



U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON **SCIENCE, SPACE, & TECHNOLOGY**

Opening Statement

Statement by Energy Subcommittee Chairman Conor Lamb (D-PA)

Subcommittee on Energy Hearing
The Energy Water Nexus: Drier Watts and Cheaper Drops
March 7, 2019

Good morning and I'd like to thank our panel of witnesses for being here today. I'd also like to thank both Chairwoman Johnson and Ranking Member Lucas for introducing the Energy and Water Research Integration Act of 2019, which addresses the energy water nexus issues we will be discussing today. I think this is one of the great ways that our committee's leadership has been working to start this Committee off on the right foot this year – with bipartisan legislation.

The interconnection of energy and water is indisputable. It takes a lot of water to produce energy, and it takes a lot of energy to produce clean water. Large scale power plants mainly use water as a cooling source. A substantial amount of water is used to produce many common fuel sources, such as oil and gas, and these processes create a substantial amount of wastewater. It also takes a significant amount of energy to treat that wastewater.

The Energy and Water Research Integration Act of 2019 aims to decrease energy and water intensity when we utilize these resources by integrating important water production, use, and treatment considerations throughout DOE's relevant R&D programs. Reducing the water intensity of energy, and the energy intensity of water production, will help our environment and decrease utility bills for our constituents back home.

This is not a new field of research. Congress instructed the Department of Energy to create a program to address these issues over a decade ago, in the Energy Policy Act of 2005 and in 2012, the Department created the Energy Water Nexus Crosscut Team. This team created a plan of future work and research for DOE, and the Department has held a series of roundtable discussions with stakeholders, including some of the witnesses here today, to ensure the issues were being addressed properly.

Unfortunately, this team was disbanded at the beginning of this Administration. Although the Administration recently launched a broad initiative that focuses on water production and announced two funding opportunities for desalination technologies, these are only components of the overarching energy water nexus.

Restoring a comprehensive focus into this connection and sector is critical. Global energy consumption and water demand continue increasing and likely will for decades into the future.

This demand is exacerbated by climate change and will evolve as this phenomenon continues in the years and decades ahead.

The relationship between energy and water is also regionally specific. In the West, when temperatures are high, water used for cooling power plants is less efficient – or worse, not available – when there are severe droughts. Sea level rise affects the water sources along the coast, increasing the need for energy efficient water treatment capabilities. Weather can also increase the demand for energy – like the extreme winter events experienced back home in my district – and threaten both energy and water infrastructure.

Energy and water efficiency measures would help mitigate these problems.

The discussion today will focus not only on energy water nexus issues, but also highlight innovative solutions to address those issues. One of the witnesses here today, Dr. Richard Bonner, has led many projects related to water use in energy production at a small business in my home state of Pennsylvania, Advanced Cooling Technologies. These projects have been funded through various government programs, such as ARPA-E, a program vital to innovative energy research and development that we discussed in a hearing held by this subcommittee held last week. We need more innovative projects in this field of research, and I look forward to the testimony from our witnesses here today.