booming renewables market

Poland's coal share in the energy mix is declining, while wind and solar now account for 23% of the total energy mix. The government is implementing supportive measures to enhance renewable energy development, aiming to increase the share of renewables to 32% by 2030 and 50% by 2040. Therefore, the renewable energy market is set for significant expansion, driven by a strategic shift towards renewables and strong government support. Solar and wind energy are expected to lead this growth, positioning Poland as a key player in the European renewable landscape.

Panelists

Luis Eduardo De Franca
Director of Development
Northern Europe, Lightsource bp

Katarzyna Suchcicka
Country Manager, OX2 Poland

Jacek Gizinski
Co-Managing Partner, Warsaw, DLA Piper

Oskar Waluśkiewicz
Partner, Warsaw, DLA Piper

Renewable energy capacity in Poland

- Poland has seen a nearly 75% increase over last three years in RES installed capacity.
- Poland has a strong focus on solar energy with photovoltaic capacity accounting for over 60% of the total RES capacity.
- Wind power is becoming an increasingly important component of Poland's renewable energy mix. with a 33% capacity increase since 2021.

Energy mix transition

- The combined share of wind and solar energy in the energy mix has more than doubled from 2021 to 2024.
- The share of hard coal and lignite in Poland's energy mix has decreased significantly, indicating an effort to reduce the dependence on fossil fuels.
- Biomass continues to play a crucial role in Poland's renewable energy mix.

Future perspectives

- Poland has set ambitious targets for renewable energy, aiming for 32% RES in the energy mix by 2030 and 50% by 2040.
- The country has implemented various support mechanisms, such as RES auction systems, market rules on corporate PPAs, and offshore support schemes, to incentivize investment in renewable energy projects.

Breakaway session:
Update on the energy transition in Asia

The renewable energy market in Asia is expected to develop significantly in the coming years, driven by regional population growth, rapidly improving socio-economic conditions and substantial investments and policy commitments. As Asian countries consider what form their respective energy transition will take, the European transition provides a helpful reference. Panelists discussed and explained how European-Asian collaboration will play a significant role in the Asian energy transition and the form of this collaboration will take a variety of shapes, depending on the jurisdiction.

Panelists

Soichiro Sekito
Head of Corporate & Structured Finance (EMEA), Development Bank of Japan (London)

Zsuzsanna Sessel-Zsebik
Director Legal of RWE Offshore Wind

Peter Armstrong
Partner, Tokyo, DLA Piper

Vincent Seah
Country Managing Partner, Singapore, DLA Piper

Asian energy market dynamics

- Many Asian markets can be challenging to navigate. For European players looking to play an active role in the development, construction or operation of renewable energy projects in Asia, collaboration with a local partner tends to be the model.
- International players must engage local partners to navigate complex regulatory environments in countries like Indonesia and Vietnam.
- Japanese companies are significant investors in Southeast Asian energy markets.

Navigating the Japanese energy market

- In a market like Japan, relationships are critical. Trust is built over time and, as such, commitment and patience is required when negotiating with a Japanese counterparty.
- Japanese parties will generally undertake thorough due diligence procedures and carefully consider first-time investment targets. The commitment and patience to address these requirements can support the formation of long-term, mutually beneficial commercial relationships.
- Japan has carefully studied the European energy transition experience, assessing what might be applicable onshore or otherwise support the Japanese energy transition. For example, as Japan's market matures away from a feed-in-tariff regime, the market is looking to emulate the European PPA market and import the various, market-proven contractual strategies deployed in Europe.

Vision for the future

- RWE was the first non-Japanese developer to be awarded development rights pursuant to Japan's offshore wind tender program, together with its consortium partners Mitsui & Co and Osaka Gas, the 684 MW Murakami-Tainai Project. This is testament to RWE's commitment to the Japanese market and belief in the opportunities in Asia. To support its continued growth in Japan, RWE announced plans to significantly increase its resources allocated for Japanese projects.
- The energy transition in Asia will not be limited to traditional renewable sources such as solar and wind. There is tremendous interest in BESS, energy from waste technology, and next generation fuels such as hydrogen, all of which are expected to play large roles as Asia moves towards net zero.
- The energy transition looms large in Asia, and many Asian jurisdictions have expressed their intention to be global leaders in the net zero mission, announcing significant subsidies and supportive government policies. While much remains yet to be seen, what's clear is that no single jurisdiction can achieve these ambitious goals on their own; cooperation and collaboration, both within the region and across geographies to Europe and beyond is necessary.

Breakaway session:
European investment into the US energy transition, leveraging the Inflation Reduction Act

The Inflation Reduction Act (IRA) has acted as a significant catalyst for the US energy transition over the last few years and it will continue to spark clean energy development and implementation in both the near and long-term, in part due to new and expanded clean energy federal income tax credits and new methods to monetize those credits. Rapid growth is anticipated in the US renewable energy market as these federal tax incentives drive investment and innovation both in tried-and-true technologies like solar and wind, as well as substantial growth and opportunities in newer technologies like hydrogen production, electric vehicles, stand-alone energy storage and carbon capture. Furthermore, the growth in the US clean energy market has opened significant opportunities for domestic and non-US investors alike to participate in the energy transition, with a cumulative investment of over USD1 trillion since the IRA was enacted in August 2022. It remains to be seen what a new US administration in 2025 might do with this landmark law and how future investment in energy transition projects and technologies will be affected.

Panelists

Raul Farias
Partner, San Diego, New York, DLA Piper

Jennifer Wnek
Partner, Philadelphia, DLA Piper

Inflation Reduction Act (IRA) objectives

- The IRA aims to help the US meet its climate goals while enhancing energy security through clean energy investments.
- It promotes foreign investment in the US by providing federal tax incentives and financial support.
- The IRA seeks to lower energy costs for consumers, making clean energy solutions more accessible.

Tax credit regime enhancement

- The IRA expanded the scope of federal tax credit regimes to new technologies, including new and/or expanded credits for clean hydrogen production, commercial electric vehicles and stand-alone storage systems.
- It increased the value of existing federal tax credits for certain types of investments through "adders" such as the domestic content, low-income and energy community adders.
- It added additional methods to monetize certain tax credits (eg carbon capture) through direct payments from the government and through the ability to transfer most tax credits from one taxpayer to a third-party taxpayer through transferability.

Navigating regulatory landscapes

- While IRA's tax credit enhancements are substantial, it also imposed new requirements that stakeholders must navigate to capitalize on the use of federal clean energy tax credits.
- The IRA imposes prevailing wage and apprenticeship requirements for construction, modification and repair of all but very small clean energy projects where failure to comply with stringent documentation and compliance standards significantly reduces the value of the investment tax credits and certain production tax credits.
- The IRA added additional restrictions applicable to electric vehicle batteries related to critical mineral use and the sourcing and production by Foreign Entities of Concern.

Session summaries: Technological innovations

Breakaway session:
The challenges of developing and financing low carbon H2 projects

During the breakaway session on hydrogen, participants discussed the challenges of financing and regulation of low carbon hydrogen projects. The novelty and lack of proven track record of the technology have prompted a cautious approach to investment. Our panel emphasized the importance of assessing renewable products based on their environmental benefits, rather than focusing solely on price, although cost remains a significant consideration for off-takers. In the future, finding solutions to these complex challenges is expected to require creative financing strategies and closer collaboration between stakeholders to simplify regulatory procedures.

Panelists

Martin Forman
Director, ISD New Energies & Natural Resources, EMEA, SMBC Bank International plc

Amy Hebert
CEO, Arcadia eFuels

Andreas Gunst
Partner, Vienna, DLA Piper

Iain Elder
Partner, London, DLA Piper

Financing challenges for low carbon H2 projects

- There is significant finance available for low carbon hydrogen projects, but the diversity and complexity of projects create uncertainty for investors.
- Stakeholders anticipate 5-10 years for the full development of 'first of a kind' projects, complicating decision-making for financiers.
- The new and largely unproven technology leads to a cautious investment approach.

Regulatory landscape for hydrogen projects

- The regulatory environment for hydrogen projects varies across jurisdictions, with many regulations still in early development stages.
- Current incentives are primarily established in the transport sector.
- To facilitate project completion, there is a pressing need for further development and harmonization of regulatory frameworks

Market dynamics of low carbon H2 projects

- Concerns exist regarding the adequacy of low carbon incentives for blue hydrogen in the UK, as fossil fuel feedstock conflicts with sustainability goals.
- The focus should shift from price parity with hydrocarbons to the environmental benefits of renewable hydrogen.
- For financial viability, hydrogen projects need to cater to a more diverse range of off-takers.
- It is expected that increasing regulatory support and investment in infrastructure will drive low-carbon hydrogen demand, particularly in heavy industries and transportation sectors.

Breakaway session:
Smart grids: The key to unlocking Europe's energy transition?

During the panel discussion on smart grids, panelists noted that the current electricity infrastructure in Europe is not sufficient to address the energy trilemma of security, sustainability and affordability. Smart grids are essential to effectively match electricity supply and demand.

Prosumers are at the heart of the smart grid transformation, driving the integration of renewables and advanced technologies. However, regulatory and commercial challenges remain, and simpler rules are needed to encourage innovation and improve local load control.

Panelists

Ravichandra Kshirsagar
Commercial Vice President, Micro Grid business, Europe & International Operations, Schneider Electric

Aditi Tulpule
Director, Strategy Regulation & Compliance, SNRG

Sophie Linnell
Senior Associate, Leeds, DLA Piper

Griffin O'Rourke
Senior Associate, London, DLA Piper

Current market overview

- Currently, the electricity infrastructure in the EU is not adequately prepared to meet the rising electricity demand due to Electrification (EVs, heat pumps) and AI data center deployment.
- The global smart grid market has tripled in size from 2017 to 2023.
- Smart grids generate power for a particular development, rather than transferring electricity across a particular country. By using intelligent digital technologies, smart grids can improve the efficiency, reliability and safety of the grid while driving net zero goals – they can help coordinate the needs and capabilities of all grid stakeholders. This makes the system run as efficiently as possible, minimizing costs and environmental impacts and maximizing grid reliability, resilience and flexibility.
- Rather than just consuming electricity, smart grids enable homeowners and businesses to actively participate in generation and consumption of electricity produced and distributed in their local development via the smart grid, thus acting as "prosumers." Technology can be installed in homes in the form of smart appliances and small-scale generation, and incentives made available through lowering utility bills, to enable consumers to manage their energy usage more efficiently and to only consume energy when needed. As such, the prosumer will play a crucial role in the smart grid ecosystem to balance the supply and demand.

Grid challenges and opportunities

- The transition to smart grids faces several commercial and regulatory challenges. While the EU Commission has shown positive intent to address some of these challenges through the publication of its Digitalisation of Energy Action Plan, adopted in October 2022, and by setting up a Smart Energy Expert Group in September 2023 with a clear mandate to look at "sustainable digital transformation of the energy system," at present there's very limited legislation at UK and EU level focused on supporting the smart grids sector.
- The traditional grid was designed to work with large, mostly coal or gas-fired power plants providing a steady, reliable baseload power at all times of a day. With fossil fuels being phased out and the introduction of Net Zero targets increasing the share of intermittent renewable energy generation sources in the fuel mix, the traditional grid infrastructure is struggling to cope with the challenges of balancing increasingly unpredictable generation and demand volumes. There's also a high number of renewable generation projects seeking to connect to the grid and developers are experiencing lengthy queue waits, in some places as long as ten years given the acuteness of grid constraints. For example, in the UK, the connection queue is estimated to be 800 GW at the of 2024. Belgium, Netherlands, Italy, and France collectively have over 220 GW of projects awaiting grid connection, with a similar challenge in Eastern Europe, particularly in Poland and Romania. Such inefficiencies and delays with the traditional grid are demanding a shift toward alternative arrangements, including smart grids.

Regulatory landscape and future directions

- Effective load control at the local level is essential for using existing infrastructure more efficiently.
- There is a call for simpler regulations, which are needed to deploy smart grids on a larger scale and to incentivize and de-risk digitalization investments, this includes considering more performance-based regulations by providing incentives and penalties to meet clean energy transition objectives. Such regulations should ideally include future-proofing policies to ensure that digitalization can interact with electricity grids in a way that promotes system efficiency without compromising customer protections.
- As the market opens, more use cases for smart grids will emerge, creating opportunities for enhanced energy management. For example, we are seeing the retrofitting of solar panels to commercial buildings to allow for localized renewables generation, which reduces the electricity supply needs from the traditional grid. Ancillary services such as frequency regulation, dynamic tariff management, and demand side flexibility are becoming essential to balance the grid and optimize energy efficiency in this evolving landscape.

Breakaway session:
The power of repowering – revitalising wind energy

An engaging discussion was held about the issue of aging onshore wind farms in Europe, many of which are over 20 years old. This situation leads to a critical decision between extending the life of existing turbines or repowering them with newer technology. Currently, lifetime extensions are preferred due to lower costs and the ability to maintain revenue, but repowering is essential to meet climate goals, as it could provide two-thirds of the needed wind capacity increase by 2030.

Panelists

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Sarah Thomas
Senior Consultant, London, DLA Piper

Mark Briggs
Legal Director, London, DLA Piper

Aging infrastructure challenge

- Europe's onshore wind farms are aging, with 22 GW of capacity already over 20 years old.
- Stakeholders must make critical decisions regarding whether to extend the operational life of existing turbines or invest in repowering.
- The aging infrastructure presents both a challenge and an opportunity to meet future energy demands. The challenge primarily arises from the significant upfront investment required for repowering, which involves dismantling old turbines and installing new ones. This creates an immediate interruption in revenue. However, the potential benefits in the long run – such as a substantial increase in energy generation and higher revenues from enhanced turbine performance – often outweigh the short-term financial strain.

Economic factors favoring life extension

- Lifetime extension involves conducting minor repairs that allow turbines to continue generating power, ensuring continued revenue generation.
- Repowering involves replacing old turbines, which necessitates a halt in operations, leading to potential revenue loss.
- Given the current high energy prices, the economic landscape favors life extension because operators can continue to benefit from steady revenue streams by extending the life of their current turbines. Life extension may be more financially viable than repowering, which requires significant capital investment and will temporarily stop revenue.

Repowering crucial for climate goals

- Repowering is essential for Europe to achieve its renewable energy targets and fulfil climate change commitments. Germany was a key focus during discussions, because it leads Europe in terms of repowering potential, with substantial installed capacity that is now aging. Spain, France, Sweden, and the UK also represent significant markets for repowering due to their aging wind infrastructure.
- Repowering could contribute two-thirds of the necessary increase in wind capacity to meet the 2030 targets.
- By focusing on repowering older wind energy projects, countries can use existing infrastructure and optimal locations.

Breakaway session: Harnessing the potential of energy storage

A multi-perspective discussion explored the buoyant global energy storage market and delved into the trends, opportunities and hurdles for storage projects and technologies in the context of the energy storage market's essential role in the global energy transition. Reflecting on lessons from around the world from investors, developers and lenders, the panel provided insights on investor and lender appetite for storage projects and technologies, the utility and feasibility of mid to longer term storage options and emerging storage technologies – each of which are transforming energy management, smoothing the intermittency of conventional renewable energy generation, fostering sustainable practices and influencing the future of power distribution. Innovative financing models, such as blended finance with public capital as first-loss guarantees as well a deeper familiarity of the technologies in play, are emerging to help mitigate risks and make energy storage (particularly BESS) projects more attractive to investors and capital providers. As these elements align, alongside a number of subsidy regimes, European investors and capital providers are expected to expand their investments into energy storage, further supporting the energy transition.

Panelists

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President, Hydrostor Inc.

Olivia Satturley
Director, Specialist Asset Finance and Project Finance, NatWest

Chris Twomey
Partner, COO, Head of Asset Management, Sosteneo Infrastructure Partners

Rubayet Choudhury
Partner, London, DLA Piper

Chris Mitchell
Partner, Melbourne, DLA Piper

Role of energy storage in transitioning

- Energy storage is essential for achieving global net zero emission targets including, among other benefits, smoothing the intermittency of conventional renewable energy generation, fostering sustainable practices and influencing the future of power distribution.
- While short-term BESS projects have dominated the early energy storage markets around the world, stakeholders are conscious of the inherent limitations of these of projects and the need to also include mid to longer term storage options (such as pumped hydro, thermal storage and compressed air storage technologies) in the energy mix if countries are to achieve genuine net zero targets.

Investment and financing in energy storage

- There is strong investor appetite for energy storage projects (particularly, currently, lithium-ion BESS projects) given their relative ease of development, construction and delivery (compared with larger generation and storage projects) and their availability to attract or unlock various revenue streams not necessarily available to renewable energy generation projects. But, to date, much of the investor appetite for storage options has been in respect of projects that are well contracted (e.g. with long-term tolling agreements or governmental support payments/subsidies), as opposed to projects with merchant exposures, because of the stable and predictable nature of contracted revenue streams.
- For lenders financing BESS projects, a strong asset management strategy is vital. Increased confidence in energy storage technology has led banks to become more open to financing merchant strategies, subject to lower advance rates compared to those transactions with higher contractual revenues, strong sponsors and debt structures that can mitigate the revenue volatility present in these markets. But this requires carefully calibrated revenue stacks including strong optimization agreements with reliable counterparties as well as access to ancillary services to ensure stable revenue streams and mitigate financial risks.
- The competitive nature of European electricity markets, including capacity markets and ancillary services, creates revenue opportunities which can feed into a credible revenue stack to make debt financing viable for energy storage projects, particularly BESS.
- Innovative financing models, such as blended finance with public capital as first-loss guarantees or other state subsidies, will help mitigate risks and make BESS projects more appealing to banks. Increasingly, there are deals in the European market which are being banked by senior debt where there is a merchant profile; this reflects deeper familiarity with the technologies, the revenue stacks and informed financial covenants and downside protections. As these elements align, European investors are likely to expand their investments in energy storage.

Market development and planning

- There remains a pressing need to consider, foster and develop sustainable and investable business cases for mid to longer term storage options and associated emerging storage technologies as part of the required energy mix to deliver a net zero future. The wave of short-term storage solutions entering the market is helping with some of the required balancing of the intermittency of conventional renewable energy generation. But consumers' mid to longer term energy demands where countries are looking to reduce and eliminate reliance on CO2 intensive energy sources (such as coal fired power plants) mean that mid- to long-term energy storage solutions are a vital part of the future energy mix.
- Proactive market and grid planning by market and grid operators, coupled with regulatory and policy support and certainty, are essential components of providing the necessary market, investment and financing signals to foster the development of a sustainable energy storage market. This is particularly true of longer duration technologies which, typically, involve higher capex, longer planning processes and more complex engineering. Substantial challenges remain, however, and it was noted that there is insufficient revenue from competitive power markets as-currently-designed to support most types of large scale power infrastructure including longer-duration energy storage. As noted elsewhere system-wide thinking and targeted intervention is, therefore, needed to ensure such projects remain viable but also, crucially, become capable of securing financing.
- Despite already having sophisticated competitive market structures, jurisdictions like California (US) and New South Wales (Australia) were cited as standing out as having established and implemented policy frameworks and out-of market procurement programmes to facilitate and support the development and sustainable roll-out of energy storage markets. Since the session, longer duration storage has received more attention from regulators across Europe and, most notably, Great Britain has announced a "cap and floor" arrangement, based on the interconnector model, largely to protect senior debt thereby designed to attract a full capital stack of investments to drive the market; consultation is ongoing with full details expected in the first half of 2025.
- The panel noted that emerging markets, including Spain, India, Japan, and Chile presented substantial investment and financing opportunities for energy storage projects. Italy and Germany are among the European countries which have seen the most market interest with Italy standing out with the publishing by of regulations such as the new Mechanism for the Provisioning of Electric Storage Capacity (MACSE) under which successful bidders will be awarded long-term contracts to underpin BESS projects.
- The European battery market is rapidly expanding, driven by initiatives such as the European Battery Alliance, which aims to establish a competitive manufacturing value chain in Europe. This includes investments in lithium-ion and emerging battery technologies to enhance grid stability and support electric vehicle integration. It's expected that energy storage capacity in Europe will experience substantial growth in the coming years. By 2030, the total installed battery storage capacity is projected to reach 200 GW, a significant increase from approximately 60 GW in 2022. Continued investment and lending into the BESS market is a feature of the European electricity markets and increasing sophistication amongst players means that the pool of lenders and financing products has also increased to cater for a range of projects including those with a merchant risk profile.

Policy and regulatory frameworks

Breakaway session:
Renewable roadmap: Navigating corporate PPAs

In the session on current frameworks for corporate PPAs, the speakers pointed out that the corporate PPA market is evolving, with an increasing number of companies participating in these agreements. The market is reacting to macro and micro disruptions, often resulting in more complex and lengthy negotiations. Panelists agreed that external advisors are essential, especially in jurisdictions where regulatory frameworks can be complex. Looking ahead, companies are prioritizing sustainability and science-based goals, even as the marketplace becomes more complex, prices increase and demands become more sophisticated. It was acknowledged that there would be increased competition in certain jurisdictions for purchasing additional renewable power, considering appealing government auctions. Increasing corporate demand would ensure that corporate PPAs will continue to play a significant role in the European energy transition. Continued growth in the certificate market is expected, driven by rising demand for renewable energy and increased corporate sustainability initiatives, alongside stricter regulatory frameworks to prevent double counting and ensure accurate reporting.

Panelists

Lee Donovan
Senior Legal Counsel, Statkraft

Maria Fahlén
Commercial Manager, Green Investment, H&M Group

Lindsay MacLeod
Partner, Seattle, DLA Piper

Corporate PPAs: A shifting environment

- Companies from all sectors (such as retail and manufacturing) are entering into corporate PPAs, not just large tech companies as in the past. This growing interest from diverse buyers is driving demand for PPAs.
- There is no one-size-fits-all model, as buyers may have different needs depending on their business models (operational footprint and energy consumption levels) and motivations (cost savings vs. meeting sustainability goals). These different needs can dictate varying transaction terms and structures.
- Fashion company H&M is transitioning to renewable electricity as a big part of their sustainability mission, aiming to source 100% renewable energy for their stores, offices and distribution centers by 2030 and has a target of over 50% of that renewable electricity to come from power purchase agreements with new renewable electricity generation.

Trends and challenges in the PPA Market

- The corporate PPA market has been shaped by macro issues such as the global pandemic, rising interest rates, and supply chain disruptions, as well as micro disruptions.
- Complex deals can take time to negotiate, during which time the market changes. Working with experienced advisors can help reduce deal friction and negotiation timelines for both buyers and sellers.
- Price is a significant challenge, especially when electricity prices spike.
- Other challenges include basis risk in multi-country PPAs, competition from governmental auctions, delay in grid connections, and permitting risks. These challenges are often region- and project-specific and require local knowledge and experience to navigate.

Future of the PPAs

- There's been some standardization at the European and global level, but local law advice is still needed. Despite some reports indicating that European renewable utilities are scaling back, the level of deployment remains significant.
- PPAs are complicated by regulations, local nuances, and a variety of different structures driven by diverse buyer needs.
- The demand for renewable energy sources varies across Europe. As some regions experience higher growth rates in renewable deployment, multinationals are likely to use virtual PPAs to aggregate their energy sourcing across different jurisdictions. This trend will help address the geographical mismatch between supply and demand.
- Eastern European countries are beginning to see significant PPA activity as local companies set ambitious sustainability targets. This growth is expected to contribute to a more balanced European PPA market, which has traditionally been concentrated in Western Europe.
- The European Commission is actively promoting PPAs as a means for businesses to secure renewable energy and stabilize costs amid rising electricity prices. New guidelines are being developed to enhance the economic conditions for PPAs, further encouraging their adoption across various sectors.

Breakaway session:
How can we unlock the full potential of international RE certification?

International renewable energy certification is experiencing notable growth, due to rising issuance and transactions of certificates like Guarantees of Origin (GoOs) and I-RECs. However, several challenges such as double counting and misleading renewable energy claims have emerged, highlighting the need for stronger legislative frameworks and clearer guidelines on certificate cancellations. To unlock the potential of these certification systems, it's essential to engage experienced legal advisors who can draft the appropriate contractual mechanisms to ensure accurate consumption reporting and clarify the role of GoOs in renewable claims.

Panelist

Andreas Gunst
Partner, Vienna, DLA Piper

Certificate market growth

- The Association of Issuing Bodies (AIB) reported the issuance of 988 million certificates in 2023.
- Renewable energy certificates are primarily utilized for fuel mix disclosure and GHGP reporting.
- There has been an increase in the use of certificates for fulfilling fuel quotas, obtaining Emissions Trading System exemptions, and RFNBOs.

Challenges in GO usage

- In 2023, the AIB suspended the transfer of Guarantees of Origin (GoOs) from Iceland due to double counting claims. Iceland generates approximately 98% of its electricity from renewable sources, but nearly all GoOs were sold to European buyers.
- There is the need for more robust legislative requirements on GoO cancellations for accurate consumption reporting.

Regulatory developments

- The second version of the Guidance Note on the EU H2/RFNBO Delegated Act clarified that GoOs must be canceled for electrolyzer consumption to qualify for renewable hydrogen or as an RFNBO, bundling the GoOs with the electrolyzer PPA.
- The EU has implemented a Union Database for renewable fuels to track and correlate GoO transfers and Proofs of Sustainability.
- Looking ahead, we can expect continued growth in the certificate market driven by rising demand for renewable energy and increased corporate sustainability initiatives.
- It's also expected that regulatory frameworks will become more stringent, introducing new legislative requirements for GoOs to prevent double counting and ensure accurate consumption reporting.

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