

Energy Retailers

At a glance

Tangent is a Distributed Energy Resources (DER) company that provides energy retailers and their C&I customers with the technology, assets and managed services needed to identify and capitalize on economic opportunities on the energy grid without disrupting normal operations.

Energy Sourced From DER by 2020*



Increasing Peak-to-average demand ratio



Effectively, All Incremental Growth in Capacity Will Come From the Customer Side of the Meter



Energy Retailer Challenges and Opportunities

Increased reliance on grid edge DER is creating new opportunities and challenges for energy retailers and their C&I customers.

DER Challenges for Energy Retailers

DER Opportunities

- Increased reliability
- Lower capacity and transmission charges
- Increased customer interaction

DER Challenges

- Predicting peaks accurately
- Maintaining customer interaction
- Monetizing results

Enhanced Economics



Manage Peaks



Energy Markets



Commodity Price Negotiations

Why Act Now?

Market trends are creating significant cost and revenue opportunities in many regional markets.

Est. capacity + transmission rates 2018-2019*



*Additional revenues can be available through market program participation

What we offer

Tangent AMP™

- Predicts energy peak and pricing opportunities.

Demand Design™

- Notifies customers and actively manages and monetizes controllable loads into energy markets.

Demand Design PLUS™

- Turnkey integration and financing of on-site generation where it makes economic sense

Predictive Tools



Software monitors grid and facility energy signals

Alerts & Notifications



Customers are notified to economic opportunities

Active Energy Management



Pre-determined energy management protocols are implemented

On-site Generation



Added reliability and savings with turnkey generation assets

Tangent by the numbers

Tangent is an established DER provider with a track record of success with leading energy retailers, municipal utilities and C&I customers

INSTALLED SOLAR

48_{MW}



CONTRACTED GENERATION

35_{MW}



LEADING ENERGY RETAILERS

10



MANAGED MW

5,947_{MW}



Cummins Partnership

Tangent and Cummins have partnered to provide a turnkey, integrated solution that combines the reliability of gas-fired generators with the enhanced economics of a Distributed Energy Resource Management System (DERMS). Offering includes emission modification of existing generators.

edgeGEN
Powered by
Cummins



Case Study

Seaside Heights, NJ

For three weeks after Super Storm Sandy, the borough of Seaside Heights, NJ, relied on three QSK60, two-megawatt Cummins generators to provide power while many surrounding towns struggled without power.

These same units are now generating nearly \$500,000 in combined revenues and savings for the borough.

By combining generators with the predictive technology and automated dispatch capabilities of Tangent AMP™, a Distributed Energy Resources Management System (DERMS), Seaside Heights was able to participate in PJM's sync reserve market.

Moving forward, Seaside Heights has the ability to improve upon these results by using the same combination of generation + DERMS to predict and respond to critical peak and pricing periods on the energy grid. By doing so, the borough will be able to also lower capacity charges and transmission costs which will ultimately help Seaside Heights negotiate better electricity rates.

What the industry is saying...

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Tangent Energy Forges the Customer-to-Grid Distributed Energy Connection

"Software to turn solar panels, building controls and backup generators into energy market players"

Jeff St. John, March 26, 2015

Lots of utility customers have solar panels, or backup generators, or the ability to curtail or shift energy consumption in ways that can help reduce energy costs. But there's a big difference between treating each of these systems in isolation, and integrating them to maximize their combined grid-responsive and money-making potential.

At least that's how Tangent Energy sees it. Since its 2009 founding as a solar developer, the Pennsylvania-based company has built a software suite aimed at identifying, controlling and optimizing all of these grid edge assets as a whole. Now it's starting to go public with a list of customers that includes steel mills and food manufacturers, municipal utilities and retail energy providers, and natural gas and co-generation equipment manufacturers.

In all of these cases, "Tangent is the platform that ties the end-use customer to the marketplace, and to the energy retailer or the municipal utility, to optimize it and monetize it," CEO Dean Musser told me in an interview last week. And unlike traditional demand response providers that use utility or grid operator programs as the pathway to monetization, Tangent is focused on serving as the distributed energy resource management system (DERMS) to link customers to energy markets.

Tangent has plenty of company in the space. Demand response providers like EnerNOC, NRG's Energy Curtailment Specialists and the company formed by Constellation Energy and Conserve are working these avenues, as are newer contenders such as Viridity Energy, Blue Pillar, Power Solutions, Inovandi and Demanys, to name a few.

Tangent's approach differs from many of these contenders in that it's working solely through third-party channels, rather than acting as the aggregator and market-maker for the energy-shifting capabilities it enables, Musser noted. It makes money by offering its services on a shared savings model or through recurring revenue subscriptions, which allows it to avoid the up-front costs and capitalization requirements to play in energy markets.

That's also allowed the company to raise a relatively small amount of venture finance - about \$12 million from key investor EnerTech Capital and others - and use its ongoing revenues to support the development and deployment of its software for different applications, he said.

At the same time, the company is starting to reveal some significant energy equipment vendors as partners. Last month, for example, it announced a



partnership with Cummins to integrate its software platform into the generator giant's networked clean diesel and natural gas fired backup generators.

The platform allows the owners of those generators to crank them up not just in emergencies, but in advance of moments when energy prices will reach their peaks - a capability that can not only cut costly power consumption at that moment but also prevent higher prices from being assessed on those customers in the future.

That understanding of how big energy market participants get charged for their electricity consumption is critical to Tangent's approach. It applies to customer classes ranging from big industrial users, to municipal utilities that buy the extra power they need from wholesale markets, and energy retailers and energy service companies looking to optimize their long-term contracts and day-to-day purchasing decisions for themselves and their biggest clients.

Software to predict and pinpoint key energy assets opportunities

The software platforms that enable this are Tangent AMP, the control layer for all the endpoints being managed; Demand Design, which assesses a customer's existing energy assets for their suitability as flexible, controllable energy market assets; and Demand Design Plus, which analyzes what additional investments could "supercharge" their savings by providing them optimally in how they use energy," Musser said.

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