

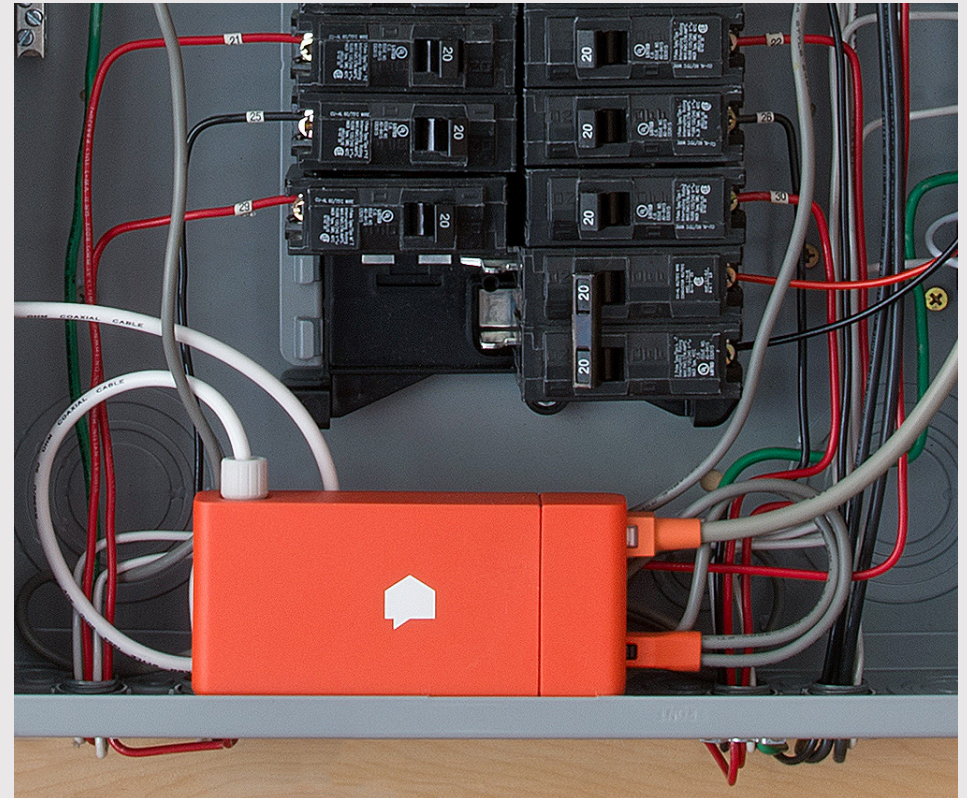
SENSE INTO THE METER

In 2016, EIP invested in Sense, a company founded by Mike Phillips, an expert in waveform analysis.

Mike and his team developed a small box that individual consumers could buy and install in their electrical panel and connect to their wifi network. The sensor box analyzed the home's power flow and communicated the results to an app on the customer's phone. The Sense app continuously monitored the power used by each household appliance, located energy savings opportunities, and estimated monthly power bills and savings in real time. In a test conducted by an EIP partner utility, Sense saved an average of 6% of household energy use, or about \$113 a year at average US power rates.⁹

The Sense team knew that when their solution was deployed widely enough in one area, their technology automatically adds a dramatic, game-changing use case. While retaining its original ability to help households save substantial energy, a widely-deployed Sense network becomes a grid-edge awareness network able to provide local utilities with fault detection, advanced diagnostics, and other services – all from the same hardware and software that helped homeowners.

This insight led Sense and EIP to search for a way to make deployment cheaper and more widespread. They settled on a target of getting Sense technology built-in to the next generation of smart meters. Installing Sense inside the meter means that every customer getting a new meter would automatically gain access to the energy-saving app without having to pay any cost or endure any installation challenge. Meanwhile, Sense-in-the-meter would add insignificantly to costs and would enable the installing utility to automatically acquire a network of grid edge sensors.



IMPACT CASE STUDY

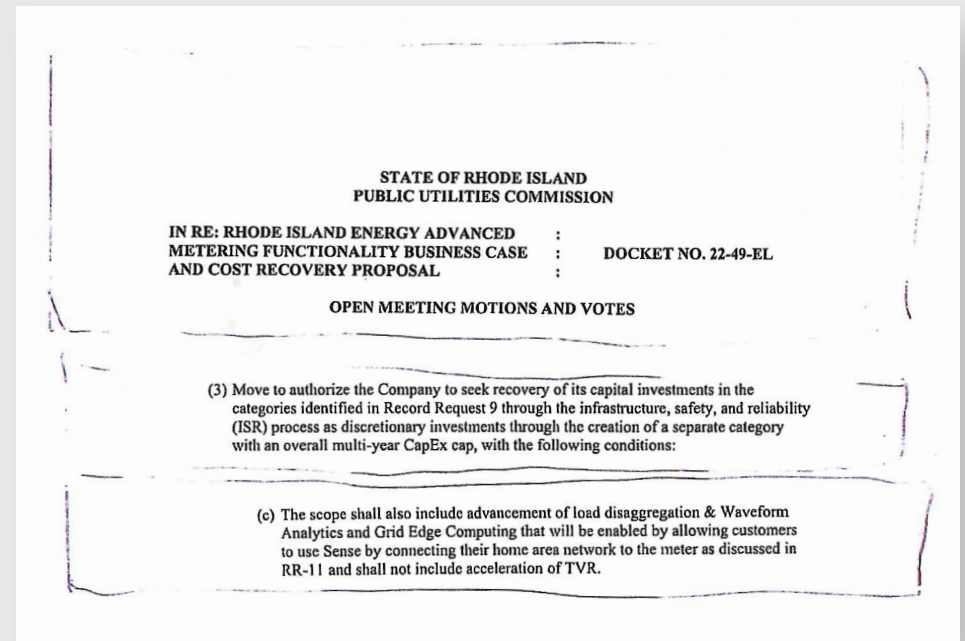
Sense Into the Meter

EIP's network of utility investors, including National Grid, played a key role convincing the manufacturers of electric meters that the idea was technically and financially sound. Persevering through several years of demonstration and discussion, Sense and EIP's coalition eventually convinced Landis+Gyr to include Sense in its newest line of residential and commercial meters, the Revelo smart meter. Sense will also be included in Schneider Electric's Wiser Energy Center electrical panel.

Because the deployment of electric meters is regulated by state public service commissions, the EIP/Sense strategy included education of the regulatory community. This group understandably wanted to ensure that the addition of Sense to meters would provide equitable, cost-effective value to all groups of customers. One such analysis was just completed by the Rhode Island Public Utilities Commission, and Sense-in-the-meter passed with flying colors. The

Commission concluded in its Advanced Metering Functionality Business Case proceeding that all state electric meters should "include advancement of load disaggregation & Waveform Analytics and Grid Edge Computing that will be enabled by allowing customers to use Sense by connecting their home area network to the meter..."¹⁰ As a result, Sense will be included in the next *five hundred thousand* electric meters installed in the state.

Sense's trajectory from an individual consumer app to a system-wide grid awareness platform is another example of EIP's approach to impact. Our goal is to take technologies that decarbonize and provide resilience affordably and equitably and leverage our coalition to get them deployed quickly across the entire network. We believe it is likely that Sense or something similar will ultimately be in every new electric meter in the U.S., saving energy and improving reliability and resilience at an extremely low added cost.



Rhode Island Public Service Commission order authorizing Sense in every new electric meter