Support Clean Energy Research and Investment (ARPA-E, Energy Innovation Hubs, and other important programs)

From: The Honorable Donald S. Beyer, Jr.
Sent By: kate.schisler@mail.house.gov
Date: 3/22/2017

Support Clean Energy Research and Investment (ARPA-E, Energy Innovation Hubs, and other important programs)

Deadline: March 30th

Dear Colleague:

Please join us in sending a letter to the Energy and Water Development Appropriations Subcommittee urging support of several programs vital to advancing U.S. leadership in clean energy. Specifically, the letter urges support of four complementary approaches to tackling the critical energy innovation challenges before us: **Advanced Research Projects Agency-Energy (ARPA-E); Energy Innovation Hubs; Energy Frontier Research Centers (EFRCs); and the Regional Clean Energy Innovation Partnerships.**

These programs serve as important building blocks to achieving our energy goals. In the pursuit of transformational energy technologies, we must be innovative in developing models to fund and manage innovation investments. To accomplish this goal, 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 these past projects show, 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.

America's innovation history is built on a foundation of robust federal investment in fundamental scientific research. For questions or to cosign the letter, please contact Kate Schisler with Don Beyer at 5-4376 or kate.schisler@mail.house.gov or Matt McMurray with Anna Eshoo at 5-8104 or Matthew.McMurray@mail.house.gov.

Sincerely,

Don Beyer Anna G. Eshoo

Member of Congress Member of Congress

March XX, 2017

The Honorable Mike Simpson

Chairman

Energy and Water Development, and

Related Agencies

House Appropriations Committee

Washington, DC 20515

The Honorable Marcy Kaptur

Ranking Member

Energy and Water Development, and

Related Agencies

House Appropriations Committee

Washington, DC 20515

Dear Chairman Simpson and Ranking Member Kaptur:

As Members with a strong interest in ensuring our nation's future energy security, 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) 2018 Energy and Water Appropriations bill. We are specifically writing to support four existing and complementary approaches to tackling the critical energy innovation challenges before us: the Advanced Research Projects Agency-Energy (ARPA-E) program; Energy Innovation Hubs; Energy Frontier Research Centers (EFRCs); and the Regional Clean Energy Innovation Partnerships.

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: $356.8 million**
- **Energy Innovation Hubs: $110.5 million**
- **EFRCs: $146.6 million**
- **Regional Clean Energy Innovation Partnerships: $112.1 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. ARPA-E has used approximately $1.5 billion to fund more than 580 projects through 36 focused programs and three open funding solicitations. Since 2015, 74 of these projects have attracted more than $1.8 billion in private sector follow-on funding. For FY 2018, we request $356.8 million to enable ARPA-E to continue to invest in innovative ideas.

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. To date, DOE has established and Congress has supported four hubs focusing on: Fuels from Sunlight; Modeling and Simulation for Nuclear Reactors; Batteries and Energy Storage; and Critical Materials. We also support the finalizing of the Energy-Water Desalination Hub. For FY 2018, we request $110.5 million to fully fund the five 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. After 2014, there are now 36 EFRCs with related research activities being conducted in 34 states and Washington, DC.For FY 2018, we request $146.6 million to support these centers.

Regional Clean Energy Innovation Partnerships: These partnerships will support activities to strengthen the regional innovation ecosystems around energy concerns, accelerate technology transfer, and encourage collaborations for commercialization between national labs, industry, small businesses, universities, state governments, and other partners. They provide a unique opportunity to leverage regional energy resources, to identify regional energy challenges, and to develop new partnerships that facilitate technological solutions to addressing these challenges. For FY18, we urge your support for $112.1 million for these partnerships.

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,