

Full Committee Hearing on Energy Infrastructure
U.S. Senate Committee on Energy and Natural Resources

February 8, 2018

**Prepared Statement of Philip Mezey,
President and CEO, Itron, Inc.**

SUMMARY

Highlighting case studies from Texas, New York and North Carolina, Mr. Mezey will discuss how smart technologies can help utilities and cities address the critical challenge of aging electric, gas and water infrastructure. The right technologies, deployed in the right places, gives utilities and cities:

- Operational data to better prioritize infrastructure replacement (e.g. new smart technology can detect voltage impedance in transformers, giving utilities a valuable preventative maintenance tool).
- Opportunities for more shared infrastructure (e.g. a single, secure and interoperable communications network can be shared across multiple entities and used for multiple utility and city-service applications).
- Opportunities to defer the need for new infrastructure by using cloud-based services and non-wires alternatives (e.g. demand response programs).

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Good morning Madam Chair Murkowski, Ranking Member Cantwell and distinguished Members of the Committee. Thank you for the opportunity to speak to you today about such a critical topic, energy infrastructure in the United States.

My name is Philip Mezey, and I am the president and CEO of Itron, a global technology and services company dedicated to the resourceful use of energy and water, based in Liberty Lake, WA. From humble beginnings in a garage in Hauser Lake, Idaho, Itron has grown into a \$2 billion company with over 8,000 employees around the world. We provide comprehensive solutions (such as meters, sensors and software and services) that connect systems to measure, manage and analyze energy and water for utility and smart city customers.

Itron was founded on the premise that “there has to be a better way,” and I believe we can apply this premise to address the needs of our nation’s energy infrastructure. Over the last four decades, we’ve helped utilities and cities in the U.S. and around the world make the most of what they have. Our technology helps our customers operate more efficiently, engage with customers more effectively and be resourceful stewards of the world’s electricity, gas and water. We can apply the same thinking and the right technology, in the right places, to make the most of our nation’s energy infrastructure and ensure that we continue to deliver safe, reliable and affordable energy to customers across the U.S.

THE ENERGY INFRASTRUCTURE CHALLENGE

What can be done? The trillion plus dollars that it would take to replace and upgrade our aging utility infrastructure are not available. Therefore, it is imperative we deploy technologies to get the most out of our existing infrastructure and to manage upgrades as funding becomes available. Current smart technologies have proven effective in getting the most out of our existing infrastructure, offering opportunities to share investments and benefits, and in some cases, displacing the need for new infrastructure.

OPPORTUNITIES + SUCCESS STORIES

The key to optimizing our current system is to embed more intelligence into our nation’s power grid. More detailed data and operational visibility allows us to identify assets that need to be replaced first. Intelligent devices can also take action when and where it’s needed within the system to help prolong the life of those assets, shift load and raise awareness of potential issues. For example, today’s smart meters can detect voltage impedance in transformers, giving utilities a valuable preventative maintenance tool which allows them to better prioritize limited ratepayer funds.

When we think about the critical services enabled by our nation’s electricity, gas and water providers, the right technology not only makes these providers more operationally efficient and effective, but also helps them deliver those services with both greater reliability and resiliency. Here are a few examples.

CenterPoint Energy (CNP) in Houston has deployed advanced metering infrastructure (AMI) technology across its electric and natural gas service territory. With this technology, CNP has saved over 1.7 million gallons of gasoline and 15.6 metric tons of CO₂, reduced “truck rolls” (visits to customer sites for routine activities like meter disconnects and reconnects) by over 17 million, and improved overall electric service reliability by 25 percent—all of which are great operational gains for CNP, but also enhance safety, increase system dependability and benefit ratepayers.

When Hurricane Harvey made landfall in August 2017, over 250,000 people in Texas lost power. The effects on CNP’s customer base were widespread and immediate. But aided by the AMI system it had installed, CNP was able to recover and reconnect people to power very quickly—avoiding an estimated 45 million outage minutes for its customers. AMI technology on gas meters also helped CNP rapidly identify potential gas leaks in its distribution system, dispatch crews and alleviate potentially dangerous situations without incident.

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The right networking infrastructure forms the foundation for smart, connected cities. With a single, secure and interoperable communications network shared across multiple entities (utilities, city service providers, businesses and more) that can leverage a variety of applications (energy and water delivery management, streetlights, parking, waste, building management and so on) can make our cities more livable. This type of network fundamentally changes how cities think about ubiquitous connectivity, machine-to-machine learning, distributed intelligence, cloud applications and more personalized experiences for consumers. The right network technology also accelerates innovation, helps develop public/private partnerships and nurtures an ecosystem of applications that can improve city services.

One of the best examples of what's possible with smarter cities comes from Envision Charlotte, a first-of-its-kind collaboration in uptown Charlotte, NC. With smart technology connected across energy, water, waste and air, Envision Charlotte is harnessing the power of its smart infrastructure to reduce consumption and waste, and ultimately reduce the cost of doing business in the area. And it's working—Envision Charlotte has achieved a 19% reduction in energy usage, equating to more than \$26M in savings. The city has also realized a 19% reduction in CO₂, which is equivalent to removing over 11,000 cars from the road.

We also have the opportunity to defer significant investment in power generation and delivery assets with a greater focus on distributed energy resources—and particularly demand response programs. The use of smart technology in homes and businesses drives change in the consumption habits of electric utility customers, allowing providers to better match the demand for power with supply, shift peak load and better manage the electricity they have.

As a part of New York's Reforming the Energy Vision (NY REV) program, Central Hudson Gas & Electric is leveraging demand response to reduce the burden on existing energy infrastructure, rather than relying on investments in centralized generation (peaking power plants) and transmission/distribution assets, also called a non-wires alternative. The program includes a demand response management system, customer portal and incentives to help curtail peak load in rapidly growing areas of Central Hudson's service territory. The company has achieved 5.9 megawatts of load reduction in its first program year, and is on track to hit 16 MW of demand reduction once the program hits full maturity.

And finally, the digital transformation of the utility industry is putting greater emphasis on cloud-based solutions, which are a more secure and cost-effective option when compared to utility staffed, managed and maintained on-premise data centers—a \$25,000 investment in cloud technology equals about \$100,000 in on-premise investment.

With large organizations like Microsoft building and supporting cloud infrastructure, the move to the cloud also helps make utility data more secure. Microsoft spends over \$1 billion annually on security and data privacy—much more than individual utilities can to secure our nation's grid from threats. In one study, prior to migration to the cloud, 60% of individuals polled were concerned about data security and privacy; but after migration, 94% of those polled felt they were more secure and more risk-compliant in the cloud than they had been on-premise.

The right technology, deployed in the right places, can dramatically bolster our energy infrastructure across the U.S. and help us make the most of our natural, financial and human resources.