

**Congress of the United States**  
**Washington, DC 20515**

April 1, 2019

The Honorable Marcy Kaptur  
Chair  
Energy and Water Development, and  
Related Agencies  
House Appropriations Subcommittee  
2362-B Rayburn House Office Building  
Washington, DC 20515

The Honorable Mike Simpson  
Ranking Member  
Energy and Water Development, and  
Related Agencies  
House Appropriations Subcommittee  
1016 Longworth House Office Building  
Washington, DC 20515

Dear Chair Kaptur and Ranking Member Simpson:

As Members with a strong interest in clean energy innovation and maintaining U.S. global energy leadership, we thank the subcommittee for continuing to fund several key Department of Energy (DOE) research and innovation programs and request that these programs are given high priority as you consider the Fiscal Year (FY) 2020 Energy and Water Appropriations bill. While we support a robust clean energy R&D portfolio with programs and investments across the spectrum from basic science to applied demonstration projects, we are specifically writing to support three complementary approaches to tackling the critical energy innovation challenges before us: the Advanced Research Projects Agency-Energy (ARPA-E) program, Energy Innovation Hubs, and Energy Frontier Research Centers (EFRCs).

As you know, DOE plays an important role in the development and incubation of clean energy innovation that benefits our nation and the economy. DOE programs such as these support scientific research and technological advances at multiple stages of the innovation pipeline. These programs represent a robust portfolio of energy R&D investments, each of which complements the others to maximize our nation's ability to achieve energy breakthroughs as quickly as possible. These programs, outlined below, deserve your highest consideration.

- **ARPA-E: \$500 million**
- **Energy Innovation Hubs: \$111.7 million**
- **EFRCs: \$110 million**

**Advanced Research Projects Agency-Energy (ARPA-E):** With significant federal investments, the DOD-funded Defense Advanced Research Projects Agency (DARPA) has been responsible for some of the most innovative technological breakthroughs of our time, from Global Positioning Systems (GPS) to the Internet. ARPA-E was created to replicate the successful DARPA model by incentivizing researchers to develop promising research into game-changing technologies that can meet our future energy needs. Despite the potential for a huge payoff, the private sector does not invest sufficiently in this kind of “high-risk, high-reward” energy research. Supporting ARPA-E is a bet on Americans’ proven ability to turn creative ideas into market-creating, job-growing businesses. Since 2009, 136 of these projects have attracted more than \$2.6 billion in private sector follow-on funding.

We urge the committee to support significant increases in funding for ARPA-E to enable it to become as transformative and successful as DARPA has been. At current levels, more projects that have the potential to add high value to the ARPA-E portfolio are identified than can be funded. Additional funding for ARPA-E would help achieve program goals and expand its impact by supporting a greater breadth of research and helping to accelerate the development of technologies that have demonstrated early-stage success toward private sector investment. For FY 2020, we request \$500 million to enable ARPA-E to continue to invest in innovative ideas and to ensure promising technologies have a chance to demonstrate their full potential.

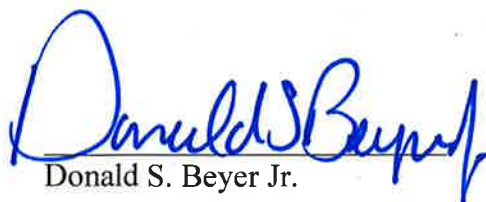
**Energy Innovation Hubs (Hubs):** The Hubs are large, integrated research centers involving multiple disciplines, investigators, and institutions with a focus on bridging the gap between scientific breakthroughs and industrial commercialization. The Hubs use a centralized, mission-oriented research approach like that employed by the Manhattan Project or at AT&T's Bell Laboratories. DOE has established and Congress has supported hubs focusing on: Fuels from Sunlight; Batteries and Energy Storage; Critical Materials; and Desalination. For FY 2020, we request \$111.7 million to fully fund the hubs.

**Energy Frontier Research Centers (EFRCs):** EFRCs consist of small groups of researchers focused on the fundamental science that underlies roadblocks to revolutionary energy technologies, such as interfacial chemistry for solar energy conversion and electrical energy storage. Unlike the Hubs and ARPA-E, these centers specifically focus on long-term chemical and materials science for energy applications. The centers also play a significant role in training graduate students in scientific disciplines central to overcoming energy-related grand challenges. There are now 46 EFRCs with related research activities being conducted in 36 states and Washington, DC. For FY 2020, we request \$110 million to support these centers.

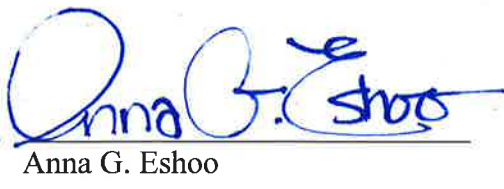
America's innovation history is built on a foundation of robust federal investment in fundamental scientific research. At the same time, the public sector has a deep history of working hand-in-hand with the private sector to bring the fruits of this research to market, address market failures, provide needed expertise, and raise capital for high-payoff, though riskier, projects in which industry would not otherwise invest. Without such partnerships, the stories of the transcontinental railroad, the aviation sector, and biotechnology industries would be dramatically different. As in these past projects, the government has a critical role to play in helping to support and foster the new ideas that will serve as the foundation for the nation's future energy economy.

Thank you for your consideration of these important DOE innovation programs.

Sincerely,



Donald S. Beyer Jr.



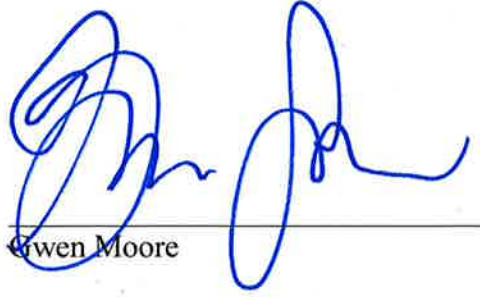
Anna G. Eshoo



Adam B. Schiff



Ro Khanna



Gwen Moore



Paul D. Tonko



M.C.

Steve Cohen



Peter Welch



Danny K. Davis



Scott H. Peters



Joyce Beatty



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Marc Veasey

Marc Veasey

  
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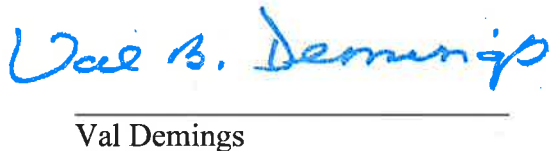
  
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Abigail D. Spanberger

  
Bill Foster

  
Val Demings

  
Joseph D. Morelle

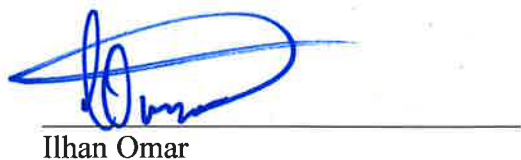
  
A. Donald McEachin

  
Gerald E. Connolly

  
Jamie Raskin

  
Adriano Espaillat

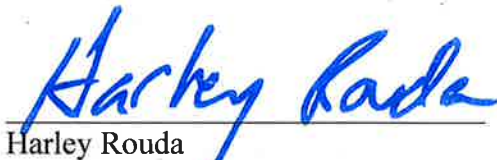
  
Henry C. "Hank" Johnson, Jr.

  
Ilhan Omar

  
Jared Huffman

  
Raja Krishnamoorthi

  
Mary Gay Scanlon

  
Harley Rouda

  
Ben Ray Lujan

  
Jim Costa

  
Tony Cárdenas

  
Rick Larsen

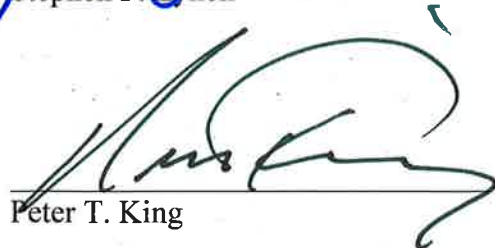
  
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Yvette D. Clarke

  
Bobby L. Rush

  
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Peter A. DeFazio

  
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Doris O. Matsui

  
John Garamendi



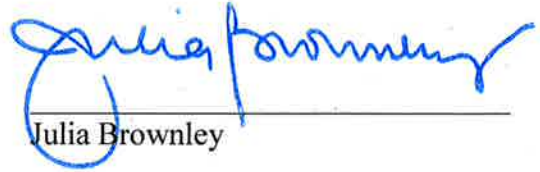
Ted W. Lieu



Sean Casten



Debbie Mucarsel-Powell



Julia Brownley



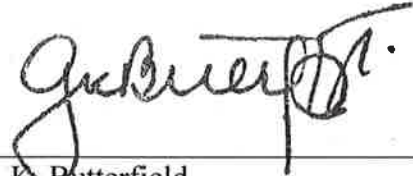
Haley M. Stevens



Linda T. Sánchez



Katie Porter



G. K. Butterfield



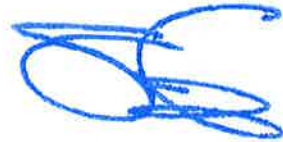
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Lucille Roybal-Allard



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