Q&A part 3: Forum speakers weigh in on the future of energy

November 12, 2024 9:00 AM Tulane Today today@tulane.edu



Tulane will host the inaugural Tulane Future of Energy Forum from Nov. 13 to 15, gathering global thought leaders and experts who are focused on innovation and driving transformative change in the energy sector.

Leading up to the event, Tulane News has been garnering a sneak peek at these participants' thoughts on future of energy — check out part 1 and part 2 of our Q&As.

In our last Q&A installment before the forum begins, we spoke with:

- Ben Byboth, director of power business development and strategy at Commonwealth Fusion Systems (CFS)
- Leigh D'Angelo, senior manager of marketing and communications at Modern Hydrogen
- Randall Ebner, former vice president and general counsel for ExxonMobil
- Kimberly Gramm, David and Marion Mussafer Chief Innovation and Entrepreneurship Officer with the Tulane University Innovation Institute
- Eric Smith, associate director of the Tulane Energy Institute

The forum kicks off at 3:15 today with a welcome from Tulane Law School Dean Marcilynn Burke and a keynote on the future use of energy in Louisiana moderated by Kimberly Gramm. For the full schedule, visit the Future of Energy Forum website.

Responses may be edited for length or clarity.

The theme of this year's forum is "Can Energy Pragmatism Secure Our Energy Future?" What does "energy pragmatism" mean to you?

Byboth: The concept of energy pragmatism arose from the need to balance energy security with the push for an accelerated energy transition. I associate pragmatism with being reasonable and taking a balanced approach. In the context of energy, this might mean acknowledging the limitations of current technologies and accepting the trade-off between fossil-emitting firm generation resources and clean but intermittent renewable resources. However, while reasonableness has its place, I don't believe it will take us where we need to go. Achieving a sustainable energy future requires a kind of 'constructive unreasonableness' — the willingness to question conventional wisdom and break free from incremental solutions.

D'Angelo: When I think of energy pragmatism, I see it as making realistic, impactful choices today that set us up for a cleaner, sustainable tomorrow. It's about pushing boundaries but doing so with real-world solutions that can work within existing systems — solutions that don't just look good on paper but can genuinely scale and make a difference now. ... Pragmatism means focusing on what's achievable and impactful, working to ensure we have energy that's not only green but also reliable, resilient and ready to meet society's needs.

Ebner: From a lawyer's perspective, pragmatism means that the future of energy discussion should be objective and factually based. Specifically, the focus of the discussion should rely on factually supported, sound science, engineering, technology and related considerations. There is no simple one-size-fits-all approach to the future. That's been true of the energy business since its inception over 150 years ago. The energy business has consistently demonstrated its ability to be an innovative and very resilient business identifying and implementing solutions which support society as a whole.

Gramm: To me, "energy pragmatism" is about finding a smart, realistic balance in our approach to energy. It means being open to a mix of solutions, recognizing that we need to keep the lights on today while we're building a cleaner, more sustainable energy system for tomorrow. I believe it's important to invest in technology to improve efficiency, and recognizing the economic, environmental and social factors that influence our energy landscape. Rather than leaning heavily on any single energy source, it's about looking at what actually works — using renewables where we can, improving technology to make energy use more efficient, and understanding that every community has unique needs and resources.

Smith: To me, "energy pragmatism" means setting realistic goals for changes to the existing global and domestic energy infrastructure. Many commonly accepted goals can only be described as "aspirational" in nature as they fail to recognize both temporal and financial limitations that define the rate of change.

How does interdisciplinary research/work in the energy field factor into your work?

Byboth: As we strive to meet growing energy demands, interdisciplinary research is crucial in accelerating fusion energy development and unlocking its full potential. Fusion energy systems require integrating highly complex components, transforming from science fiction into functional technology. At CFS, we have an entire department — Open Innovation — focused on fostering partnerships within institutions at the forefront of science and R&D, advancing fusion on the fastest possible timeline. Academic institutions, national labs and commercial companies each have unique roles in this journey, contributing to the knowledge base, advancing science and hastening the deployment of transformative new technologies.

D'Angelo: Collaboration across disciplines is vital to making meaningful progress. It's not enough to just innovate in the lab; we need to think about market demands, environmental impacts and community perspectives. Working with experts in chemistry, mechanical engineering, thermodynamics, utilities, environmental science and public policy, we're able to design solutions that aren't just innovative but are also grounded in reality. Bringing these diverse fields together means we're creating solutions that are both effective and adaptable.

Ebner: In lots of different ways. When you talk about the practice of law in any field, and energy being a good example, you need to have a very broad understanding of the underlying business. It's hard to advise and counsel clients on whatever they are undertaking, be it drilling an oil well, be it developing a new technology, be it regulatory reviews, without a comprehensive understanding of the underlying business. Lawyers need to understand not only the current business, but also to have a vision as to what the future business is likely to evolve to and be on top of the game in helping their business clients achieve those long-term objectives. I have a saying, "They call it the practice of law because lawyers should be practical." When you're in law school you learn theory, which is important, but once a lawyer graduates and enters the practice, their clients want practical solutions.

Gramm: Interdisciplinary research is essential for driving innovation and commercialization in the energy field because it brings together diverse perspectives that fuel the development of practical, scalable solutions. By integrating insights from engineering, economics, policy and behavioral science, interdisciplinary work helps ensure that new technologies are not only cutting-edge solutions but also economically viable, regulatory-compliant and aligned with user needs. This type of collaboration accelerates the path from innovation to market by addressing the full spectrum of challenges early on — from technical feasibility and cost-effectiveness to market demand and policy support — making it more likely for new energy solutions to achieve successful commercialization and widespread adoption.

Smith: Interdisciplinary effort is intrinsic in decision-making that involves energy optimization. Multiple efforts at Tulane are complementary including successful efforts by the Science & Engineering school to expand on their discoveries involving graphene and synthetic graphite. We hope to apply and extend that technology to

the production of new, lower-cost, carbon fiber materials needed to implement lower-cost, higher-performance wind turbine blades needed for floating offshore applications along the Gulf and West Coasts.

What are you looking forward to at the Future of Energy Forum?

Byboth: I'm looking forward to connecting with solution-oriented leaders who are all committed to finding a solution for the world's energy demands. Selfishly, I am excited to spread the message of how close we are to delivering fusion power to the world. The answer will surprise most people.

D'Angelo: I'm looking forward to engaging with a community I love! I got my master's in Homeland Security and Emergency Response Management from Tulane, and I taught a course on journalism and a course called "Media, Terrorism and Disasters." My parents met at Tulane, and my grandmother went to Newcomb. The crisis communications community at Tulane is extremely engaging and up-to-date on real-world techniques. I'm excited to hear from others in the Tulane ecosystem who are tackling different parts of the energy challenge — because it's truly a group effort.

Ebner: I think it's great to have so many folks who are innovators and who have a passion for the energy business come together and share their thoughts and ideas and engage in dialogue about the future energy landscape through a pragmatic lens.

Gramm: It's an exciting opportunity to learn about the latest advancements, hear insights on policy and market trends, and connect with people who are passionate about shaping the future of energy. I'm especially eager to see how discussions unfold and to gather new ideas on balancing innovative technologies with real-world, scalable applications that can secure a sustainable energy future. I am leading a couple of panel discussions with experts for the National Science Foundation's Future Use of Energy in Louisiana (FUEL), a new initiative that is the tip of the spear in terms of new solutions.

Smith: I am looking forward to hearing more about new product solutions and technical approaches to solving challenges associated with expanding the production and use of hydrogen regardless of the color. One example is the

proposed use of LOHC (Liquid Organic Hydrogen Carriers). These are molecules that can readily accept and expel hydrogen. These stable materials can be stored and transported using existing infrastructure.