



ENERGY SCIENCES COALITION

Department of Energy Quantum Leadership Act of 2024 Support Letter

August 8, 2024

On behalf of over 100 member organizations that make up the Energy Sciences Coalition (ESC), we are writing to express strong support for the bipartisan *Department of Energy (DOE) Quantum Leadership Act of 2024*. As the bill moves forward in the legislative process, we urge Congress to reconcile differences between the DOE provisions in the Senate *DOE Quantum Leadership Act* and the House *National Quantum Initiative Reauthorization Act* (H.R. 6213) and pass legislation as soon as possible to ensure continued U.S. leadership in quantum science and technology.

In particular, ESC supports the *DOE Quantum Leadership Act* because the legislation maintains and further expands the DOE Office of Science's leadership role in advancing quantum science and technology for U.S. competitiveness, leverages the unique expertise and world-leading research facilities at DOE national laboratories and DOE-funded research universities, helps train the next-generation workforce, and expands public-private partnerships to accelerate innovation and future adoption. Similar to the DOE provisions in the *National Quantum Initiative Reauthorization Act*, ESC supports key provisions in the *DOE Quantum Leadership Act*, including:

- maintaining a foundational research program in quantum information science (QIS);
- expanding the foundational QIS research program to include first use cases and application development;
- renewing and increasing funding authorization for the 5 DOE National Quantum Information Science Research Centers;
- consolidating quantum networking and quantum user program provisions from the *CHIPS and Science Act* to ensure a comprehensive QIS program;
- expanding quantum computing, networking, and communications initiatives;
- creating a new quantum science and technology instrumentation and infrastructure program, and

The Energy Sciences Coalition (ESC) is a broad-based coalition of organizations representing scientists, engineers and mathematicians in universities, industry and national laboratories who are committed to supporting and advancing the scientific research programs of the U.S. Department of Energy (DOE), and in particular, the DOE Office of Science.

- strengthening coordination between DOE STEM and workforce development activities at the DOE quantum centers and national laboratories with the new proposed National Science Foundation Education and Workforce Hub.

ESC also supports additional or modified provisions included in the Senate legislation:

- an early-state quantum high performance computing research and development program to fund testbeds and prototypes to help inform the 10-year Quantum High Performance Computing Strategic Plan;
- a dedicated quantum traineeship program to build the quantum workforce. This type of program has been successful in other science and technology areas and provides needed classroom training and research opportunities to undergraduate and graduate students working toward bachelor's, master's or Ph.D. degrees. Research projects would partner students with DOE national labs to help students develop hands-on research and training experiences and build quantum curricula at research universities;
- higher authorized funding levels for the new quantum instrumentation and quantum foundry program needed to design, build, and deploy unique instrumentation, equipment, national lab infrastructure and manufacturing capabilities for quantum materials, devices, and other relevant quantum technologies; and
- a quantum supply chain study to identify critical quantum science, engineering, and technology supply chain needs to develop and maintain a robust domestic manufacturing base.

Collectively, these provisions will help the U.S. maintain a quantum advantage and start to explore early applications of this nascent technology that could have broad impacts in national security, telecommunications, health, finance, and energy. Thank you for advancing this critically important legislation.

Sincerely,

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ESC Membership

American Association of Physicists in Medicine
American Association of Physics Teachers
American Astronomical Society
American Chemical Society
American Crystallographic Association
American Geophysical Union
American Geosciences Institute
American Institute of Physics
American Mathematical Society
American Nuclear Society
American Physical Society
American Society for Engineering Education
American Society of Agronomy
Acoustical Society of America (ASA)
American Society of Mechanical Engineers
American Society for Microbiology
American Society of Plant Biologists
American Vacuum Society
Arizona State University
Association of Public and Land-grant Universities
AVS – The Society for Science and Technology of Materials,
Interfaces, and Processing
Battelle
Binghamton University
Biophysical Society
Boston University
Case Western Reserve University
City College of CUNY
Clemson University
Coalition for Academic Scientific Computation (CASC)
Consortium for Ocean Leadership
Columbia University
Computing Research Association
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Pace University
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