

FUTURE ENERGY LEADERS

ENERGY ISSUES IN MOTION – FEL COMMENTARY

The World Energy Council's **Future Energy Leaders** programme equips top young professionals to lead human-centred, affordable, and equitable energy transitions. Through global engagement, innovation projects, and mentorship, Future Energy Leaders develop leadership skills, expand networks, and deliver practical solutions for a sustainable, climate-neutral future.

As the global energy landscape evolves, the perspective of emerging leaders, those who will sustain additions and transitions over the long term, is increasingly critical. Future Energy Leaders bring a unique profile: innovation-driven, digitally fluent, globally connected, and delivery-focused.

Across sectors, Future Energy Leaders are:

- **Launching startups** and initiatives in clean fuels, storage, AI, and digital grids.
- **Leading renewable energy portfolios** and shaping sustainable finance.
- **Driving public policy and sustainability strategies** in government and international organisations.
- **Championing inclusion initiatives** such as Women in Energy networks.
- **Informing national and global energy strategies** through think tanks and policy centres.

Insights from the **2025 World Energy Issues Monitor** reinforce this leadership profile: 31% of global respondents were under 35, with nearly a third engaged in the Council's Future Energy Leaders programmes. Their implementation focus offers grounded, action-oriented perspectives on blind spots, emerging opportunities, and priorities for energy transitions.

Explore their work: [Meet the Future Energy Leaders](#)

ABOUT THE WORLD ENERGY ISSUES MONITOR

Energy transitions are complex, evolving, and deeply interconnected, shaped by shifting priorities, emerging uncertainties, and regional realities. Since 2009, the World Energy Issues Monitor has offered a unique lens into the dynamic forces driving energy transitions worldwide. This year's survey spans 39 core transition issues across six categories – spotlighting blind spots, new signals, and shifting leadership priorities. Amid growing uncertainty, leaders across the World Energy Council community are asking sharper questions: What's working?

What can be adapted across regions? And where are the real opportunities to turn blind spots into bright spots?

NOTE ON TIME AND CONTEXT

The 2025 World Energy Issues Monitor survey was conducted between 24 November 2024 and 10 January 2025. The theme for this year is “World Energy Transitions in Motion” and the survey covered over 3,000 energy leaders across more than 100 countries.

The Issues Map offers a visual overview of Critical Uncertainties and Action Priorities, highlighting key concerns for policymakers, decision makers, young professionals and experts. It positions issues according to respondents’ perceived levels of uncertainty and impact.

FUTURE ENERGY LEADERS: FOCUSED, ACTION-ORIENTED, AND DIGITALLY DRIVEN

Future Energy Leaders report significantly lower levels of uncertainty across most energy issues compared to [global averages](#), reflecting a mindset that is solutions-oriented and opportunity-focused. This outlook may stem from a strong drive to influence change, optimism about transformation, and hands-on involvement with implementation. Their perspectives are often less constrained by legacy systems or traditional risk frameworks.

Notably, Future Energy Leaders also assign higher impact scores to critical challenges such as Energy Literacy, Societal Engagement, Accessibility, Future Fuels and Infrastructure and Food-Energy-Water Nexus, signalling a strong sense of urgency and a readiness to act.

TOP CRITICAL UNCERTAINTY: COMMODITY PRICES

While optimistic, Future Energy Leaders recognise that macroeconomic volatility and fragile supply chains remain serious threats, especially for clean energy deployment and equitable access. In line with global sentiment, commodity prices are their top critical uncertainty, driven by geopolitical instability, rising demand for critical minerals, and supply chain constraints. These pressures particularly affect scaling technologies like batteries, solar modules, and hydrogen production.



TOP ACTION PRIORITIES: ACCESS TO CAPITAL, ENERGY STORAGE, GRIDS AND TECHNOLOGY

Future Energy Leaders identify access to capital as a key priority to unlock innovation, upgrade infrastructure, and support equitable deployment of clean energy solutions. They also strongly advocate for the immediate scaling of future fuels such as biofuels, hydrogen, and synthetic fuels, viewing them as viable action areas. Energy storage and grid modernisation are seen not as bottlenecks but as high-impact, manageable priorities.

Overall, Future Energy Leaders adopt a bold, delivery-focused stance on energy transition enablers, such as innovation and digitalisation. They emphasize the importance of integrating digital solutions like AI, big data, and advanced analytics, viewing their integration as operational necessities. Their perspective blends technological ambition with practical execution, contributing to transition strategies that are both forward-looking and grounded.

AI & BIG DATA: FROM EMERGING TECHNOLOGY TO STRATEGIC ENABLER

Future Energy Leaders view AI and Big Data as near-term imperatives for accelerating energy transitions, not long-term aspirations. Their solutions-first mindset prioritises adaptability, system efficiency, and digital integration.

Already applied in grid optimisation, forecasting, and renewable integration, AI and Big Data are becoming core tools. While generative AI holds potential, concerns around misinformation, cybersecurity, and increased energy demands from data centres temper enthusiasm. The rising concentration of digital infrastructure adds pressure to grid planning and decarbonisation.

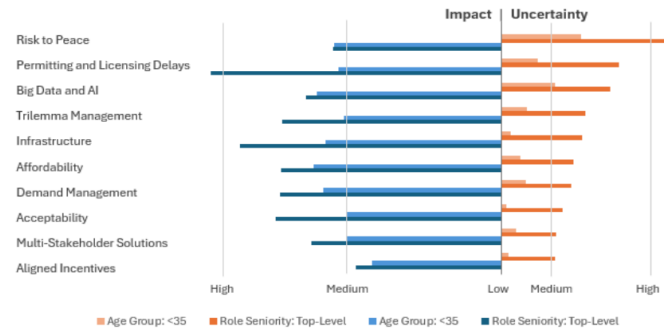
Future Energy Leaders recognise these trade-offs, especially the regional variations in digital readiness. Still, there is broad agreement: AI and Big Data are essential for building intelligent, resilient, and adaptive energy systems.

Realising this potential requires more than technical readiness. It calls for parallel advances in regulatory frameworks, data governance, and organisational transformation. Aligning digital ambition with infrastructure realities and policy support will be essential for effective and equitable scaling.



GENERATIONAL PERSPECTIVES: TOP-LEVEL EXECUTIVES VS. UNDER 35S

Top 10 Issues with greatest difference in the level of perceived uncertainty among Top-level Executives and Under 35-year-olds



Executives tend to focus on the broader, interconnected challenges of energy transitions, such as **regulatory complexity, infrastructure risk, and systemic constraints**. Their approach long-term risk management and strategic alignment. In contrast, Future Energy Leaders prioritise immediate, actionable solutions. They focus on **scalability, innovation, and the integration of near-term technologies** as drivers of rapid progress.

This divergence reflects different entry points into the same challenges: executives address complexity at scale, while FELs seek agile, forward-thinking interventions.

The opportunity lies in bridging these perspectives. By leveraging the Council as a space for intergenerational dialogue, the combined strengths of experience and fresh insight can better address immediate needs and long-term challenges alike.

BLIND SPOTS AND BRIGHT SPOTS: FUTURE ENERGY LEADERS INSIGHTS

BLIND SPOTS

Future Energy Leaders align with senior leaders on several critical areas that remain underappreciated in current transition strategies:

- **Societal Engagement:** While permitting challenges and public opposition are known risks, societal engagement remains a low strategic priority. Future Energy Leaders point to disconnection between energy systems and users, low energy literacy, and inconsistent messaging around sustainability.

Without co-creation and inclusive communication, community level resistance persists.

- **Energy Diplomacy and International Collaboration:** These are often neglected, despite the increasing importance of coordination amid geopolitical fragmentation. Related blind spots include ethical sourcing, circularity in critical minerals, and the climate-migration-energy nexus.
- **CCUS, Carbon Pricing, and Circularity:** Despite their importance for long-term sustainability, these tools receive limited attention and require greater focus.
- **Youth Equity in Decision-Making:** Youth underrepresentation in capital allocation and policy design is a strategic gap. Inclusion of young voices is not symbolic; it is essential to legitimacy and innovation.

BRIGHT SPOTS

Future Energy Leaders stand out as proactive enablers in energy transitions through co-created, culturally grounded, and empowerment-focused solutions. They have delivered over 200 donor-backed initiatives - ranging from solar mini-grids and clean cooking systems to biogas digesters and integrated energy-health-agriculture projects - transforming access for underserved communities and influencing policy. Across regions, they are also advancing utility-scale solar, wind, and green hydrogen projects that cut millions of tonnes of CO₂ while boosting livelihoods and energy access.

- **Energy Shift**, a blockchain-powered platform pioneered by Future Energy Leaders, enables citizens to co-invest in and co-own solar farms in Europe, democratising renewable infrastructure and fostering active participation in the energy transition.
- **Tether**, co-founded by Future Energy Leaders, is an innovative Spanish startup turning private electric vehicles into a coordinated, grid-scale battery network. By learning drivers' patterns, it leverages fleets as "the world's largest distributed battery," enhancing grid resilience and lowering CO₂ emissions up to 7,300 tonnes per megawatt throughout a vehicle's lifetime.



- **The Energy Compass**, a citizen-facing energy literacy platform developed by Future Energy Leaders, bridges awareness with action, reinforcing the community's role in a just, human-centred transition.
- **Turn Up the Light**, another Future Energy Leader-led initiative, won the COP28 Net Zero Teaching Award. This open-source and interactive learning tool promotes global peer collaboration and energy education through a shared digital community platform.

HUMANISING ENERGY: A GENERATION ADVANCING INCLUSION AND IMPACT

Future Energy Leaders promote a vision of energy transitions that integrates technological progress with social equity, community engagement, and long-term resilience. They recognise that carbon and cost are only part of the equation. Trust, access, and participation are equally vital.

Three principles define their approach:

- **Inclusion with Affordability:** Aligning decarbonisation with lived realities to ensure equitable access.
- **Shared Ownership:** Promoting models where youth, women, Indigenous peoples, and frontline communities co-create energy systems.
- **Distributed Capacity:** Scaling leadership and innovation by strengthening local ecosystems and decentralised governance.

These efforts address blind spots in conventional strategies, especially around community engagement and representation.

CONCLUSION: FUTURE ENERGY LEADERS – ENABLING CHANGE THROUGH NEW PERSPECTIVES

Future Energy Leaders are emerging as valuable counterparts in shaping energy transitions. Their approach, grounded in pragmatism, inclusivity, and a strong orientation toward digital innovation, offers a complementary lens to more established leadership, helping to accelerate delivery and broaden the scope of solutions.

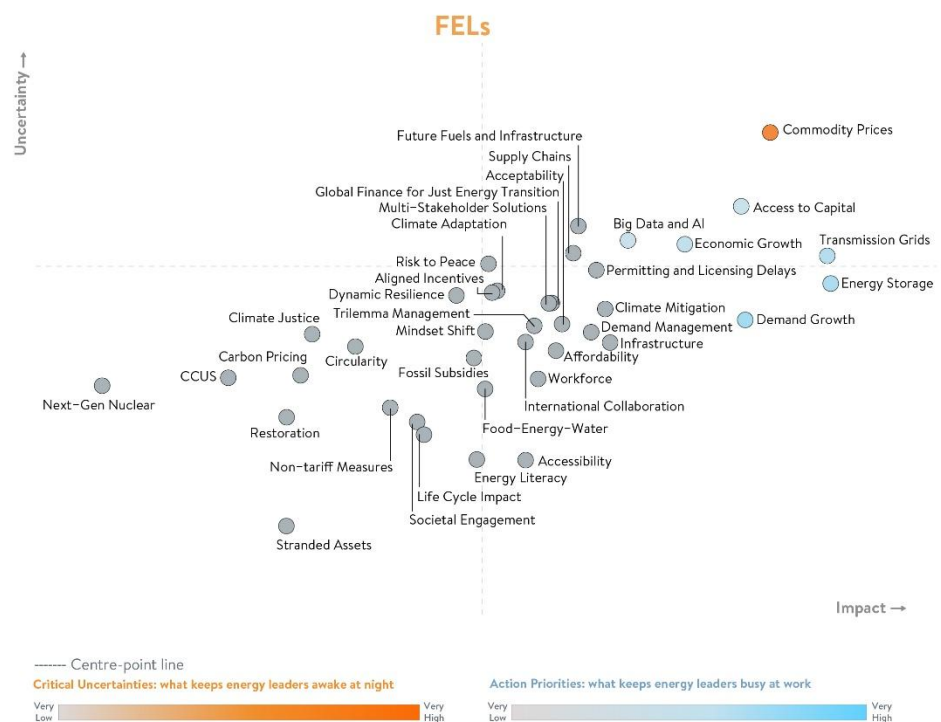


The 2025 World Energy Issues Monitor highlights several consistent themes in their thinking:

- **Commodity Prices** remain their top critical uncertainty, reflecting a shared awareness of global volatility and supply-side risks.
- **Future Fuels, Innovation, and Grid Infrastructure** rank as key action areas, signalling a focus on scalable, decentralised deployment.
- **Blind spots**, including societal engagement, CCUS, and circularity, suggest areas where deeper integration of diverse perspectives could unlock more equitable outcomes.
- **Bright spots**, such as early engagement with AI and support for international collaboration, demonstrate readiness to contribute to institutional change and system-level innovation.

Future Energy Leaders bring fresh insights, challenge assumptions, and expand transition dialogues, adding valuable perspectives to existing leadership approaches. Their contributions strengthen the collective capacity to design and deliver energy systems that are not only low-carbon, but also inclusive, resilient, and future-ready.

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