NEWS REPORT

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Sustainability in 2026: Bridging Ambitious Research with Sobering Realities

NORMAN, OKLA. – On January 24th, 2026, the University of Oklahoma hosted the fourth annual Sustainability Forum, over Zoom. While the original plan was to hold this event over two days on the University of Oklahoma campus, adverse weather conditions forced the organizers to pivot and move online. After a brief technical delay, Dr. Striolo, one of the organizers, opened the forum by welcoming attendees and outlining the day's schedule. His introduction set the stage for a series of dynamic presentations spanning engineering, political science, finance, and industry innovation.

Dr. Matthew Hulver, Vice President for Research and Partnerships, delivered the morning keynote, emphasizing the central question guiding the day's discussions: "How can research universities function as drivers of sustainability today?" Hulver underscored the need for interdisciplinary research that addresses real-world challenges, including energy security, infrastructure resilience, healthcare, and environmental protection. He stressed that sustainability cannot be achieved through isolated "silos," but through collective, impactful inquiry grounded in societal needs. A brief Q&A followed, prompting discussion around the ethical and practical dimensions of university engagement with the community at large.

The first panel, moderated by Dr. John Klier, began at 9:00 a.m. and featured four experts working at the frontier of sustainable materials and advanced manufacturing. Dr. Marybeth Potter Radtke (SAML) opened the panel with an overview of her team's work at Thinker Air Force Base. She highlighted the complex, multi-step processes required to ensure B-52 aircraft remain airworthy, noting that millions of dollars support these modernization efforts. Next, Austin Burrus of BlueWhale Materials outlined his company's work in supporting domestic

lithium recycling and the production of thermally generated black mass. Burrus emphasized the growing U.S. demand for critical minerals and expressed his company's interest in partnering with OU researchers. Dr. Duong Hai Minh, a former OU researcher and current faculty at the National University of Singapore, presented his lab's groundbreaking work on plastic aerogel, a recycled, high-value material with applications ranging from insulation to medical devices and environmental cleanup. He pitched its future potential in aerospace stealth technologies and strategic defense materials. Rounding out the panel, Andrea Browning, a former OU student now with Schrödinger, discussed how digital chemistry can accelerate the creation of sustainable catalysts for decarbonization. Following a lively Q&A session, attendees took a short break before the second panel commenced.

The second panel began just after 11:00 a.m., moderated by Dr. Heather Bedle, the event's other main organizer. Dr. Vassilis Charitopoulos from the University College London, launched this session by examining the rapidly expanding energy demands of global data centers. Based on his projections, by 2050 data centers could consume over 7% of the European Union's total energy usage, which raises urgent questions about efficiency and environmental responsibility. Next, Dr. Alessandro Del Ponte, a political science professor from the University of Alabama, discussed his experimental research on the psychology of climate costs. His findings highlighted a common trend: when asked who should finance the fight against climate change, respondents overwhelmingly prefer **'**someone else**.'** His research identified factors like 'skin in the game' and 'collective guilt' as key drivers of willingness to bear environmental costs. Next up, JC Whorton, a commodity trader and minerals investor, delivered a sobering assessment of the vulnerabilities within critical-mineral supply chains. From water scarcity in the American West to geopolitical disruptions, he emphasized that inelastic supply and complex logistics pose serious challenges for meeting 2050 net-zero goals and current national interests. Referencing recent geopolitical events, Whorton highlighted how resource-intensive regular U.S. military operations are, hence the need of securing reliable supply chains. The panel concluded with Dr. Chitru Fernando, from OU's Price College of Business, who examined how environmental risk exposure negatively affects shareholder value. His research shows that companies investing in sustainability not only

enjoy lower costs but also attract greater investor interest. On the other hand, high-risk companies tend to face diminished investor confidence and increased long-term liabilities.

At 1:00 p.m., Dr. Dimitrios Papavassiliou and Dr. Shane Connelly (both OU professors) presented their latest findings from the RANGE Project, focused on hydrogen, potentially produced from abundant natural gas in Oklahoma. Survey data from more than 1,700 local Oklahomans revealed strong openness to sustainable energy innovation, despite low familiarity with hydrogen compared to wind power. The duo worked closely with tribal communities, where they found that the majority of the surveyed were interested in geothermal energy development due to existing investments.

The third panel featured four speakers offering diverse perspectives on sustainable energy systems. Dr. Christy Haynes, from the University of Minnesota, discussed NSF-funded research on sustainable nanomaterials developed to improve air and water quality. Dr. Iryna Zenyuk, a University of California, Irvine professor, presented NSF-funded research conducted to replace thermochemical industrial processes with electrochemical ones. Nicholas Spencer, a former OU student now VP of Operations at Freeport LNG, brought a practitioner's perspective. He emphasized the role of LNG in enabling cleaner energy worldwide, including partnerships to produce renewable helium for medical and aerospace uses. He also discussed the different successful avenues of sustainability LNG has invested in over the years. He ended his presentation with a powerful statement: "Sustainability is about more than what we produce – it's about the efficiency and innovation of how we produce it."

Dr. Kazempoor, an OU professor, spoke next and advocated for synergistic energy systems: multifunctional systems capable of converting methane emissions into usable hydrogen. David West, from SABIC, rounded up this panel. He conceded that the chemical industry is still one of the highest CO^{2-}emitting industries. However, in his estimation, this was not so much a chemical problem as it is an energy issue. A general Q&A followed, with audience members getting the opportunity to ask speakers questions on feasibility, policy needs, and industry partnerships.

Beginning at 3:30 p.m., four graduate students enrolled in the online MS in Sustainability: Energy and Materials Management program shared reflections on their program experiences. Ayana Ames, a fashion entrepreneur, described integrating circular-economy principles into her design practices. Nick Drake, one of the program's first students, praised the interdisciplinary coursework and industry engagement despite the challenges of coordinating across time zones. Dison Puntillo highlighted the global relevance of sustainability and their long-held passion for the topic while noting that fully synchronous classes can be difficult for students with non-traditional work schedules like theirs. Wes Alexander, who transitioned into sustainability from a background in music, provided an overview of the curriculum's emphasis on business development, technological innovation, and sustainability frameworks. A final Q&A session followed, where attendees were able to inquire about the students' professional trajectories.

At about 4:15 p.m., John Antonio, the Dean of the Mewbourne College of Earth and Energy, brought the forum to a close with some final remarks. He briefly reminisced about his journey in academia and the sense of purpose his role as Dean had given him over the years. He surmised that despite the technological shifts the world had seen over time, the fight for sustainability has always been fraught with complexity due to strongly held opinions inspired by ideology or technical expertise. Antonio rounded up by appreciating special guests and panelists for their time and expertise and thanking attendees in general.

The fourth Annual OU Sustainability Forum brought together an impressive spectrum of voices from defense and aerospace engineers to political scientists, financiers, and community advocates. Across all sessions, a common theme emerged: sustainability efforts in today's world are not only crucial to the point of urgency, but they also require significant interdisciplinary efforts both in the real world and in academia.

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