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POWER, RENEWABLES & ENERGY TRANSITION (PRET)

U.S. Renewable Energy M&A: Review of 2024 and Outlook for 2025

Despite challenging headwinds, capital markets activity in the U.S. renewables sector remained resilient in 2024. Across the board, market participants faced a high interest environment, supply chain constraints and increased policy uncertainty with an active election cycle; however, the Inflation Reduction Act (IRA) continued to provide a baseline level of support, with extended and increased tax credits and an emerging transferability market buttressing capital raise and M&A transaction activity. More broadly, the rising demand for reliable baseload power fueled by generative AI and the rapid expansion of data centers has become a key driver of industry growth.

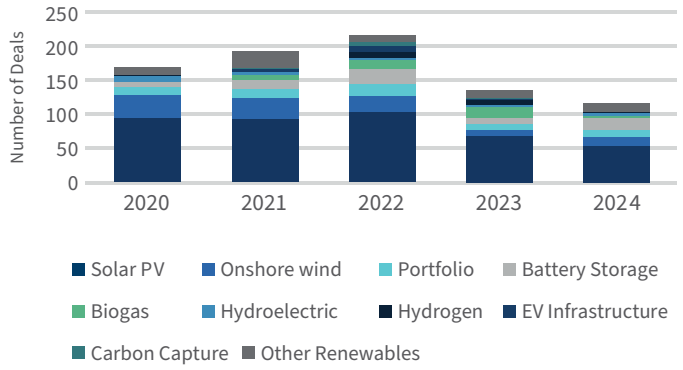
The trend of data center-driven demand is still in early innings; however, FTI Consulting believes these exogenous demand factors have the potential to fundamentally upend established markets and shift the supplier/off-taker power dynamic in coming years. Looking ahead to 2025, policy uncertainty under the new administration — particularly regarding tax incentives, regulatory frameworks and federal energy policies — introduces significant challenges for certain renewable technologies while potentially serving as a boon for legacy thermal technologies, particularly nuclear and gas-fired generation. While we continue to believe that the renewables sector will play a fundamental role in meeting accelerated domestic demand forecasts, the road to deployment over the next few years is likely to be choppy for pure-play renewable developers and platforms.

2024: Year in Review

While transaction activity was down slightly compared to 2023, capital deployment nevertheless remained strong across various segments, with incumbents pursuing strategic alliances, capital recycling, and portfolio and platform monetization.[1] Established renewable energy technologies dominated transaction volumes, with wind, solar, energy storage, and portfolio sales accounting for the bulk of overall activity.

There was also a notable trend towards transactions involving operating assets given heightened levels of certainty, with a focus on historical operational performance and stability in project-specific transmission dynamics. In a reversal of trends from previous years, investors were less bullish on platform acquisitions — likely the result of premium platforms being acquired in prior periods, as well as a recalibration of platform and early stage project pipeline valuation expectations by new-money investors. Where platform activity was present, we generally observed a trend of consolidation, with existing platform owners seeking to drive scale and cost efficiencies. The energy storage sector continued to shine a bright spot for M&A activity, with new project finance debt and sponsor equity capital flowing towards projects and storage developers given the increasing demand for grid stability, declining battery costs and expanded federal support under the IRA.

Figure 1: M&A Volume 2020-2024



Additionally, 2024 will serve in the minds of many market participants as the year in which nuclear re-emerged as a viable strategy for capital allocation, with data center hyper-scalers leading the charge (and infra investors following suit) in allocating first-risk dollars towards emerging Gen IV nuclear development projects.

Key M&A Trends in 2024

Project and Portfolio Transactions: Demand for Mature Assets

M&A activity in the project and portfolio market reflected a strong preference for operating and late-stage development assets as uncertainty around grid infrastructure, tariffs, supply chains and the IRA shifted investor sentiment towards operational or near-term projects. Many transactions during the year involved under-construction or operational projects, emphasizing this strategic emphasis.

In this context, operating assets backed by long-term Power Purchase Agreements (PPAs) remained particularly attractive due to their relatively stable and predictable cash flows amidst an uncertain backdrop. Examples of such transactions included Stonepeak's majority stake acquisition of Ørsted's onshore wind portfolio and Nova Clean Energy's purchase of a wind and solar portfolio with contracted revenues in place. Given continued policy, trade and macroeconomic uncertainty, we expect the emphasis and preference for near-term projects and portfolios to continue over the near term.

Energy Storage M&A: Rapid Growth

Energy storage M&A activity surged in 2024 as private equity players, utilities and infrastructure funds sought to aggressively capitalize on the increasing demand for the technology driven by increasing grid flexibility needs and maturing revenue models. With installed capacity reaching 32 GW by year-end, the technology played an increasingly critical role in stabilizing power markets and addressing renewable energy integration.

Additionally, the rapid growth of data centers fueled demand for storage assets, as major technology companies invested in battery-backed clean power to enhance reliability and sustainability. During the year, Google and TPG Rise Climate announced a $20 billion strategic partnership with Intersect Power for renewable and storage-powered data centers,[2] while Energy Vault partnered with developers to deploy storage solutions tailored for hyperscalers.[3] This trend is expected to continue, enhancing both investment flows and deployment.

Platform Market: Continued Consolidation…But More Rational Valuation

The renewable platform market continued to consolidate in 2024 as developers and investors navigated challenging market conditions. Investors took a more cautious approach to valuation and prioritized development pipelines with realistic interconnection prospects, underscoring an emphasis on pipeline execution and delivery.

While platform activity did not match 2022's record-breaking levels, key transactions illustrated the sector's continued relevance. Investors favored platforms with diversified development pipelines and operational expertise across solar, wind and battery storage technologies. A number of significant platform deals were struck in the sector, including Macquarie's investment in DE Shaw's renewables platform. These transactions highlight ongoing strategic consolidation, as developers seek to drive cost synergies from scale and optimize risk management.

Nuclear: An Investment Renaissance

The rapid expansion of artificial intelligence and the increasing power needs of data centers have heightened demand for reliable base-load energy — an area where nuclear power can play a crucial role. The primary driver of nuclear's momentum in 2024 was the immediate demand from data center hyperscalers for reliable, scalable energy solutions to support AI infrastructure.

Over the course of the year, we observed several hyperscalers make significant capital commitments and form strategic partnerships with independent power producers (IPPs) and nuclear developers to ensure long-term energy security. Notwithstanding the market buzz around new nuclear, we note that the sector remains very

much in early-stage growth. Development timelines for announced projects in 2024 were typically cited at seven to 10 years (or longer), and advanced nuclear technologies remain cost-intensive, as most technologies currently reflect first-of-a-kind (FOAK) developments. The sector will require multiple developments/deployments in order to achieve steady-stage cost competitiveness with existing base-load generation solutions (e.g., natural gas).

To spur investment and encourage private capital investment, favorable legislation under Section 45U of the IRA, along with the 10-year Production Tax Credit (PTC) for nuclear energy, has bolstered project economics.

Preliminary Perspectives for 2025

As we move into the new year, the renewable energy sector faces a challenging horizon marked by significant policy shifts and economic uncertainty. Although the U.S. economy ended 2024 on relatively stable footing, early signs of destabilization have emerged in 1Q25. Tariff threats, significant market swings and a flurry of executive orders have created significant market uncertainty, and broad measures of consumer sentiment shifted sharply downward in early February. At the same time, several macro indicators, including labor market growth and CPI, suggest that a high interest rate environment may persist further into 2025 than originally forecasted.

Taken as a whole, the outlook for renewables capital markets activity in 2025 can be summed up as “complex.” Within hours of taking office, President Trump enacted sweeping changes which will have direct and follow-on impacts to the renewables sectors, including:

- Exiting the Paris Climate Agreement
- Declaring a National Energy Emergency and lifting drilling restrictions in areas like Alaska
- Reversing policies promoting electric vehicle production
- Promoting thermal energy production on a broad scale
- Halting federal support for wind energy projects, citing high costs, aesthetic concerns and environmental impacts
- Suspending new federal offshore wind leasing pending comprehensive reviews

These actions, with many more expected to follow, signal a significant shift in U.S. energy policy, prioritizing fossil fuels and domestic energy independence and security over renewable initiatives and climate change mitigation. Despite these challenges, several macroeconomic and technological factors may bolster growth in certain renewables and zero-carbon sectors in 2025 and beyond.

AI and Data Center Energy Demand

The integration of AI and machine learning into data center operations will drive increased electricity consumption. Leading hyperscalers such as Amazon are committed to meeting this demand with zero-carbon energy, aiming for net-zero emissions by 2040. Currently, the top five hyperscalers collectively manage renewable energy capacity of approximately 45 GW and growing, while signing new contracts for more than 10GW of future nuclear capacity. In the near term, as part of a comprehensive strategy, hyperscalers are looking to augment solar and wind power utilizing battery storage and either power provided from the grid or onsite natural gas peaking capacity; they are bridging their desire for zero-carbon power until longer-term solutions such as nuclear power come online. Thus we anticipate continued growth in this segment with utility-scale solar and large battery storage projects, and increasing emphasis on co-locating data centers with natural gas assets that can meet their energy needs in the shorter term while investment in nuclear power will add significant scale for the longer term.

We also note that, importantly, nuclear energy is considered a critical component of energy independence under the new administration.That will likely result in continued financial support through grants and the DOE loan program, making this a leading sector for growth.

Technological Advancements and Cost Reductions

Technological progress continues to enhance energy production, efficiency and durability. A few examples of key innovations include:

- Solid-state batteries: improving storage capacity and lifespan
- Electrolysis advancements: increasing efficiency for hard-to-electrify industries
- Floating solar farms: addressing land constraints
- Wave motion energy: long-term production solutions from coastal waters
- Fusion energy advancements: potentially forming the backbone of future zero-carbon solutions

Across subsectors, advancements have reduced development costs, increased productivity and broadened applications, making renewables increasingly competitive with traditional energy sources.

According to a recent Wood Mackenzie report,[4] the global landscape for levelized cost of electricity (LCOE) continues to reflect significant advances in renewable energy technologies, with wind and solar power leading the way. The LCOE for utility-scale solar projects, after applying federal incentives in North America, saw a decline of approximately 4.6%, primarily due to a 4.2% reduction in capital expenditures. This decrease is also attributed to advancements in cell technology and increased production capacity for key components like polysilicon. The continued reductions in the LCOE across various proven technologies will be a driving factor for the commercialization and expansion of the renewable energy sector going forward.

Capital Market Considerations for Power & Renewables Deal Activity

The U.S. capital markets demonstrated strong activity in 2024, with an estimated $33 billion raised in the tax equity market.[5] Hybrid tax equity structures and the transferability of tax credits expanded the buyer universe, fostering growth for both emerging and established renewable technologies. This new and growing transfer market will be a key growth driver in 2025 for securing low-cost capital for a variety of projects. The debt markets also played a crucial role, with strong participation in construction financing, tax equity bridge loans and term debt. A decline in interest rates during the latter half of 2024 further bolstered activity.

M&A activity started 2025 on a positive note, including Constellation Energy's announcement to acquire Calpine Corporation in a cash and stock transaction valued at $16.4 billion.[6] Such large acquisitions of energy assets, including geothermal and natural gas, are favorable indications of further M&A activity in 2025. We anticipate significant consolidation activity within the thermal generation sector over the next 12-18 months as buyers begin to understand the revised regulatory and legislative framework under the Trump administration and seek to position themselves with strength to capitalize on increasing AI-driven energy demand dynamics. On a more somber note, we also acknowledge that current and anticipated market dislocation will likely have an adverse impact on many players in the renewables sector — creating an environment where opportunistic investors may be able to deploy capital into dislocated or distressed platforms/assets. Investors with strong balance sheets, a well-defined underwriting thesis and a long-term investment horizon may yet prove to be the biggest winners in 2025.

Conclusion

While policy changes under the new administration present challenges for the renewable energy sector, technological innovation, cost reductions and rising demand for zero-carbon solutions provide a measure of counterbalance. We anticipated significant capital markets activity in certain subsectors (likely energy storage, high-quality operating wind and solar, and advanced nuclear), while other segments of the market may face choppier waters (early/mid-stage renewable developers, offshore wind). Additionally, we anticipate a trend of continued consolidation across the thermal generation sector.

FTI Consulting remains optimistic that the industry as a whole will navigate challenging market conditions and capitalize on emerging opportunities. However, in the near term, fortune will favor the bold: Well-capitalized firms that have comparatively lower costs of capital and a willingness to move out on the risk spectrum will be well-positioned to benefit from opportunities arising from macroeconomic turbulence and market dislocation.

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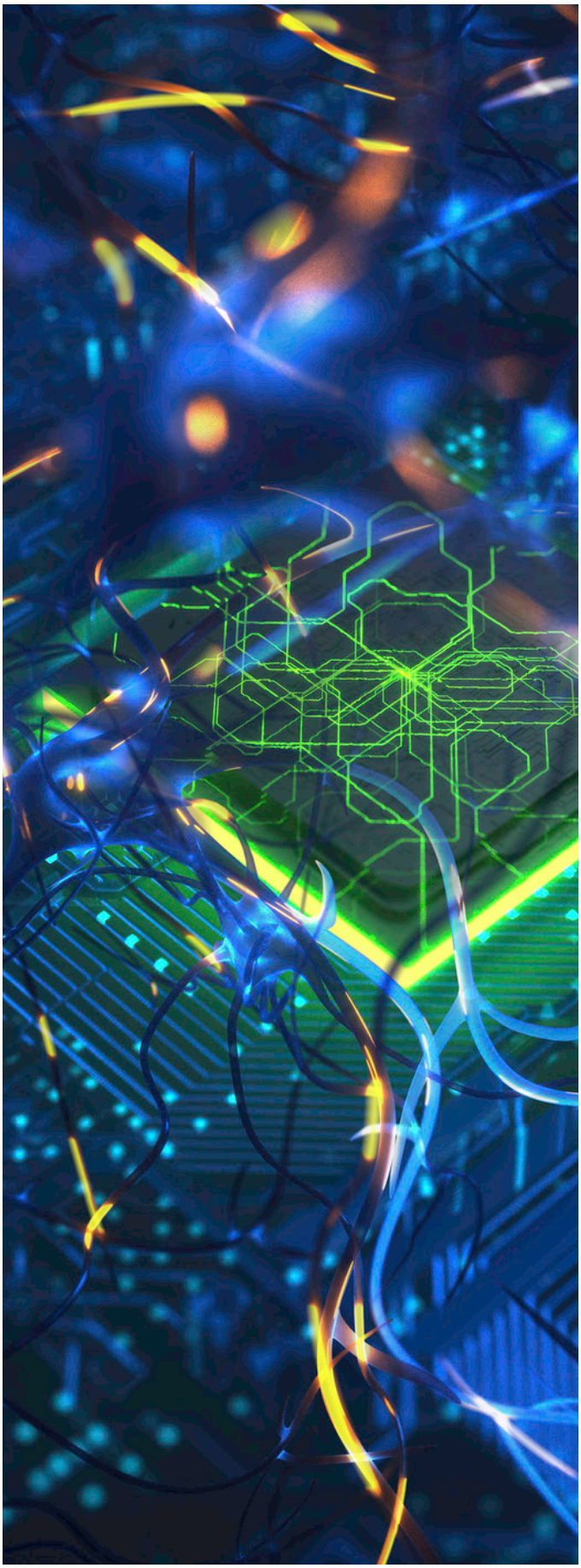

Endnotes

[1] Infralogic Transaction Data; Level Ten Energy Report; FTI Consulting analysis.

[2] "Intersect Power Forms Strategic Partnership with Google and TPG Rise Climate to Co-Locate Data Center Load and Clean Power Generation," Intersect Power (December 10, 2024)

[3] Brian Martucci, "Energy Vault, RackScale partner on 2 GW/20 GWh of data center batteries," Utility Drive (December 17, 2024).

[4] "Global competitiveness of renewable LCOE continues to accelerate," Wood Mackenzie (October 2024)

[5] Keith Martin, "Cost Of Capital: 2025 Outlook," Norton Rose Fulbright (January 24, 2025)

[6] Laila Kearney and Seher Dareen, "Constellation Energy to buy Calpine in blockbuster $16.4 billion US power deal," Reuters (January 10, 2025)

AUTHORS

CHRIS POST
Senior Managing Director
Power, Renewables & Energy (PRET) Practice
FTI Consulting
chris.post@fticonsulting.com

CARTER ATLAMAZOGLOU
Managing Director
Power, Renewables & Energy (PRET) Practice
FTI Consulting
carter.atlamazoglou@fticonsulting.com

LARRY STONE
Managing Director
Power, Renewables & Energy (PRET) Practice
FTI Consulting
larry.stone@fticonsulting.com

ANYI ZHAO
Senior Consultant
Power, Renewables & Energy (PRET) Practice
FTI Consulting
anyi.zhao@fticonsulting.com

THOMPSON TONDERA
Consultant
Power, Renewables & Energy (PRET) Practice
FTI Consulting
thompson.tondera@fticonsulting.com

OTHER KEY CONTACTS

CHRIS LEWAND
Global Practice Leader
Power, Renewables & Energy Transition (PRET)
FTI Consulting
chris.lewand@fticonsulting.com

BERTRAND TROIANO
Senior Managing Director
Power, Renewables & Energy Transition (PRET)
FTI Consulting
bertrand.troiano@fticonsulting.com

JOHN COCHRANE
Senior Managing Director
Power, Renewables & Energy Transition (PRET)
FTI Consulting
john.cochrane@fticonsulting.com

JUSTIN PUGH
Senior Managing Director
Power, Renewables & Energy Transition (PRET)
FTI Consulting
justin.pugh@fticonsulting.com

RJ ARSENAULT
Senior Managing Director
Power, Renewables & Energy Transition (PRET)
FTI Consulting
rj.arsenault@fticonsulting.com

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