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2024 Deloitte Renewable Energy Seminar

Retrospective

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Introduction

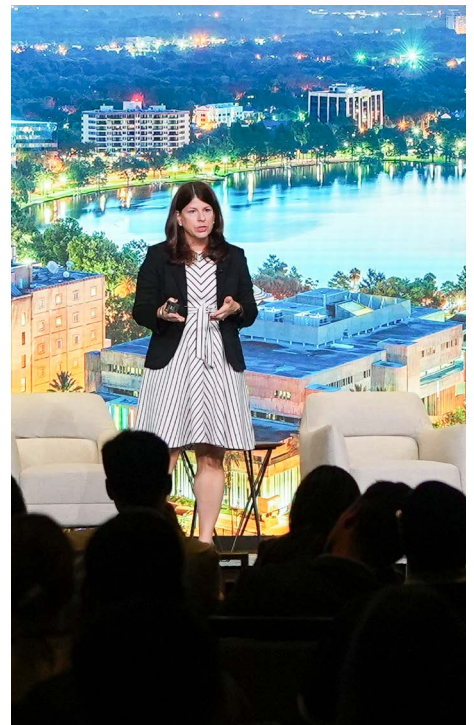
Deloitte's 17th annual Renewable Energy Seminar convened in ChampionsGate, Florida, September 25–27, 2024, under the looming presence of Hurricane Helene. The event's proximity to the hurricane helped to amplify the critical issue of climate change and its impacts on the US energy systems and infrastructure. Despite challenges posed by the weather, the seminar attracted more than 375 dedicated professionals—which is illustrative of the industry's resilience and steadfast commitment to propelling renewable energy forward.

Marlene Motyka, US Renewable Energy leader and principal, Deloitte Transactions and Business Analytics LLP, welcomed the attendees with reassurance. She acknowledged the complications caused by the hurricane, noting that the safety of attendees was a priority and that support was available to address any travel disruptions caused by the weather. Ms. Motyka commended the attendees for their presence, highlighting the importance of their roles in advancing the global transition to a net-zero future.

This year's theme, "Powering up for a net-zero world," set the tone for a rich agenda. It included keynote addresses, panel discussions, and interactive sessions covering pivotal topics like battery storage, clean energy demand, renewable natural gas (RNG), and evolving tax policies. The seminar was designed to offer insights and actionable knowledge through presentations over the following two days.

In a gesture reflecting Deloitte's commitment to societal impact, Ms. Motyka announced that Deloitte would donate to a local charity focused on at risk youth and Hurricane Helene relief efforts on behalf of each attendee. She also highlighted the seminar's sustainable practices, including the continued practice of no printed materials, increased recycling efforts, and eliminated the use of disposable cups and paper goods.

The opening remarks prepared attendees for a seminar aimed at dissecting both the technical and policy dimensions of renewable energy, encapsulating the adaptability and proactive spirit essential for thriving amid significant environmental, economic, and political shifts.



Power play: Understanding the regulatory landscape and its potential impact on renewable energy growth



The first plenary session delved into the dynamic interplay of regulation and renewable energy growth across the United States. The discussion illuminated the varied regulatory landscapes, pinpointing both hurdles and opportunities that are shaping the sector.

Rhode Island Commissioner Abigail Anthony initiated the dialogue by detailing the state's legislative strategy to achieve 100% renewable energy by 2033. She described the supportive regulatory environment that helps facilitate cost-effective renewable energy procurement, focusing on policies that encourage feed-in tariffs and distributed generation through net metering.

Representing the Regulatory Assistance Project, Damali Harding elaborated on the nuances of integrated resource planning that incorporates renewable energy. She stressed the critical role of regulatory frameworks in addressing site and permit challenges, underscoring their importance in aligning projects with public interest, especially concerning reliability and affordability.

Emily Fisher of the Smart Electric Power Alliance spoke to the considerable reductions in emissions the power sector has achieved, largely through ramping up renewable energy integration and retiring outdated fossil fuel plants. She highlighted the rapid adoption of new technologies and the role of regulators in ensuring that innovation proceeds without compromising consumer protection.

The panel also discussed the role of advanced energy storage solutions, like iron-air batteries. They showcased collaborative initiatives that combine public and private funds to help lessen costs to consumers while pushing the frontiers of green technology.

Engaging in the complexities of regulatory frameworks, the panelists articulated a vision in which adaptive regulatory practices can move in lockstep with technological and market developments to foster sustainable energy transitions. The discussion concluded with a consensus that, while notable progress has been made, ongoing regulatory innovation and multi-stakeholder collaboration can help maximize the potential of renewable energy and address its broader economic and social implications.

Moderator: Brad Poole, Audit & Assurance Partner, Deloitte & Touche LLP

Panelists: Damali Harding, US Program Director/Principal, Regulatory Assistance Project (RAP); Abigail Anthony, Commissioner, Rhode Island Public Utilities Commission; Emily Fisher, Chief Strategy Officer, Smart Electric Power Alliance

Powering the future: Meeting the rising demand for clean energy



The dialogue commenced with an overview of the sector's objectives and current state. Cameron Fredkin talked about LS Power Grid's work as an independent developer often facing prolonged equipment lead times. These lead times can be stretched up to three years due to escalating demand surpassing supply chain recuperation from COVID-19 disruptions.

Jeremy Fisher shared insights into TVA's commitment to integrating substantial clean energy into the grid. The organization has made progress on reducing their carbon footprint through the retirement of coal plants and renewable adoption. He illuminated the challenges of pacing with burgeoning demand from data centers and eco-conscious urban areas.

The panelists also unpacked the infrastructural and fiscal challenges in scaling renewable projects. Mr. Fredkin voiced concerns over logistical challenges posed by interconnection queues and regulatory compliance, which can compound the difficulties of linking large-scale renewable projects. Mr. Fisher introduced the term "solarcoasters" to describe the nature of renewable deployment, which can be unpredictable due to shifting macroeconomic conditions and policies.

They also explored geographic disparities in renewable energy demand, from the standards in California to the markets in Texas, fueled by data center growth and an increasing interest in green hydrogen and ammonia production. Addressing consumer needs, both emphasized the critical balance between reliability, cost-effectiveness, and integration speed. They highlighted initiatives like TVA's Green Invest, which collaborates with corporations such as Google to align renewable solutions with corporate environmental objectives without financially overburdening other consumers.

Concluding the panel, Mr. Fredkin and Mr. Fisher stressed a need for dynamic grid solutions and potential nuclear advancements to help stabilize base power supply amid renewable fluctuations, painting a picture of the strategic and operational dynamics important to expanding clean energy in response to escalating demands.

Moderator: Kate Hardin, Executive Director, Deloitte's Research Center for Energy and Industrials

Panelists: Cameron Fredkin, Senior Vice President & Chief Operating Officer, LS Power Grid;
Jeremy Fisher, SVP, Commercial Energy Solutions, Tennessee Valley Authority (TVA)

The RNG revolution: Turning waste into low-carbon energy



Patrick Serfass kicked off the plenary by mapping the biogas value chain, emphasizing the dual environmental and economic benefits of transforming organic waste into methane. This process not only helps manage methane's atmospheric release but can also replace fossil fuels, rendering it a carbon-negative solution. He elaborated on the diverse origins of biogas, including farm waste, wastewater sludge, and landfill emissions, and the associated potential revenue streams.

Shahid Malik then focused on the challenges of RNG production. He described RNG as an essential transitional fuel for curbing emissions from organic waste sources. Despite its benefits, he outlined logistical hurdles, particularly in rural feedstock acquisition and pipeline connections, crucial for scaling production.

Lecie Tucker explored RNG demand, noting its chemical similarity to natural gas, which can allow for seamless integration into existing infrastructure, enhancing affordability and reducing carbon intensity. She spotlighted the transportation sector's emission reductions from RNG and noted the concept of hydrogen production via RNG to amplify environmental gains.

The discussion underscored the role of supportive policies and market mechanisms in scaling RNG operations. The panelists called for robust policies akin to those propelling the solar industry, important to help with RNG's economic and sustainable viability.

By the session's end, it was clear that while RNG presents opportunities for carbon reduction, the path to widespread adoption likely involves navigating economic hurdles and strategic policy interventions. This solidifies its role as a pivotal component in the future energy matrix.

Moderator: Daniel Bolgren, Principal, Deloitte Consulting LLP

Panelists: Shahid Malik, President, Waste Management Renewable Energy;
Lecie Tucker, Renewables Execution Manager, Chevron;
Patrick Serfass, Executive Director, American Biogas Council

A fireside chat with Julian Nebreda



The first of two lunch keynote sessions at the seminar, moderated by Stanley Porter, vice chair and Global Energy, Resources, & Industrials industry leader at Deloitte, provided valuable insights into the challenges and strategies of a major technology company navigating the competitive and rapidly evolving battery storage industry.

Julian Nebreda shared his journey from Venezuela to the United States, detailing his shift from utility to tech leader at Fluence Energy—a joint venture between Siemens and AES. He recounted the company's rocky IPO in 2021 and its initial profitability struggles, emphasizing the critical balance between maintaining an entrepreneurial spirit and enforcing strict operational processes.

The discussion spotlighted the role of systems like SAP in supporting scalable growth without hampering innovation. Mr. Nebreda discussed how such systems can facilitate handling complex global operations efficiently, a necessity in today's fast-paced market.

Highlighting a need for agility in product delivery, Mr. Nebreda discussed the importance of meeting rapidly evolving market demands, particularly from sectors like data centers and the broader US industrial landscape. He emphasized the urgency of project delivery timelines and their ability to swiftly connect to the grid, thereby supporting societal developments through new jobs and infrastructure funded by tax revenues. Furthermore, Mr. Nebreda addressed the strategic move to localize supply chains as a method to reduce dependencies and enhance response to market demands, positioning the United States as a leader in tackling these global challenges.

The session painted a picture of a leader focused on marrying innovation with operational excellence, showcasing the role of technology and strategic processes in scaling business operations to meet future demands of the renewable energy sector.

Moderator: Stanley Porter, Vice Chair & Global Energy, Resources, & Industrials Industry Leader, Deloitte LLP

Panelist: Julian Nebreda, President and CEO, Fluence Energy

Accelerating decarbonization with innovative capital structures



The second lunch keynote, moderated by Marlene Motyka, US Renewable Energy leader at Deloitte, featured Laura Zapata, CEO of Clearloop. This conversation centered on the transformative impact of innovative capital structures in hastening the decarbonization of the energy sector.

Ms. Zapata outlined Clearloop's mission to reduce carbon emissions by deploying solar projects in regions with heavily carbon-dependent energy grids. She explained how their approach, which focuses on environmental attributes rather than direct electricity sales, enables financing in markets less suited to traditional power purchase agreements (PPAs).

The dialogue emphasized the necessity of adapting to the unique regulatory and geographic challenges in the southeastern United States, advocating for innovative financial structures to broaden the reach of renewable energy beyond traditional strongholds like ERCOT and California.

Ms. Zapata credited the acquisition of Clearloop by Silicon Ranch and the enactment of the Inflation Reduction Act (IRA) with providing momentum and mitigating risks, which are essential for scaling their financial models. The IRA's provisions for tax credit transferability and incentives for energy community projects were highlighted as game changers, facilitating more flexible investment in renewable initiatives.

Moderator: Marlene Motyka, US Renewable Energy Leader & Principal, Deloitte Transactions and Business Analytics LLP

Panelist: Laura Zapata, CEO & Co-Founder, Clearloop - a Silicon Ranch company

The conversation also explored the social and economic benefits these projects deliver to local communities, turning them into centers of industrial development and innovation. Zapata shared examples where community engagement and local benefits have been crucial to the acceptance and success of renewable projects.

Addressing the broader regulatory and economic landscape, the discussion covered the importance of stringent third-party verification processes to ensure the integrity of claimed environmental benefits.

Concluding with a message of optimism, Ms. Zapata emphasized the sector's bright future, underscoring the necessity for creative financial strategies to meet the escalating demand for clean energy. This session illuminated the evolving landscape's potential, highlighting innovative approaches to reshape the future of energy in the United States and beyond.

Tax policy outlook



This timely discussion spotlighted the looming challenges and strategic decisions surrounding the expiration of crucial elements of the Tax Cuts and Jobs Act of 2017, framing the coming year as a pivotal "Super Bowl of tax policy" due to its significant fiscal ramifications.

Anna Taylor and Jon Traub navigated through potential political landscapes, each with its implications for tax policy direction. They outlined potential outcomes of the election, not just at the presidential but also at the congressional level, would define the range of possible outcomes of a variety of proposals candidates are making on the campaign trail.

The conversation also ventured into the nuances of various policy proposals and the requisite balance between fiscal incentives and responsibilities. The necessity for lawmakers to engage deeply with tax policy in the wake of expiring provisions was underscored.

Looking ahead, Ms. Taylor and Mr. Traub stressed that at some point policy makers will need to legislate to address long-term challenges posed by large and growing levels of debt, though both noted the likelihood that elected officials will defer making some of the difficult choices such an effort would require as long as possible.

The session was meant to equip attendees with an understanding of the tax policy landscape, highlighting the role of agility and proactive strategy in responding to a dynamic environment. Insights from Ms. Taylor and Mr. Traub emphasized tax policy's pivotal role in defining the fiscal and economic trajectory of the United States.

Panelists: Jon Traub, Principal, Deloitte Tax LLP;
Anna Taylor, Principal, Deloitte Tax LLP

Onshore renewables: Construction challenges and opportunities in wind and solar



This discussion on the construction dynamics of onshore renewables featured insights from Elcin Selman, vice president of Projects Delivery at Avangrid, and Brian Murrell, partner at Deloitte & Touche LLP. They unpacked the multifaceted landscape of wind and solar project development, addressing the array of opportunities and hurdles inherent in the construction process.

Avangrid is actively undertaking a substantial repowering initiative, aiming to upgrade over 4 GW of wind energy across the United States by 2032. Ms. Selman emphasized the strategic value of repowering existing assets to boost efficiency and extend their operational life span, enhancing both earnings profiles and asset valuation.

The dialogue covered Avangrid's approach to project development, from the initial planning and engineering assessments through to execution and operation. Detailed engineering analyses dictate the scope of repowering efforts—high, medium, or low—each tailored to maximize energy production improvements.

Key challenges such as supply chain logistics and the transportation of increasingly large turbine components across inadequate infrastructure were highlighted as significant obstacles. The pandemic's aftermath has also intensified labor challenges, with a retiring skilled workforce creating a gap that necessitates robust training and development programs to prepare new entrants for the industry's evolving demands.

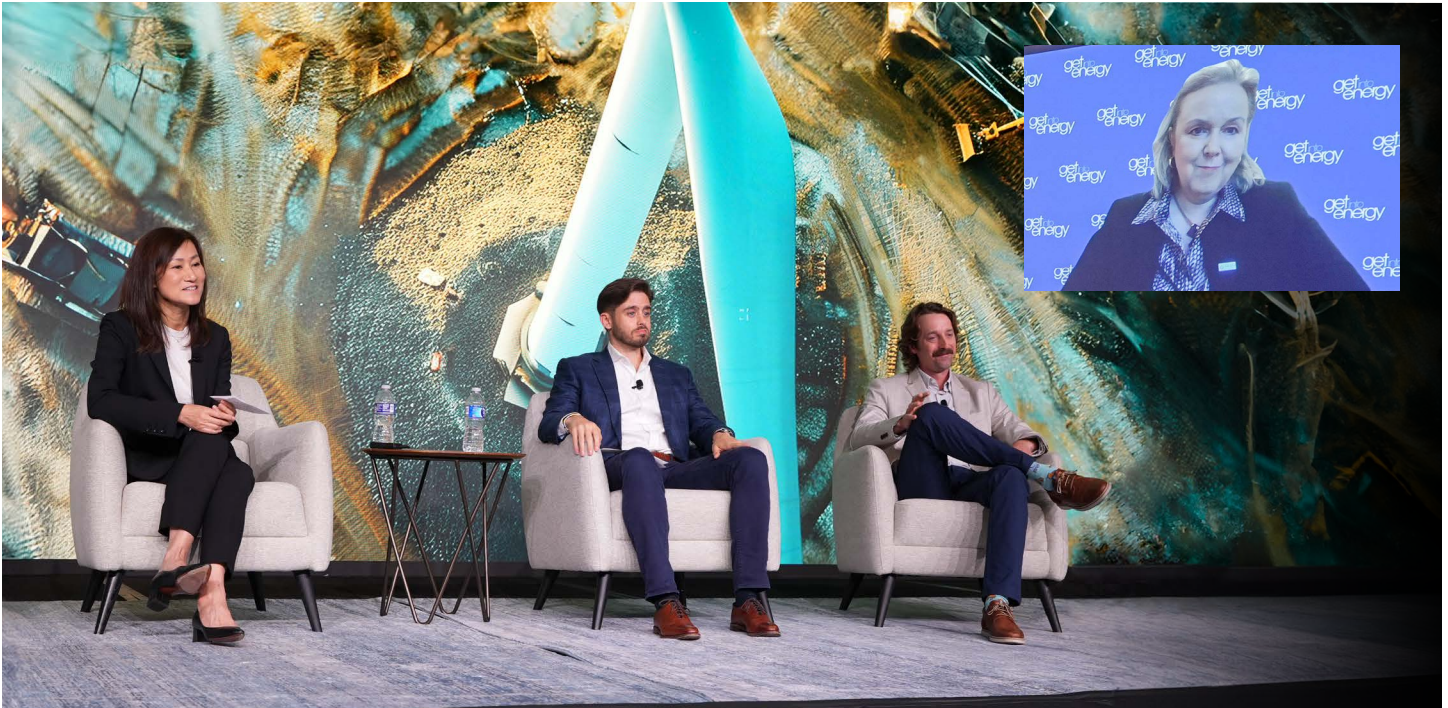
Safety remains paramount, with protocols established to help safeguard workers and communities during construction. Additionally, the decision-making process for choosing between wind and solar projects involves a comprehensive evaluation of resource availability, logistical feasibilities, and market demands.

In summary, while there are often challenges in expanding a renewable portfolio, proactive project management, workforce training, and safety strategies can lay a solid foundation for future growth. The session offered a deep dive into the strategic approaches and complexities necessary to propel US onshore renewable energy infrastructure forward.

Moderator: Brian Murrell, Partner, Deloitte & Touche LLP

Panelists: Elcin Selman, Vice President – Projects Delivery, Avangrid

Unpacking IRA domestic content and PWA adders in the clean energy sector



This session examined the complexities introduced by the IRA, focusing on its domestic content and prevailing wage and apprenticeship (PWA) adders, which are reshaping the clean energy sector.

Lucas Hiller shared insights into Plus Power's rapid adaptation to the IRA, which has had significant impacts on tax equity and project financing. He highlighted the challenges of establishing clear market standards for PWA and domestic content compliance, emphasizing the need for standardized documentation and protocols.

John Mathews discussed the IRA's transformative effect on workforce development through apprenticeship programs, noting the dual benefits of compliance fulfillment and enhanced project quality. This shift supports regulatory adherence and bolsters broad-based support for renewable projects across various states.

Missy Henriksen spoke on the monumental task of scaling workforce development to meet future energy sector demands, with an estimated need to hire 32 million people over the next ten years. She advocated for innovative training approaches and the expansion of apprenticeship programs, spurred by IRA incentives. Ms. Henriksen stressed the importance of industrywide collaboration to standardize training and attract a diverse workforce.

Moderator: Jaime Park, Managing Director, Deloitte Tax LLP

Panelists: Missy Henriksen, Executive Director, Center for Energy Workforce Development; Lucas Hiller, Senior Director Finance, Plus Power; John Mathews, Assistant General Counsel & Director of Compliance, Moss & Associates

The panel also tackled the practical challenges of complying with IRA provisions, particularly concerning domestic content and PWA. While acknowledging the administrative and financial burdens, the panelists also recognized the significant opportunities these regulations create for growth and workforce expansion in the industry.

Concluding the session, the panelists agreed that while the IRA's requirements can pose challenges, they also present opportunities to foster a more robust and sustainable workforce. The call was made for ongoing dialogue and cooperation among stakeholders to refine compliance strategies and ensure the clean energy sector's equitable and efficient growth.

Financing the future: Navigating the monetary maze of the clean energy transition



In the final plenary session, Chris Nygren characterized the impacts of the IRA on the complexity of the financing landscape as a mixed bag, in which simplifications brought by the IRA's transferability provision are countered by complexities introduced by provisions that suffer from incomplete guidance, such as the domestic content provision. He pointed out that while the IRA introduces new tools for addressing financial obstacles, it has simultaneously spawned new challenges.

Bob Krakauer elaborated on the difficulties of selecting the right project structure, such as deciding between the investment tax credit (ITC) and production tax credit (PTC). He explained that the initial period post-IRA often posed challenges that have eased with additional guidance from the Treasury Department.

Ryan Liddell highlighted the educational challenges involved in structuring deals with newcomers to tax equity investments. He discussed the increased complexity when educating ITC buyers and breaking tax equity into distinct components, complicating the overall deal structure.

The panelists also discussed potential requests to the upcoming US administration, emphasizing the need for bipartisan support to enhance infrastructure and facilitate the integration of renewable projects. Mr. Krakauer expressed a desire for improved grid infrastructure, while Mr. Liddell pointed out a need for practical compliance assistance, especially for smaller contractors dealing with PWA requirements.

The panel highlighted that as clean energy financing becomes more complex, it may need more innovative approaches and educational efforts to navigate these changes. This scenario necessitates a focus on education, compliance, and creative financing solutions to address these emerging challenges effectively. The session provided a thorough understanding of the evolving financial landscape in clean energy, underscoring the industry's need for adaptation and robust regulatory support.

Moderator: Keith Adams, Partner, Deloitte Financial Advisory Services LLP

Panelists: Bob Krakauer, Chief Financial Officer, Arevon Energy;
Ryan Liddell, Chief Financial Officer, Dimension Energy;
Christopher Nygren, Head of Tax Equity, Truist Securities

Conclusion

As the 2024 Deloitte Renewable Energy Seminar drew to a close, Deloitte's Ms. Motyka expressed gratitude to all the speakers whose insights illuminated the complexities and dynamic nature of the clean energy landscape. She also extended thanks to the participants who joined the sessions amid the backdrop of the impending hurricane, showcasing their commitment to advancing renewable energy solutions.

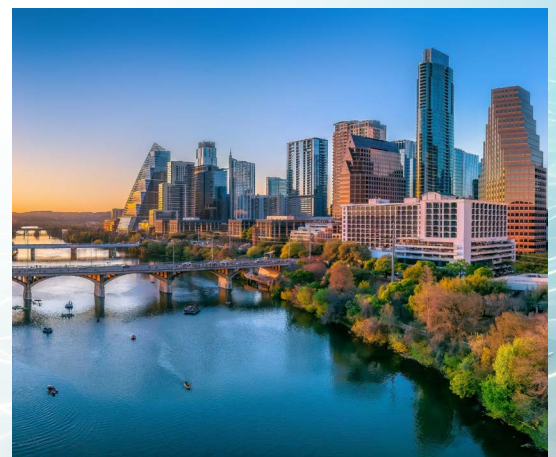
Ms. Motyka announced that the next Deloitte Renewable Energy Seminar is scheduled for November 3–5, 2025, in Austin, Texas. This vibrant city, known for its innovative spirit and clean energy initiatives, promises an ideal backdrop for fostering discussions and strategies that can help drive the renewable sector forward.

Key insights from this year's seminar underscored the dynamic interplay between legislation and market forces in the renewable energy sector:

- Ongoing regulatory innovation and multi-stakeholder collaboration can help maximize the potential of renewable energy and address its broader economic and social implications.
- The increase in US clean energy demand is being driven by factors such as electric vehicle adoption, AI-driven data centers, and new manufacturing facilities, stressing the need for robust grid expansion and adaptation.
- The session on RNG underscored its increasing market viability and the role of policy support to scale up the RNG industry.
- Innovative capital structures can have a transformative impact in hastening the decarbonization of the energy sector.
- The need to scale workforce development was discussed, with an estimated requirement to hire 32 million people in the energy sector over the next 10 years.
- Insights from the financing session reflected on the complexities introduced by the IRA's provisions, affecting how projects are structured and financed. The discussion highlighted the need for education and innovative financing strategies to navigate these complexities.

Looking ahead to next year's seminar in Austin, we anticipate deepening these discussions and exploring new innovations that continue to shape the renewable energy landscape.

Join us as we advance the conversation on powering a sustainable future.





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