

**U.S. Senate Committee on Energy and Natural Resources**  
**August 16, 2018 Hearing: *Pending Nominations***  
**Questions for the Record Submitted to Mr. Lane Genatowski**

**Questions from Chairman Lisa Murkowski**

**Question 1:** Last year, the National Academies of Science produced a report that was highly complementary of the successes of ARPA-E. It also suggested some improvements that could be made. Although you are not currently working at the agency, what ideas for improving ARPA-E do you have? How can ARPA-E do even more to bridge the “valley of death” in energy technology development?

Answer: ARPA-E might benefit from increased coordination (formal and informal) within the DOE and other branches of government and industry. Early involvement of strategic well-funded end-users might help address the “valley of death” issue for energy projects depending on factors including final product cost, installed competitive equipment base and its embedded cost and the innovative nature (or not) of the end-user group.

**Question 2:** One of the most important functions of the Director of ARPA-E is to recruit scientific talent to be program directors. These are typically scientists and engineers who have active careers at the National Labs, in industry, or in academia. After bringing in talented minds, the Director also helps foster growth for these individuals to help them design, build, and run programs that are aggressive and lead to scientific breakthroughs. How will you recruit and foster the growth of scientific talent to ensure continued success at ARPA-E?

Answer: ARPA-E benefits from unique authorities granted by Congress since the Agency was formed, including special personnel authorities that allow for limited term hire of technical scientific experts. Additionally, scientists at ARPA-E do much of the initial identifying and recruiting of their colleagues and as this process seems to be operating satisfactorily, I would familiarize myself with the process and seek their input as to how I might be of help.

**Questions from Ranking Member Maria Cantwell**

**Question 1:** How might you organize the agency, whether through the appointment of additional deputy directors or senior advisors with scientific background to ensure the proper balance of scientific expertise and investment judgment?

Answer: If confirmed, I will bring decades of investment experience to the Agency. I believe that experience and the work of the world-class scientists already at the Agency and the Department will keep ARPA-E an effective R&D Agency. If confirmed, I will rely on the scientific staff already in place at ARPA-E and in the DOE complex, for technical and scientific advice.

**Question 2:** How do you plan to recruit the science and engineering talent the agency needs?

Answer: It is my current understanding that scientists at ARPA-E do much of the initial identifying and recruiting of their colleagues, I would familiarize myself with the existing process, seek the input of the participants and consider matters after more fully informed.

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**Question 3:** What do you think the key criteria should be for identifying new program areas for ARPA-E?

Answer: A new program area should show key attributes such as: significant impact on ARPA-E goals, translate science into transformative technologies, show a credible path to end-user acceptance, and be an activity not funded or researched elsewhere.

**Question from Senator Ron Wyden**

**Question:** If appointed as the Director of Advanced Research Projects you will be responsible for promoting and funding research and development of the United States' advanced energy technologies. It is critical that this type of work is free from political influence and has the freedom to pursue best-available-science and innovative research.

If confirmed, will you commit, unequivocally, to avoiding political interference from the White House?

Answer: Yes.

**Questions from Senator Joe Manchin III**

**Question 1:** I believe that carbon capture and carbon capture sequestration will be an important part of making sure we continue to ensure affordable and reliable electricity is delivered and is delivered in a way that improves the environmental performance of fossil fuel power generation. Recently, the Carbon Utilization Research Council (CURC) and the Electric Power Research Institute published an Advance Fossil Energy Technology Roadmap that lays out a plan for low carbon emissions fossil fuel power generation. The use and deployment of CCUS is what I consider to be a tool in the toolbox towards achieving this goal.

Are you familiar with Carbon Capture, Utilization & Sequestration? As you see it, what is the greatest challenge that has limited this technology from greater commercialization to date?

Answer: Yes, carbon capture utilization and sequestration is a breakthrough technology that has the potential to offer a promising future for coal while also meeting clean energy goals. Not having had the benefit of consulting with the ARPA-E scientific staff, it is my current understanding that cost is a significant obstacle.

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**Question 2:** What role do you believe ARPA-E can and should be playing in low emissions fossil fuel generation and how do you intend to steer the program towards focusing on ways this can be done such as CCUS?

Answer: Part of ARPA-E's mandate is to fund clean energy generation. I believe CCUS fits that profile and that ARPA-E should fund all types of energy projects, including wind, geothermal, CCUS, storage, nuclear, and solar, among others.

What about improving plant efficiency?

Answer: Improving plant efficiency is also part of ARPA-E's mandate. That is a goal that can save costs for consumers and I believe ARPA-E is authorized to fund programs researching efficiency improvements.

**Questions from Senator Tammy Duckworth**

**Question 1:** Last summer, the National Academy of Sciences released its first assessment of the Advanced Research Projects Agency – Energy (ARPA-E). Their report indicated that the Agency has supported substantial progress in vital new technologies – progress that would otherwise be limited in ARPA-E's absence.

Mr. Genatowski, do you think ARPA-E has been a success? If so, what do you believe has led to its successes?

Answer: I believe ARPA-E has been a disruptive force in the energy technology field and I look forward to contributing to its continued successes. Some of the authorities Congress granted ARPA-E have made it successful, and I look forward to working with you on ways to improve the Agency, if confirmed.

**Question 2:** On June 21, 2018, the White House released its reform and reorganization recommendations for the Federal Government, which included incorporating ARPA-E into a larger Office of Energy Innovation. If instituted, this new office will focus on specific areas of applied research.

Mr. Genatowski, unlike the applied offices which focus on later stage research, ARPA-E focuses on early stage research. Are you concerned that this change will inhibit ARPA-E's ability to be effective at early stage research and development?

Answer: I am unfamiliar with the specifics of the White House reorganization plan and whether or not it will be implemented.

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**Question 3:** ARPA-E is a research and grant-based agency intended to advance transformational energy technologies with high potential yet are not attractive investments for the private-sector. The agency has numerous programs focused on innovative areas of research, each of which has numerous projects.

Mr. Genatowski, what criteria will you use for identifying new program areas and qualifies you to make these decisions?

Answer: A new program area should show key attributes such as: significant impact on ARPA-E goals, translate science into transformative technologies, show a credible path to end-user acceptance, and be an activity not funded or researched elsewhere. If confirmed, I will bring decades of investment experience to the Agency and will rely on the scientific staff already in place at ARPA-E and in the DOE complex, for technical and scientific advice.