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Committee: House Science, Space & Technology Committee
Event: Full Committee Hearing - The Genesis Mission: Prioritizing American Science and Technology Leadership
Date: December 10, 2025

Executive Summary: The hearing examined the Department of Energy's (DOE) Genesis Mission as a national effort to integrate artificial intelligence (AI), high-performance computing, and quantum technologies to accelerate scientific discovery and energy innovation. Members questioned whether DOE's recent reorganization, funding decisions, and project cancellations support or undermine the mission's goals, with particular focus on energy affordability, accountability, and U.S. competitiveness.

Member Toplines:
Chair Brian Babin (R-TX-36): Babin emphasized that the Genesis Mission, created by a recent executive order, is intended to strengthen U.S. leadership in science and technology by linking DOE supercomputers, AI systems, quantum tools, and major research facilities into a national discovery platform. He said the effort is designed to boost research output by pairing scientists with advanced AI capabilities, supporting breakthroughs in areas such as fusion energy, critical minerals, quantum computing, and biomedical research. Babin also highlighted DOE's recent reorganization, including new offices focused on AI, quantum, and fusion. He stressed that maintaining U.S. scientific and technological leadership is critical for competitiveness and national security, particularly in relation to China.

Ranking Member Zoe Lofgren (D-CA-18): Lofgren objected to holding the hearing without first receiving testimony from Energy Secretary **Chris Wright**, emphasizing that the Science Committee has primary jurisdiction over DOE's non-military research and development programs. She criticized the Secretary for repeatedly declining to appear and raised concerns about his early actions, including terminating major DOE awards, dismissing staff, eliminating the Office of Clean Energy Demonstrations, and issuing statements she described as inaccurate or politicized. Lofgren stressed that regular testimony from agency heads is a nonpartisan oversight requirement and noted that, unlike prior Congresses, no agency heads have testified this session. She urged the committee to reassert its oversight authority while welcoming today's discussion with Dr. Gill.

Energy Subcommittee Chair Randy Weber (R-TX-14): Weber emphasized support for DOE's recent reorganization, arguing that consolidating applied energy offices under the Under Secretary for Energy and refocusing the Under Secretary for Science on fundamental research and emerging technologies brings greater efficiency than the prior structure. He highlighted the creation of new offices for AI, quantum, and fusion as evidence of national commitment to critical technology areas and said the restructuring should streamline engagement for

researchers and industry while improving the transition from basic research to commercial applications.

Energy Subcommittee Ranking Member Deborah Ross (D-NC-02): Ross described the Genesis Mission as a critical effort to strengthen U.S. scientific leadership by using advanced AI to increase research productivity and accelerate breakthroughs across energy, quantum science, materials, biotechnology, and physics. She emphasized the importance of collaboration among national labs, universities, and industry and highlighted North Carolina State University's significant contributions to DOE-supported research. Ross also warned that proposed DOE funding cuts, project terminations, and personnel losses under the Trump Administration pose risks to the mission's success and to U.S. scientific competitiveness.

Witness Toplines:

Dr. Darío Gil, Under Secretary for Science, DOE: Gil characterized the emergence of high-performance computing, AI, and quantum technologies as a fundamental shift in scientific capability and said DOE is uniquely positioned to lead this transformation due to its national laboratories and bipartisan congressional support. He described the Genesis Mission as a national effort to build an integrated discovery platform combining supercomputers, AI systems, quantum tools, and major scientific instruments to accelerate breakthroughs in energy, materials, chemistry, fundamental science, and national security. Gil emphasized that these technologies will drive advances in areas such as advanced nuclear, fusion, grid modernization, and critical materials. He also highlighted the importance of private sector and academic partnerships and framed the mission as essential for maintaining U.S. competitiveness in a global technology race.

Major Takeaways:

Funding of the Genesis Mission

- Reps. Babin and **Scott Franklin** (R-FL-18) emphasized the need for clear accountability, timelines, and measurable outcomes given the scale of the project.
- Gil stated that the Genesis Mission is being launched with an initial tranche of funding directed toward building a shared national discovery platform rather than a series of disconnected projects.
    - He emphasized that early investments prioritize three areas: expanding AI-capable high-performance computing across the national labs, converting existing scientific datasets into AI-ready formats, and demonstrating end-to-end AI-enabled scientific workflows that integrate simulation, experimentation, and model training.
- Reps. **Mike Kennedy** (R-UT-03) and **Nick Begich** (R-AK-AL) pressed Gil on how progress will be tracked. Gil pointed to metrics such as compute capacity growth, model capability, and the number of scientific problem areas addressed.

Energy Affordability

- Reps. **Sarah McBride** (D-DE-AL), **George Whitesides** (D-CA-27), and **Suhas Subramanyam** (D-VA-10) linked rising electricity bills to DOE project cancellations, grid uncertainty, and expanding data center load.

    - Subramanyam challenged claims that data center growth lowers consumer prices, citing higher rates in Virginia.
- Reps. **Rich McCormick** (R-GA-07) and **Darrell Issa** (R-CA-48) argued that affordability and reliability depend on rapidly expanding firm generation, particularly nuclear power.
- Across parties, members agreed that AI-driven demand growth will strain the grid, but diverged on whether DOE's current approach will ease or worsen cost pressures.

<u>DOE Reorganization</u>

- Reps. **Suzanne Bonamici** (D-OR-01), **Luz Rivas** (D-CA-29), and **Laura Friedman** (D-CA-30) argued that DOE's reorganization and award terminations risk politicizing funding and disrupting ongoing research and demonstrations.
    - Weber supported the restructuring, arguing it better aligns applied energy programs and elevates emerging technologies within the Office of Science.
    - Gil stated he was not involved in project termination decisions and framed the reorganization as a way to accelerate innovation in AI, quantum, and fusion.
- The elimination of the Office of Clean Energy Demonstrations remained a point of contention; Gil said it is not being eliminated, rather moved to another office, but provided limited detail on the move, staffing or authorities.

<u>Artificial Intelligence</u>

- Reps. **Daniel Webster** (R-FL-11) and Begich questioned guardrails around self-improving and agentic AI.
    - **Whitesides** raised concerns about model inversion, export controls, and data security; Gil said models will be treated as data, with access governed by classification and sensitivity.
- Reps. Ross, **Valerie Foushee** (D-NC-04), and Rep. **Josh Riley** (D-NY-19) highlighted the central role of universities, national labs, and regional hubs in workforce development and AI leadership.
    - Gil emphasized DOE's unique advantage in grounding AI outputs in physical experiments and simulations, positioning Genesis as a tool to maintain U.S. scientific and strategic leadership amid global competition.