

**Testimony of Todd Sanford**  
**Senior Vice President, North America Distributed Energy & Power**  
**Direct Energy**

Prepared for

The House Energy & Commerce Committee  
Subcommittee on Energy  
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## SUMMARY

The electricity system is undergoing a fundamental, structural change. We are moving away from an exclusive and, in many ways, inefficient central power generation system to a system where generation is more distributed and variable, where consumers can better monitor and manage their energy use, and where new technologies and business models can thrive. Essentially, instead of a top down energy supply, technology is putting consumers in control of their energy usage and assets.

Consumers can now decide how much energy to take from the grid and how much to produce themselves. They can track and manage their energy usage to become more efficient, store energy to use later, sell surplus energy back to the grid, and get paid to reduce or delay consumption, and smooth out peaks in demand. All of this is allowing both residential and business customers to save on energy costs and get a more predictable and reliable supply.

We believe there are areas of focus that can help develop a smarter, more flexible energy system that helps put consumers in control of their energy usage and assets:

- Support modern grid infrastructure so that consumers can use the technology that they are already investing in.
- Oppose legislation or policies that would pick one winner to provide these products or services across a utility footprint.
- Realize the potential of larger energy consumers to benefit from a smarter energy system.
- Support the growth of new markets for flexibility especially at the local (distribution) level.

## **TESTIMONY**

Chairman Upton, Ranking Member Rush, Vice Chairman Olson, and members of the committee, thank you for the opportunity to testify this morning. My name is Todd Sandford, and I serve as Senior Vice President of North America Distributed Energy & Power for Direct Energy. It is a pleasure to be here with you today.

Headquartered in Houston, TX, Direct Energy is North America's largest competitive energy and energy services company, serving close to 5 million customers in deregulated markets in the U.S. and Canada with over \$14 billion in U.S. revenue last year. Our home services line of business includes a number of well-known regional providers of HVAC, plumbing, and electrical installation and repairs, and operates in all 50 states. Direct Energy is a wholly owned subsidiary of Centrica plc, an integrated energy company headquartered in Windsor, England. Our corporate vision is to provide energy and services to satisfy the changing needs of our customers.

Consumers and businesses are being empowered by technology in ways that we couldn't imagine just a couple of years ago. We now live in world where a hospitality company like Air BNB, which owns no property, is worth more than the Hilton and Hyatt hotel franchises combined. Uber, a company that maximizes the value of other people's time and vehicles, is now estimated to be worth \$70B. It makes me wonder what the most valuable energy company in America in 5 or 10 years will look like – I suspect very different from the traditional players.

Times change. Consumers change. Today's consumer wants their choice to happen immediately. Today's consumer wants to use the newest and coolest technology. Today's consumer isn't pulling out their checkbook to write a paper check at the store...they're not

even driving to the store. Today's consumer buys items by telling Amazon Alexa what they want, and it shows up at their home in two days. Convenient. Simple. Easy. Efficient. Those are the standards by which we are all measured now. And while regulators and policy makers can drive change, the greatest force for change today is consumer behavior ... aided and magnified by advances in technology. We at Direct Energy see two primary trends driving consumer behavior around energy today- the digitization of energy and the availability of distributed and designed energy.

First, there is digitization – moving from an analog world to a digital one, both at the utility meter and beyond. Digitization allows for a deep and more meaningful understanding of customer usage. Moving from one monthly analog data point to thousands or millions of digital snapshots of energy usage is a fundamental transformation...one we need to achieve our customers' goal of being more efficient energy consumers. At Direct Energy, we are turning that digital data into unique insights that deliver value to both our residential and business customers.

For residential customers, we are doing this through our “Direct Your Energy” tool. Using our residential customer's smart meter interval data and engineering algorithms, which effectively act like a thumb print for the energy appliances in your home, we can now disaggregate your electricity bill into what you're spending by appliance. It's a simple idea, but one where we see our customers engaging, learning, and taking action.

In Texas we sell a smart-meter-enabled energy product called Power-to-Go that is commonly called a “prepaid” energy product. We've conducted a study with the help of an outside consulting firm that compared these customers' behavior to a control group who had traditional postpaid products over the years 2014 through 2016 and found significant

behavioral energy efficiency. Customers on Power-to-Go do frequent transactions on their energy use just as they would with buying gas for their car and that engagement makes them more aware of their usage and more efficient. The study found an average energy efficiency benefit of 14% for customers on Power-to-Go. This energy efficiency finding excludes periods of disconnection, so this is not an efficiency from denial of service but a true behavioral efficiency.

For business customers, advancements in technology are enabling most buildings to install cost effective, real time energy monitoring devices. Direct Energy offers an energy insight solution, Panoramic Power, that lets our customers see exactly how their business uses energy – right down to the device or circuit level. Our typical building installation today is generating over 250 million data points each year compared to 12 data points for a traditional electromagnetic meter and 35,000 data points for a smart meter. Through advanced data analytics and algorithms, this robust data set is being translated to real-time, actionable insights for our customers allowing them to reduce energy waste, identify equipment not operating properly, and improve operational efficiency. Let me give you some examples.

- In just two months, a school district identified the potential for annual energy savings of nearly \$23,000. Our panoramic sensors revealed that some rooftop air conditioning units, cafeteria food warmers, water heaters, and lights were operating during non-school hours. The data also showed that as much as 25 percent of the schools' electricity was being used by small appliances that were left plugged in at night and on weekends. It's not that the school district was intentionally using too

much energy or didn't care; they simply didn't realize that power was being wasted. No big capital. No big building project. Just big savings.

- A healthcare customer deployed the panoramic solution in a relatively new, all electric building. It discovered sub optimal sequencing of its electric boilers and reduced its annual spend by 50%.
- A food manufacturer, using the panoramic insight, identified an incorrect sequence of operation of its compressors. The result was an annual saving of over \$100,000.
- Finally, a manufacturing customer discovered a conveyor motor was overloading and tripping out, which in turn was creating a bottle neck in their process. Never before available energy data helped this customer change their production process and this change resulted in a \$250,000 annual savings at just one location.

From a policy perspective, we must begin to really focus on grid modernization supported by a robust roll out of smart meters to further realize the benefits of this digitization, particularly at the residential level. Questions around access to customer data must also be addressed as data access and transparency are foundational to unlocking innovation in this space. Currently, access to a customer's energy usage data is regulated on a state by state basis. Our position is that any customer protections must be applied equally to all potential technology suppliers, not just subject to regulation by the state public utility commissions.

The second trend we see relates to distributed and designed energy. At a time when businesses are under pressure to manage costs, strengthen resilience, and ensure long term growth, technology is:

- opening up new possibilities

- decentralizing energy supply and
- handing power back to the customer.

New, smaller, and cleaner sources of energy (wind, solar, batteries, generators, combined heat and power) are being developed closer to the point of need. These sources are being linked to intelligent systems that help businesses manage demand and consumption. Consumers can decide how much energy to take from the grid and how much to produce themselves. Consumers can track and manage use to become more efficient, store energy to use later, sell surplus energy back to the grid, get paid to reduce or delay consumption and smooth out peaks in demand. All of this is allowing consumers to save on energy costs and get a more predictable and reliable supply.

Here are some examples of how we are helping our customers turn their energy challenges into a business advantage:

- We helped a university customer upgrade and overhaul its energy infrastructure including solar, combined heat and power (CHP), new lighting, variable frequency drives, building controls and a new boiler. The goals of the customer were reliability, savings, and carbon reduction. The customer had the project completed with no initial capital outlay and is saving about \$500,000 per year.
- A health and fitness customer of ours was looking for reliability and savings. The customer installed a combined heat and power (CHP) system along with a standby generator. The CHP system is designed to run all the time and in parallel with the grid. In the event of a grid outage, the combination of the CHP and the standby generator can satisfy the peak load requirement ensuring the facility will remain

open for its customers and community. In addition to the reliability benefits, the annual savings to the customer is around \$250,000 a year.

- A grocer in an urban setting was looking for reliability and didn't want to necessarily pay for it. Outages for this customer result in lost business when the store is closed and lost money due to food spoilage. The customer is located in an area where the grid operator is looking for customers that can reduce their load during certain times of the day. Direct Energy was just contracted by the customer under a structure where the customer will get the reliability certainty he is looking for at no upfront cost. We will do this by working with the customer to dispatch the asset in accordance with various local demand management programs and utilize the revenues earned through those programs to pay for the installation and maintenance of the generator.

## **Conclusions**

The electricity system is undergoing a fundamental, structural change. We are moving away from the linear flow of electricity from large generators through networks and onto to passive consumers to a system where generation is more distributed and variable, where consumers can better monitor and manage their energy use, and where new technologies and business models can thrive. I hope I have demonstrated how Direct Energy is working hard to adapt to this new energy landscape by putting consumers in control of their own energy and deliver a more flexible power grid.

We believe there are areas of focus for policy makers that can help develop a smarter, more flexible energy system that helps put consumers in control of their energy usage and assets:



- Support modern infrastructure so consumers can use the technology that they are already investing in.
- Oppose legislation or policies that would pick one winner to provide these products or services across a utility footprint.
- Realize the potential of larger energy consumers to benefit from a smarter energy system.
- Support the growth of new markets for flexibility especially at the local (distribution) level.

Direct Energy looks to work with all of the players in this area, both old and new, to create a better 21<sup>st</sup> century economy fueled by a more consumer-driven, digitized, and personalized energy world. I want to thank the Committee for seeking input into our countries' evolving energy needs. Direct Energy stands ready to bring its unique, competitive, consumer-focused perspective to work with the broader energy industry and help drive our energy future forward.

Thank you for your time and attention today, and I look forward to your questions.