

**Testimony of Zachary Kuznar
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**Subcommittee on Energy
Committee on Energy and Commerce
U.S. House of Representatives**

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**“Powering America: The Role of Energy Storage in the Nation’s Electricity
System”**

Chairman Upton, Ranking Member Rush, and Members of the Subcommittee:

Thank you for having me here today. My name is Zachary Kuznar, and I currently serve as Director of Combined Heat and Power, Energy Storage and Micro-grid Development at Duke Energy Corporation headquartered in Charlotte, NC. My team leads all energy storage development in the six regulated states in which we operate: North Carolina, South Carolina, Florida, Ohio, Indiana and Kentucky.

Duke Energy believes energy storage will play a significant role in how we operate, supply and deliver energy for our 25 million customers now and well into the future. We see tremendous value in energy storage investments and the benefits they can provide across our generation, transmission and distribution systems. Storage allows us to dispatch energy during times of peak demand, enhance the reliability of our grid, provide energy security and back-up power for customers

who provide critical services to our communities, and enable increased flexibility for helping to manage the continued growth of renewable generation on our system. This will become increasingly important as more solar connects to our electric system; North Carolina, for example, is currently number two in the country for solar generation, trailing only California.

We plan to expand our investment in our regulated footprint for our customers' benefit by building off our decade of energy storage experience, which includes 8 pilot projects and 40 MW of commercially owned and operated storage assets. As the technology matures and the costs of batteries continue to decline, we believe the time is right to increase our investments in this area. Over the next 5 years, Duke Energy plans to deploy a minimum of 145 MW of energy storage across our regulated businesses, representing approximately \$300 million of new investment to help modernize our electric system.

In 2017, we received approval from the Florida Public Service Commission to deploy 50 MW of battery storage projects in our Florida service territory. We are targeting applications to improve system reliability, which will result in a better overall customer experience, along with utilizing these storage assets to advance the flexibility of our electric system as solar generation continues to increase in our Florida footprint.

In North Carolina, we have incorporated 75 MW of energy storage into our Integrated Resource Planning process. Our first two projects in our western North Carolina service territory, totaling 13 MW, will be used to provide valuable back-up power to communities, and give us the ability to deliver grid services, such as frequency regulation, that will help us to incorporate and manage the increased growth of solar generation onto our electric system. We also continue to evaluate and explore project locations in our South Carolina service territory.

We recently received approval from the Indiana Utility Regulatory Commission to deploy 10 MW of battery storage projects in Indiana. One of the projects is a partnership with the Indiana National Guard at Camp Atterbury, where we will be deploy 3 MW's of solar generation along with a 5 MW energy storage asset at the base. During normal grid operations, the solar generation will send energy to our electric grid to benefit all of our Indiana customers, while the battery storage device will provide frequency regulation to help stabilize the electric system. In the event of a grid outage, the battery will provide back-up power ensuring the base still has energy for critical infrastructure and services. This is a perfect example of how technologies like energy storage can provide both grid and customer-sited benefits. We are also working with large customers such as the Department of Defense, cities, hospitals and other first responders to evaluate similar partnerships.

In Ohio, we have filed for 10 MW of energy storage as part of our Electric Security Plan, and are incorporating 2 MW of storage year over year in our Kentucky Integrated Resource Plan. We believe these investments will grow well beyond the original 145 MW we have announced.

At Duke Energy, we serve as both the grid manager and operator with a clear line of sight and understanding on how energy storage can be leveraged in conjunction with other grid assets to bring to bear the greatest benefits for the grid and our customers. The utility is in an ideal position to invest in and own storage, and to capture these stacked benefit streams that storage can provide. Storage can be a more cost-effective means to defer or forego a distribution system upgrade, eliminate the need for wires, and provide resource flexibility to ensure reliable energy is delivered 24/7. As a seasoned utility, we have first-hand experience managing these complex dynamics expertly in concert with the broader electric system. Most importantly, with over a century of experience providing affordable, reliable electricity to our customers, Duke Energy is best positioned to deploy this exciting new technology in a way that increases reliability and maintains the security of our critical infrastructure.

I thank you again for the opportunity to discuss Duke Energy's energy storage plans with you today, as we feel this technology will provide essential benefits for our customers and our communities.

