#### The Sustainable Clean Energy Summit:

**Decarbonizing Society and the Grid** 

#### SUMMARY

The Sustainable Clean Energy Summit, hosted at the University of Connecticut (UConn) in Storrs, centered on electric grid decarbonization and emerging clean energy technologies. This annual event, organized by UConn in collaboration with Eversource, marked a highlight of Connecticut's inaugural Sustainability & Resiliency Week. The summit commenced with a **keynote address** from **Gene Rodrigues**, Assistant Secretary for Electricity at the U.S. Department of Energy, followed by panel discussions featuring academic leaders, state officials, and energy industry experts. Opening remarks were delivered by UConn President **Radenka Maric** and Eversource Executive Vice President of Customer Experience and Energy Strategy, **Penni Conner**.

The summit featured two expert panels: **Panel I: Grid Decarbonization** addressed innovative strategies for achieving grid decarbonization, emphasizing climate adaptation and modernization to manage challenges posed by extreme weather and the intermittent nature of renewable energy sources. Panelists discussed the impact of climate change on energy reliability, the sustainability of renewable energy initiatives, and the importance of community engagement in the clean energy sector. **Panel II: Emerging Technologies in the Clean Energy Sector** explored cutting-edge technologies for clean energy generation and their integration into the power grid, focusing on strategies to meet state, regional, and national decarbonization targets for 2030 and 2050, highlighting transformative innovations poised to reshape the energy landscape.

A significant announcement at the summit was the substantial increase in federal funding from the Department of Energy for Eversource and UConn's "Power Up New England" initiative, aimed at bolstering sustainable energy efforts in the region. The funding facilitates a \$4 million investment in the Connecticut Institute for Sustainable Energy, located at UConn Avery Point. This institute will focus on expanding the sustainable energy workforce through scholarships, hands-on involvement in offshore wind projects, and specialized certificate programs, particularly benefiting individuals from underrepresented and disadvantaged backgrounds.

During the summit, Eversource and UConn solidified their partnership by signing a three-year memorandum of understanding, which seeks to advance the university's ambition of achieving carbon neutrality by 2030. This initiative aims to transition from basic energy-saving measures, such as LED lighting, to more comprehensive decarbonization strategies, including building controls and HVAC systems across all UConn campuses and UConn Health.



President Maric expressed appreciation for the students who articulated their priorities, emphasizing their role in securing scholarships and vital initiatives. "As an educational institution, we are also a hub of innovation. Our goal is to create a dedicated sustainability academic unit in the coming years, which will be a collaborative effort," she remarked.

Conner highlighted the established partnership between Eversource and UConn, reaffirming their shared commitment to sustainability and decarbonization. "Together, we are building the workforce of the future and equipping students to tackle the pressing clean energy challenges facing Connecticut and the Northeast. This collaboration exemplifies the progress achievable through shared goals," she noted.

The summit also featured presentations from four student-led finalist teams participating in the Eversource-sponsored Clean Energy and Sustainability Innovation Program (CESIP). These teams proposed innovative research ideas aimed at reducing carbon footprints and preparing for climate extremes at local, state, and regional levels. One team was awarded funding and mentorship to implement their project over the coming year.

The finalist winning team, comprising **Zhiqing "Lucy" Li**, **Steven Matile**, and **Meshach Ojo**, presented a project titled "Potential Micro-Hydropower Retrofits at Municipal Wastewater Treatment Plants." The team received guidance from UConn mentor **Diego Cerrai**, assistant professor in Civil and Environmental Engineering and Associate Director and Program Manager of the Eversource Energy Center, along with Eversource mentor **Nick Pellon**, Senior Engineer of Transmission Interconnections. Eversource will continue to sponsor the CESIP, providing additional UConn students the opportunity to develop innovative solutions for a clean energy future.

Concluding remarks by President Maric and **Emmanouil Anagnostou**, Board of Trustees Distinguished Professor and Director of the Eversource Energy Center, set the stage for the Clean Energy Engagement Fair, a career-oriented event allowing students to connect with Eversource and other employers while learning about UConn's curriculum opportunities.

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#### <u>Keynote Speaker</u>

Gene Rodrigues, Assistant Secretary for Electricity at the U.S. Department of Energy, delivered a compelling keynote address that set the tone for the event. He emphasized the critical role of decarbonization in ensuring the long-term stability and reliability of the energy grid, likening the magnitude of this challenge to the early 20th-century electrification of America. Rodrigues asserted that the current transformation of the utility sector is historic, requiring not only complex technological advancements but also significant societal change.

Rodrigues highlighted the necessity of maintaining grid reliability amid growing demands from artificial intelligence, the electrification of transportation, and overall increases in energy consumption. While the U.S. grid has traditionally been an engineering marvel, he stressed that its increasing complexity calls for a reimagining of its operational framework.

Challenging industry complacency and consumer habits, Rodrigues argued that solutions must extend beyond merely expanding clean energy generation. He advocated for enhanced energy efficiency and a cultural shift towards more mindful energy use, referring to unnecessary consumption as "gluttony."

The keynote address also underscored the importance of grid security. Rodrigues noted that the decentralization of energy resources presents both vulnerabilities and opportunities for resilience. He urged that the transition to a decarbonized grid must coincide with significant investments in security measures to protect against environmental threats and cyberattacks.

Affordability emerged as another critical issue. Rodrigues stressed that the transition to a clean energy grid must not compromise accessibility, asserting that energy must remain affordable for all consumers. Achieving this balance will require thoughtful policies and investments that prioritize both innovation and equity.

In concluding his remarks, Rodrigues issued a call to action for collaboration across all sectors to address the challenges of decarbonization. He praised the Clean Energy Summit at the University of Connecticut for its emphasis on collective effort, describing it as a "gathering where every voice matters." Expressing optimism, he believed that shared commitment and innovation could empower the energy industry to combat climate change and secure a sustainable future for generations to come.

Addressing audience questions, Rodrigues touched on critical issues such as food insecurity, which affects over 13% of Americans, advocating for community-driven solutions. He reiterated the urgent need for significant investment in modernizing the grid for resilience and security, framing this not merely as an immediate cost but as a long-term infrastructure investment essential for a clean energy future. Rodrigues argued that decarbonization must go beyond simply installing renewable energy sources like solar panels, advocating for a comprehensive modernization of both the grid and the economy. He highlighted the importance of energy, environmental, and economic



justice, noting that access to a reliable and clean grid is vital for economic opportunity and national security. He warned that without adequate investment and innovation, the U.S. risks losing its leadership in the global clean energy race. In response to concerns about affordability and the role of utilities in the clean energy transition, Rodrigues acknowledged that initial investments in clean energy might raise costs for consumers. However, he emphasized that these investments are crucial to preventing future grid failures and ensuring long-term affordability and reliability. He suggested leveraging programs such as energy efficiency incentives and subsidies to alleviate the financial burden on those least able to afford it.

Finally, Rodrigues called for innovative thinking and interdisciplinary collaboration within the utility industry to adapt to the rapidly evolving energy landscape. He encouraged the engagement of the next generation and the incorporation of insights from diverse fields to help shape a resilient and sustainable grid for the future.

#### Panel 1:

The summit's first panel examined innovations for grid decarbonization, climate adaptation, and modernization to address the challenges posed by extreme weather and intermittent renewable energy from a policy perspective. Moderated by Lyle A. Scruggs, Professor in the Department of Political Science at the University of Connecticut, the panel featured an esteemed lineup of experts, including Vandan Divatia, Vice President of Transmission Policy at Eversource Energy; Katie Dykes, Commissioner of the Department of Energy & Environmental Protection for the State of Connecticut; Eugenia Gibbons, a Clean Energy Policy Leader and Grant Maker; Gene Rodrigues, Assistant Secretary of the Office of Electricity at the U.S. Department of Energy; and Stuart Zimmer, Chief Executive Officer and Founder of Zimmer Partners LP.

**Divatia** emphasized the critical role of clean technologies in enhancing grid resilience as Connecticut transitions to a cleaner energy future. He highlighted the necessity of diversifying energy sources, including residential wind, commercial solar, offshore wind, and nuclear power, to bolster energy security, meet emissions targets, and ensure long-term resilience.

Divatia pointed to the development of a 2,400 MW offshore wind energy hub in Eastern Connecticut, which is projected to offset one-third of the region's winter gas consumption, as a significant step toward decarbonization and energy independence. He outlined three key pillars for resilience: supply diversification, grid modernization, and customer engagement. Divatia discussed Eversource's initiatives to strengthen the grid, including replacing vulnerable infrastructure with steel structures and investing in technologies to improve system responsiveness to extreme weather events. He stressed the importance of empowering customers to collaborate with utilities, leveraging new technologies to enhance resilience at the consumer level.



In his remarks, Divatia made it clear that a multifaceted approach, integrating advanced technologies and partnerships, is essential for building a cleaner, more resilient energy future for Connecticut and the region. He expressed optimism about overcoming energy challenges in New England, citing collaborative efforts among states and organizations such as NASCO to invest in anticipatory transmission infrastructure. Divatia introduced the concept of network economics, explaining that reinforcing the energy network can lead to improved pricing and competition on both the supply and demand sides. He concluded by emphasizing that while collaboration is still evolving, he remains confident that these joint efforts will ultimately yield effective solutions and better pricing in the energy sector.

**Zimmer** expressed skepticism regarding the balance between ambitious climate goals and the practical issue of affordability, particularly in states like Connecticut. During the panel discussion, Zimmer highlighted the inherent challenges associated with a heavy reliance on renewable energy sources such as solar and wind, which he characterized as intermittent and inconsistent in providing baseload generation. He pointed out that solar energy is not viable at night, and wind power is unreliable on calm days, complicating efforts to ensure voltage stability without a consistent energy source.

Zimmer noted the dramatic shift in New England's fuel mix over the past two decades, with coal and oil usage declining from 25% of the region's energy generation in 2003 to less than 1% today. Although this reduction has largely been offset by natural gas, wind, and solar, he voiced concerns over inadequate pipeline capacity for natural gas from the Marcellus Shale, which could supply more affordable energy. Highlighting Connecticut's high electricity costs, Zimmer pointed out that the state has the second-highest residential electricity rates in the U.S., following Hawaii. He cautioned that while renewables play an essential role, affordability remains a pressing issue, citing the example of a colleague's summer electricity bill that soared into the thousands. For Zimmer, the tension between clean energy initiatives and economic feasibility is a critical consideration as policymakers pursue aggressive decarbonization goals.

Zimmer further emphasized the challenges Connecticut faces in attracting business investment due to its high electricity costs and unfavorable regulatory environment. He noted a significant decline in industrial energy consumption in the state, down by 50% over the past 20 years, with overall electricity consumption decreasing by 17%, despite a stable population and increased electrification of transportation. While residential energy use has remained flat, Connecticut's high electricity prices render it less attractive for businesses to establish operations.

Critiquing the state's regulatory climate, Zimmer pointed to its strained relationship with utilities like Eversource, arguing that the Connecticut Public Utilities Regulatory Authority (PURA), known for its stringent oversight, discourages investment. He cited Commissioner Gillette's confrontational stance towards Eversource as indicative of this regulatory hostility, which he believes is deterring potential investments in the state. Advocating for improved collaboration between regulators and utilities, Zimmer called for a modernization of Connecticut's grid, transitioning from the traditional hub-and-spoke energy distribution model to one that accommodates decentralized renewable energy sources such as wind and solar, alongside microgrids. He concluded that to attract the capital necessary for grid modernization and enhance



Connecticut's competitiveness and affordability, the state must offer more reasonable rates of return on investments.

In her discussion on integrating renewable energy into the grid, **Gibbons** identified several critical barriers and proposed viable solutions. She emphasized that modernizing the grid is essential for maintaining reliability, affordability, and resilience, particularly in light of escalating climate challenges. Gibbons pinpointed outdated regulatory frameworks as a primary obstacle, arguing that they fail to support the necessary two-way communication and efficient management of distributed resources.

She advocated for a comprehensive approach that encompasses regulatory engagement, policy reform, and federal initiatives focused on transmission planning and interconnection reform. Gibbons also highlighted a significant communication gap, noting that many individuals remain unaware of how the grid operates and the importance of necessary infrastructure investments. This lack of understanding creates opportunities for misinformation and public resistance to change.

Furthermore, she underscored the high costs associated with inaction, citing that 2023 experienced 28 climate-related disasters resulting in nearly \$93 billion in damages. Gibbons argued that neglecting investment in modernization ultimately leads to higher long-term costs, disproportionately affecting vulnerable populations. To mitigate these challenges, she advocated for collaborative planning approaches, partnerships between state and federal entities, and engagement with academic institutions to foster innovation and facilitate the transition to a more resilient energy system.

Gibbons highlighted the critical role of the grid in advancing the transition to a cleaner electric sector. She stressed the need for a proactive and integrated approach to planning, in contrast to the traditional state-by-state actions that have dominated. Emphasizing the importance of reassessing the benefits of transformation against the associated costs, particularly in the context of combating climate change and achieving economic objectives, she called attention to the urgency of addressing pollution from aging infrastructure. Gibbons advocated for replacing inefficient, dirty power sources with cleaner alternatives and urged forward-thinking stakeholders to contribute to this long-term vision, acknowledging the challenge of balancing immediate crises with future planning.

**Dykes**, representing state government, addressed the pressing energy challenges facing New England, emphasizing the urgent need to prioritize cost, reliability, and emissions reduction simultaneously. Instead of framing the situation as an energy crisis, Dykes characterized it as a significant challenge, reassuring stakeholders that there remains time for meaningful progress. A key concern she highlighted was affordability; many low-income households in Connecticut are burdened by high energy costs, spending a substantial portion of their income on electricity bills. This issue is particularly acute in a state with a robust manufacturing sector that competes with lower-cost states for investment and jobs.

Dykes further identified critical crises looming on the horizon, particularly reliability issues exacerbated by climate change and extreme weather events. The increasing frequency and severity



of storms are driving up costs and placing additional strain on the energy distribution system. Drawing from Connecticut's proactive history, she noted past investments in gas peaker plants and recent contracts with the Millstone nuclear facility to maintain essential carbon-free power in the region. These efforts reflect a commitment to addressing energy supply challenges head-on.

Looking toward the future, Dykes pointed out the impending retirement of aging oil-powered plants and expressed a strong commitment to transitioning to offshore wind resources, which can provide reliable energy during winter months. She emphasized the importance of collaboration with other New England states to share the financial burden of necessary investments and secure federal funding. Notably, Connecticut recently received \$389 million from the Inflation Reduction Act, which will support upgrades to the grid and facilitate the integration of substantial offshore wind capacity.

She noted that while many resources can currently compete, some technologies, such as clean hydrogen and small modular reactors, are still in development but hold promise for future contributions to energy reliability. Dykes commended efforts to research and develop these nascent technologies, particularly in light of the support from the Inflation Reduction Act, which could help them achieve commercial viability in the coming years. Furthermore, she emphasized the crucial role of energy efficiency in reducing costs and bills, urging for increased investment to unlock its full potential, especially as demand peaks are expected to rise in the future. Dykes mentioned an upcoming Request for Proposals (RFP) aimed at enhancing energy efficiency investments, reinforcing its significance in achieving a cleaner and more reliable energy future.

In summary, Dykes' remarks underscored the necessity for a collaborative and proactive approach to clean energy investments, striking a critical balance between affordability, reliability, and emissions reduction as the region navigates its energy future. She expressed optimism regarding collaboration among New England states, particularly concerning generation supply procurements and proactive investment in transmission, significantly enhanced by federal funding. Dykes highlighted the importance of competition in securing the best prices for ratepayers and acknowledged the need to expand opportunities for emerging technologies that have historically suffered from underinvestment.

#### Panel 2:

The summit's second panel focused on emerging technologies for clean energy generation and their integration into the power grid, with the aim of addressing decarbonization goals for 2030 and 2050 at the state, regional, and national levels. Moderated by **Xiao-Dong Zhou**, Professor and Director of the Center for Clean Energy Engineering (C2E2) at the University of Connecticut, the panel featured an esteemed lineup of experts, including **Julia Bovey**, Director of External Affairs for Offshore Wind at Eversource Energy; **Jason Few**, President and Chief Executive Officer of FuelCell Energy, Inc.; **Sridhar Kanuri**, Chief Technology Officer at HyAxiom; **Zeyneb Magavi**,



Executive Director of the Home Energy Efficiency Team; **Uuganbayar Otgonbaatar**, Director of Technology Strategy, Grants & Partnerships at Constellation; and **Jose Antonio Miranda Soto**, President and Chief Executive Officer of Avangrid Renewables, LLC. The discussion aimed to highlight innovative approaches and technologies that can facilitate the clean energy transition while addressing critical decarbonization targets.

The moderator, **Xiao-Dong Zhou** outlined five essential pillars for advancing clean energy: technology (including security), finance and economics, policy, community engagement, and workforce development. The discussion began with a focus on technology, particularly advancements in offshore wind power. Panelists were invited to summarize recent developments in the sector, identify current barriers to progress, and suggest future directions for offshore wind technology, aiming to explore how these advancements can be effectively utilized while addressing challenges to enhance the overall efficiency of offshore wind energy.

**Bovey** highlighted several key advancements in offshore wind technology, noting that the ability to construct projects further from shore has been transformative for the U.S. industry. While Europe began building offshore wind projects in 1991, Eversource's recent project marks a significant milestone for the U.S. market. This increased distance from shore not only mitigates aesthetic concerns but also enables the deployment of larger turbines, which significantly enhances energy generation capabilities.

Despite initial cost reductions for offshore wind, challenges such as supply chain disruptions and inflation have resulted in setbacks for the industry. However, renewed optimism is evident as projects begin to re-emerge in the New England market. Bovey highlighted a strategic shift among U.S. developers, who are moving away from the notion that each offshore project requires its own interconnection, recognizing instead that shared grid resources are more efficient and cost-effective for consumers. With Eversource's experience in constructing initial offshore systems, the company is well-positioned to play a crucial role in addressing these integration challenges. Bovey emphasized the importance of collaboration with partners to optimize solutions for bringing offshore wind energy to market affordably.

**Soto** emphasized the importance of recognizing that offshore wind energy is not a onesize-fits-all solution. He highlighted that offshore wind is economically viable only in specific locations, such as New England, where seabed conditions and strong winds are favorable. In contrast, regions like the Gulf of Mexico may be better suited for solar energy due to their competitive advantages.

Soto pointed out the ongoing trend of increasing turbine sizes, which poses logistical challenges in deploying these massive structures. He noted the scarcity of suitable vessels for turbine installation, which is exacerbated by competition with European projects. Additionally, he criticized the Jones Act, a 1920 law that hampers U.S. competitiveness by requiring that vessels operating between U.S. ports must be American-built and flagged, complicating the supply chain for offshore projects.



Addressing the integration of offshore wind with other emerging technologies, Soto expressed optimism about battery storage, which he views as a critical complement to renewable energy sources. He believes that advancements in battery technology, driven by investments in electric vehicles, will lead to significant cost reductions in the coming years. Soto envisions a future where offshore wind, solar, and onshore wind energy are interconnected, supported by robust battery storage solutions, ultimately enhancing the reliability and efficiency of the renewable energy landscape.

The moderator shifted the focus from offshore wind energy to inland technologies, emphasizing the importance of addressing carbon dioxide emissions alongside electricity generation. He highlighted the significance of carbon capture and utilization while introducing the topic of emerging fusion energy technologies. The moderator noted collaborations, such as those between FuelCell Energy, Inc. and Exxon, aimed at utilizing fusion energy for carbon capture. He then invited Jason to elaborate on this exciting technology, inquire about its current status, and discuss potential timelines for its implementation.

**Few** detailed the company's groundbreaking approach to carbon capture technology, which enables industries to operate more sustainably. Unlike traditional carbon capture methods that require significant energy inputs, FuelCell Energy's system is net-positive, generating both electricity and hydrogen while capturing carbon emissions from third-party sources. Few stressed the importance of energy availability in developed nations and how their technology supports cleaner industrial practices. The company employs two primary methods for carbon capture: Carbon Recovery, which captures emissions from the fuels used in their system, such as a project utilizing biofuels for electricity generation while sequestering carbon, and Direct Carbon Capture, which connects directly to industrial facilities to concentrate and separate CO2 emissions. Highlighting an exciting collaboration with ExxonMobil, Few announced plans for a demonstration project at a refinery in Rotterdam, aimed at capturing CO2, transporting it via pipeline, and sequestering it beneath the North Sea. This partnership combines FuelCell Energy's expertise in energy production and carbon capture with ExxonMobil's knowledge of subsurface geology, setting the stage for effective carbon management solutions.

**Kanuri** emphasized the critical importance of dispatchability in advancing emerging technologies for data centers and microgrids. He explained that the effectiveness of renewable energy sources, such as solar, wind, and hydrogen, hinges on their ability to be dispatched according to demand. Kanuri highlighted significant improvements in fuel cell technology that enable load following, allowing these systems to adjust to varying energy needs at a rapid rate of ten kilowatts per second.

He also discussed the significance of grid independence, noting that HyAxiom's systems can disconnect from the grid and restore power almost instantaneously. Looking ahead, Kanuri projected that by 2050, the U.S. would need between 250 to 400 gigawatts of energy storage to support a decarbonized grid. He underscored the potential of hydrogen as a storage medium, advocating for its integration into a renewable energy ecosystem where excess electricity can be converted into hydrogen and utilized efficiently without emissions. However, he acknowledged



the current economic challenges, as the energy conversion process incurs significant losses. Despite these obstacles, Kanuri remains optimistic that as the grid transitions toward decarbonization, the dispatchability of various technologies will be crucial for successful operation in this evolving energy landscape.

**Otgonbaatar** highlighted the pivotal role of hydrogen in the evolving energy landscape, underscoring its versatility as a fuel, electricity generator, and heat provider. He detailed Constellation's initiative to produce clean hydrogen using nuclear power, specifically referencing a demonstration project in upstate New York that employs a PAM electrolyzer connected to a nuclear facility. This project, operational since March of the previous year, generates hydrogen not only for the plant's own consumption but also maintains excess capacity for broader applications.

Otgonbaatar acknowledged the challenges currently facing hydrogen projects, particularly the uncertainties surrounding tax credits, which have hindered industry momentum. Despite these obstacles, he expressed optimism about the potential for integrating hydrogen fuel cells with their hydrogen production systems, thus creating a comprehensive energy storage solution.

Reflecting on the nuclear power sector, he noted a significant transformation since he joined Constellation in 2016, a time when nuclear plants were at risk of closure and required state support. The passage of the Inflation Reduction Act has revitalized the economic viability of nuclear energy, spurring increased interest from large data centers in need of substantial power supplies. This shift has prompted discussions about upgrading existing plants and potentially reviving those that have been decommissioned, marking a new era for nuclear energy where the previously controversial concept of new nuclear projects is now being embraced. Otgonbaatar underscored the excitement surrounding nuclear power, particularly given recent commitments from major banks to significantly expand nuclear capacity by 2050.

**Magavi** emphasized the renewed focus on geothermal energy as a viable and efficient solution for decarbonization, particularly highlighting the advantages of geothermal heat pumps. She acknowledged that while geothermal technology has existed for decades, its potential remains largely underutilized due to high upfront costs and the requirement for specific installation conditions, including sufficient space and drilling expertise.

Magavi noted that geothermal encompasses multiple technologies, which can lead to confusion among stakeholders. She argued that unlocking geothermal potential requires enhanced education and a shift in perspective. Instead of addressing decarbonization on a building-by-building basis, she advocates for a large-scale approach that integrates geothermal heat pumps with thermal networks or grids. This model would enable utilities to manage the initial investment, thereby reducing the financial barrier for consumers. By utilizing shared spaces like streets and parking lots, communities can access affordable heating and cooling solutions without the burden of individual costs.

Furthermore, Magavi discussed the synergies between geothermal systems and the electric grid. For example, thermal grids can store energy generated from renewable sources, such as wind, during off-peak hours and release it during periods of high demand, thereby enhancing grid



stability. She cited a Colorado project where a brewery harnesses its thermal energy to provide heating and cooling for the surrounding neighborhood, illustrating the potential for innovative thermal energy solutions that leverage local resources. Magavi concluded that the development of thermal networks could pave the way for a broader thermal energy market, tapping into renewable thermal energy sources that are currently overlooked.

The panel discussion underscored the economic and policy challenges confronting the clean energy sector, with a focus on geothermal, hydrogen, nuclear, and offshore wind energy. A central theme was the reliance on subsidies, particularly the Inflation Reduction Act (IRA), which is crucial for cost reduction but raises concerns about long-term dependence. The importance of investment certainty was emphasized, particularly for large-scale projects in offshore wind and nuclear energy that require substantial capital. Education was identified as a critical barrier for geothermal energy, where public awareness remains low, and high upfront costs coupled with specific infrastructure requirements pose additional obstacles. In the hydrogen sector, clarity around tax credits and regulatory adjustments is essential to stimulate growth and enhance competitiveness against existing energy costs. The nuclear industry faces regulatory hurdles that complicate the construction of new reactors, while offshore wind technologies, despite being proven, require policy certainty to attract investment. Panelists stressed the necessity for diverse skill sets among future energy professionals, highlighting the need for innovative thinkers capable of tackling complex challenges. Finally, the lack of diversity in the energy sector was noted as a significant concern, with calls for more inclusive teams to foster fresh perspectives and solutions during the ongoing energy transition.